RATIONAL-ETHICAL LIVING
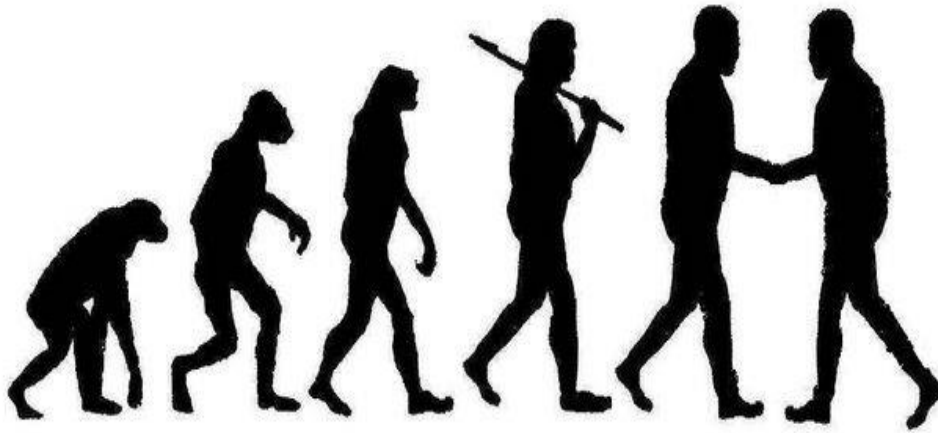# AND
THE EMERGENCE OF 'HOMO RATIONALIS'

FOR EVERYONE (The Most Important Book)

BY

WILLIAM V. VAN FLEET, M.D.

05/19/2006

(With edits as of 09/17/2020)

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Note to reader:

Much attention has been devoted to using terms in this book in highly consistent ways. I request that the reader read this book in the order written, to prevent the misunderstandings that so frequently arise by virtue of the use of the same words with different meanings. Doing so will assure that the value of this book will be preserved.

William V. Van Fleet, M.D.

EDITING EXPLANATION

This exact, same chapter has been added, as of 09/17/2020, to all three books (*Rational-Ethical Living and the Emergence of 'Homo Rationalis'…, The Mind-Body Problem and Free Will Vs. Determinism…, and Humanianity, The Religion for Humanity…*). It is to help the reader understand the evolution and nature of the books

The completion of the writing of these books, in almost their entirety, occurred many years ago (2006, 2012, and 2013), but as time has gone on, there have been (usually very minor) modifications due to found imperfections, as well as an occasional new chapter. In order to enable the reader's more complete perspective and confidence, any such changes are being shown as such, with two exceptions. The two exceptions are being made to avoid making reading unnecessarily complicated and cumbersome.

The first exception has to do with the titles of the books. All three titles have been changed to make them more identifiable and findable (e.g., in searches), because originally they all began the same. These changes have been as follows:

Book1
FOR EVERYONE: Rational-Ethical Living and the Emergence of 'Homo Rationalis' (The Most Important Book)
has been changed to:
Rational-Ethical Living and the Emergence of 'Homo Rationalis': FOR EVERYONE (The Most Important Book)

Book2
FOR EVERYONE: The Mind-Body Problem and Free Will vs. Determinism (The Most Important Philosophical Problem)
has been changed to:
The Mind-Body Problem and Free Will vs. Determinism: FOR EVERYONE (The Most Important Philosophical Problem)

Book3
FOR EVERYONE: Humanianity, the Religion for Humanity (The Most Important Religion)
has been changed to:
Humanianity, the Religion for Humanity: FOR EVERYONE (The Most Important Religious Movement)

Note also that in the third book (*Humanianity, The Religion for Humanity…*), "Religion" was replaced with "Religious Movement" in the subtitle. Although originally Humanianity was referred to as "a new religion," it became apparent that it is very important to recognize that the term, "Humanianity," is referring to a **movement within** Religion, and our species in general, rather than simply a new religion to compete with, and try to replace, other religions. This is made clear in the text of the book.

The second exception has to do with reference to the location of the books on a website. The original website was **homorationalis.com**. However, with the passage of time, this website became subsumed as a component of a much larger website, **humanianity.com**, it becoming the

PHILOSOPHY section. Instead of making many editorial notes, one each time homorationalis.com was mentioned, homorationalis.com has simply been replaced with "the PHILOSOPHY section of humanianity.com," or equivalent language.

With regard to editorial notes, all of them have the same format, namely [Edit (date): Comment.], e.g., [Edit 09/16/2020: Some explanation or clarification of something.].

Imperfections of spelling and punctuation, not involving any change of concept, have been corrected without any indication of such change.

It is quite possible that an occasional new chapter will be added to one of these books, especially the third (*Humanianity, The Religion for Humanity…*), and at the beginning of such a chapter there will be an orienting clarification that it is a later, added chapter.

Hopefully, this basic understanding of the evolution of these three books will aid the reader in evaluating the concepts being offered and will give some picture of the evolution of these concepts over time.

I wish to take this opportunity to acknowledge a heretofore unacknowledged significant individual, Terry Walsworth, an IT specialist with a strong interest in the Humanianity project. He started me off many years ago on learning coding, and just recently gave me new inspiration to working on these books and their presence on the website. He has also suggested publishing them, and I currently predict that I will indeed make that effort after making sure that the books are ready for that (this chapter being one such task). Without his recent effort, I am not sure I would have proceeded.

ACKNOWLEDGEMENTS

I have benefited from all of the thinkers of the world, who are too numerous to count, and attempting to list some of them would do injustice to so many others that I prefer not to do so. There are two exceptions, however, individuals I have known personally in recent years, both of whom have died recently.

I wish to acknowledge my debt to Leo Glanzman, who for many years had been the leader of the Philosophy Discussion Group at the Unitarian Universalist Church of Charlotte, North Carolina. He fostered in that group an atmosphere that I have found nowhere else, namely, one in which all of a person's ideas will be maximally challenged. In such an atmosphere, the few who can tolerate it do indeed gain an enormous perspective with regard to the difficulty of constructing concepts, theories, and beliefs that stand up to rational scrutiny. I believe that it is in such an atmosphere that one's ideas can become increasingly clear and communicable, and that it is in such an atmosphere that new ideas that will be helpful to our species are very likely to arise.

I also wish to acknowledge my debt to Jess Riley, who attended Leo's group for many years, and who contributed two concepts that probably came into my thinking primarily from him. One was his concept that achieving "adequacy of the model" was considered by some to be a better goal than achieving (illusive) "truth." The other was his own (to my knowledge) concept of a more ideal method of representation for world government, based upon principles upon which we could probably all agree.

In general, I wish to acknowledge my debt to the persons who have read and provided feedback regarding the drafts of my developing book and/or have engaged in friendly debate with me regarding the concepts therein, such feedback thus enabling me to clarify and extend the ideas.

I wish also to acknowledge my debt to Joyce Anderson, who for a time contributed so much to freeing me from the burden of day-to-day details of living so that I might devote more time to the writing of the book, who provided me with so much encouragement in the writing of the book, who helped me so much in setting up seminars and doing other things related to the development of the book, and who showed me so clearly how thoughtful we may be of others.

William V. Van Fleet, M.D.

INTRODUCTION: THE MOST IMPORTANT BOOK

The following are my beliefs about the nature of this book.

> This book is an effort to share a set of observations and conclusions, and to share a set of proposals based upon those observations and conclusions.

> This book is an effort to promote the survival of and the good life for our species, meaning the survival of and continuing good life for every member of our species (the reader included), now and in the future, insofar as possible. By "good life" I mean only as much joy, appreciation, and contentment as possible, and therefore as little pain, suffering, disability, and early death as possible.

> This book is for everyone, in that the content of the book applies to everyone and the proposals are for everyone.

> This book attempts to contribute to the solution of that set of problems which have the greatest significance for and effect on each of us as individuals and on our species in general.

> This book attempts to understand and solve these problems by approaching them in as basic a manner as is possible.

> This book is an effort to contribute to the only process by which these problems can be solved, namely, by a change in outlook or attitude that begins within individuals (the reader being one) and spreads through small groups and then finally through the media. (In no way do I maintain that solving these problems will be easy or rapid, but I do believe that solving them is possible and feasible, and that the process and method are understandable by everyone.)

> This book is such that the reader will agree with what I have to say in this book if he or she reads the book conscientiously. (By "reading the book conscientiously" I mean nothing more than reading it in the order in which it is written, with an effort to understand each statement in the context in which it is written.)

If all of the above is so, I cannot imagine a more important book.

Now I wish to clarify some of the above.

None of the ideas in this book first arose in me. All of the ideas in this book have been expressed by respected others. But what I am trying to offer is a way of meaningfully organizing those ideas such that the effect will be highly useful, both to the individual and to our species in general. The following metaphor may help to clarify. Imagine that one hundred unassembled jigsaw puzzles (each puzzle piece representing an idea) were strewn all over the floor, and that just one of the puzzles consisted of the most accurate picture of something. The effort of this book would be the equivalent of attempting to assemble that puzzle.

I believe the reader will agree with me, not because he or she will assume that I must know what I am talking about, but because what I will be pointing to will be seen easily by the reader himself or herself. If the reader is not able to come to the same conclusions, then what I am saying is probably wrong.

There are two reactions the reader might have to my prediction that the reader will agree with me.

First, the reader may comment that if it is indeed possible for everyone to agree with everything in this book, then probably what is in this book is essentially trivial. I would say, however, that, as the reader will see, what is in this book will have, if incorporated into the reader's life conscientiously, an ultimately enormous positive influence on his or her life, brought about by major changes in behavior, and similarly, if the book is indeed successful, it will contribute to enormous positive changes that are already occurring in the way our species conducts itself and in the quality of the lives of us all.

Second, the reader may comment that just because a belief has been easy to come by, or is generally held, the belief is not thereby necessarily accurate. I would say, however, that if the belief is not contradicted by evidence, especially scientific evidence, and the belief seems self-evident, then we can at least say that it is probably correct, until such time that evidence does arise to the contrary. And that is the spirit in which the offerings of this book are made.

I said that this book is for everyone. By that statement, I also mean that it should be understandable by everyone (given adequate study), as opposed to being understandable only by persons in certain occupations, living in certain cultures, or having had education in certain specialized fields. Obviously, this statement is somewhat of an exaggeration, in that, for instance, a child who cannot read or a mentally handicapped individual who cannot understand most things that are written are not going to be able to read this book and benefit directly by doing so. However, the lives of those individuals would certainly be affected (positively) by the acceptance throughout our species of the proposals being offered, and in that sense this book is also for them.

I fully realize that the above statements sound grandiose and expose me to the possibility of being dismissed as obviously being of limited perspective and possibly as being worthy of ridicule or sympathy. I also fully realize that it is highly likely that some persons will indeed skim over the book superficially, and, without the understanding that comes from following the logical organization of the book, come to the conclusion that the book is obviously wrong and not worth reading, and I understand that still others will base their opinions about the book on what they have heard about it from such individuals. However, I stand by what I have said, and ask only that the reader form his or her own opinions on the basis of his or her own conscientious reading, and that, prior to rejecting the book, he or she read it until he or she does indeed find something that does not make sense to him or her.

I do wish to warn the reader that this book will probably not be easy reading. The book is neither inspirational nor narrative. It is more like a textbook that needs to be studied and thought about. Also, there are conclusions in this book that may be different than beliefs that are cherished by, and even demanded by, certain subcultures, and when this is true, it is

characteristic for individuals in those subcultures to avoid exposing themselves to evidence contrary to those beliefs, so reading the book, for them, will additionally take unusual courage.

I also wish to acknowledge that the reader will experience much repetition during reading this book, and to clarify that the repetition is intended. This book is an effort to bring about a different way of thinking. This means developing new, unused pathways in the brain. Exercise is what makes such pathways strong, and exercise involves repetition. So the reader will best regard the reading of this book as completely analogous to exercise, involving effortful repetition. I am hoping that this book will be more than just "interesting," that it will make a positive contribution to the life of the individual reader and to the welfare of our species in general.

The motivation of the reader that will enable him or her to read the book effectively will have to be only the wish to make life better for the reader and those around him or her, and the wish to contribute some effort, no matter how small, to making the world a better place for everyone.

I am not asking for or expecting any reimbursement or profit from this book. My wish is only that the book be read as widely as possible, if indeed it is the important book that I believe it to be. Therefore, I am posting it on a web site, the PHILOSOPHY section of humanianity.com, such that it can be downloaded by anyone, without cost. I am having copies printed, and will be sending them to prominent individuals in the world, who would be respected and therefore listened to, and am asking such individuals to read the book and, if they agree that the book is likely to be valuable, make public their recommendation that others obtain it free from the web site. I am hoping that publishers will contribute copies at little or no cost to individuals who would not easily be able to obtain the book from the Internet.

This book is my effort to contribute what I can to my species, out of enormous gratitude for what my species has done for me.

BASIC METHODS IN THIS BOOK

I believe that our species is just beginning to undergo a third exponential change. I believe this change is good, in that it will promote the survival of and the good life for our species. I believe that by becoming aware of this change, the reader will be able to assist in promoting it, and will also benefit with regard to his or her own personal life in doing so. This book is an effort to call attention to that change, and to foster its development.

It is important to note that "becoming aware of" this change means **agreeing** that the change is indeed occurring, and that "promoting the change" and "fostering its development" mean engaging in **agreed-upon**, coordinated behavior, that is, behavior based upon **agreement** about what should be done. I am in this paragraph attempting to call the reader's attention to **the ultimate, extreme importance of AGREEMENT**.

Because "**agreement**" is such an important phenomenon, I wish to clarify the meaning of the word, as it is used in this book. Actually, the word generally refers to **three different phenomena**.

The **first** kind of "agreement" is the **existence of identical or close to identical beliefs in two or more individuals**. The individuals may or may not be aware of such agreement between them. We might, for example, say, "They never met each other, but they were in agreement about this matter." Also note that the agreed-upon belief may be accurate, inaccurate, or somewhere in between ("somewhat accurate"). This kind of agreement is simply a **state of affairs**.

The **second** kind of "agreement" is the **acknowledgement of one individual that his or her belief is the same as that of another**. One individual may ask another, "Do you agree that X is so?" and the other might say, "Yes, I agree." His or her statement that he or she agrees is the act of agreement that this second meaning of the word is referring to. One individual would be "agreeing with" the other. Note that an individual might say he or she agreed, and yet not really believe what he or she was saying he or she believed. The other individual might later have reason to say, "But you AGREED (that such-and-such was so)?!!" This kind of agreement is a **communicative act** of an individual, **reporting (accurately or not) the existence of a particular belief** within him or her.

The **third** kind of "agreement" is the **induction of the belief in another that one intends to do something**. I may, by my words, by a nod of my head, by my signing a document, or perhaps by my silence lead another to the belief that I intend to do a particular thing (usually that is being requested of me). In such a case, I am "agreeing" to do it. In so agreeing, I may be assuming a "role" within my group (of two or more individuals). The other(s) will believe that I am going to engage in the act in question, based upon my behavior (statement, head-nod, silence, etc.). Others might have occasion later to say, "But you AGREED to do it?!!" This kind of agreement is a **communicative act** of an individual or group of two or more individuals **that provides them or others with an increased ability to predict the behavior of those who have agreed**.

Agreement (of all three meanings) tends to promote coordination of effort, unity of goal, effectiveness of action, and harmony. Disagreement tends to promote disorganization, slower decision-making, increased failure, and negative emotion within the group. (It is, of course, also

extremely important that what we agree upon is accurate or correct. Agreement that is in error can lead to mistakes, and even tragedies.) I am talking about the concept of "**working together**," to bring about change, to create things, to make life better, to protect ourselves, to foster our survival, etc., which involves our **agreeing on certain basic beliefs about the way the world is and about what we should do, letting each other know when we agree and disagree, and agreeing to do certain things (carry out our responsibilities, perform our roles, behave in predictable ways, etc.**). In order to live together and just even to survive, a certain amount of such agreement is absolutely essential. **In fact, humans have accomplished nothing important without some degree of agreement.**

Now I am **not** saying that agreement about **everything** is important. I believe it is a fact of life that there will always be disagreement about a large number of things. But **our quality of life, in fact our very survival, is dependent upon some degree of agreement, that is, agreement about certain basic things, including agreement about what we should do when we do not agree.**

This book is an effort to foster such agreement about certain BASIC things, having to do with the way the world is and how we should live life.

But our species is faced with a problem. In order to clarify the nature of the problem, I wish to use a metaphor depicting the current status of our agreement among ourselves, as a species.

Imagine a tree, with no leaves on the branches. The roots of the tree are not a part of this metaphor. We can take a look at a branch and regard it as a particular potential belief or opinion about the nature of the world or about what should be done. Its diameter reflects the number of people agreeing with that opinion, or having that opinion or belief. (One particular individual, of course, will have many beliefs, represented by many branches and twigs throughout the tree.) As we move toward the periphery, the branch keeps dividing, and each division becomes smaller. Thus, as we go out toward what we might consider the periphery of our knowledge, we see more and more divided opinion, with fewer individuals adhering to any specific belief. The trunk of the tree would represent, therefore, the collection, or set, of all those opinions upon which all individuals agree, about the way the world is and what should be done.

We do see examples of branches withering away and dropping off, while other branches grow in diameter. There are very few individuals at this point that believe the earth is flat. The opinions that were in turn based upon this primary opinion have also just about disappeared. The branch that survived and grew in diameter was the one representing the belief that the earth is more or less spherical. And many other branches coming off of this one, representing more specific beliefs based upon this belief, such as what the result would be of attempting to fly around the world, have grown in diameter.

The problem I am referring to, however, is that the trunk of this tree is to a great extent missing, at least with regard to general, basic opinions about the nature of the world and how to live life. We have a state of affairs in which there are an almost unlimited number of different opinions maintained by different individuals and groups, but hardly any set of opinions that all seem to agree upon. In fact, there is, I believe, a widespread opinion that there is no reason to expect a trunk to exist. Many believe that the trunk is neither necessary nor desirable. This phenomenon will be elaborated on later.

This book is an effort to bring about a sturdy trunk of the tree. **I am attempting to pull together a very BASIC set of concepts that I believe can be accepted by EVERYONE, and that are of FUNDAMENTAL IMPORTANCE to our survival as a species and to the quality of our lives on this planet.** I believe this will involve, however, the necessity to see the change in our species that is beginning to accelerate (the third exponential change), because it is recognition of this change that is essential to our necessary basic understanding about what we should do in order to foster our survival and the good life for us all.

Now how can it be possible that, in this day and age, I should be able to call attention to a set of extremely important phenomena that everyone can indeed see, but that, so far, no one else has seen?

The reader could understandably conclude that there is no reason to read further, because the likelihood of the basic premise of the above question is so low. But I believe there is indeed an answer, or more accurately, a set of answers. In fact, the question can be divided into two:
>   (1) Why would I, out of seven billion people, be the one to be able to see these phenomena?
>   (2) Why would "no one else" see these same phenomena?

First of all, of course, the above questions are exaggerations. All of the phenomena discussed in this book have indeed been seen and commented on by many, respected others. What, as far as I know, has not happened is that someone has pulled them all together in the manner carried out in this book. And what I am saying in addition is that doing so is very important and useful, and even crucial. Determining whether this is indeed so is the task of the reader.

I will now give my answers to the above two questions. (I do not believe that the answer to the first question is as important and complex as is the answer to the second, and I will therefore devote only one paragraph to it. But the answers to the second question involve the basic methods of this book.)

(1) The reason that it is I, rather than someone else, that is performing this task has to do with the details of my own personal life. Basically, I am one of those individuals who developed early in life a strong need to understand existence and myself in as basic a manner as possible. I was a nerd with mild social phobia, and I sought solutions through understanding. Very early, I became interested first in the physical sciences, then in the study of the mind, and finally in the big philosophical/religious questions. I was never satisfied with my understandings, because there were still disagreements in all these areas, and I maintained a need to try to see these questions resolved. By late teens, I knew I wanted to go into psychiatry. My early psychiatric orientation was psychoanalytic, because at that time there was still a belief that the most basic answers to questions about the mind and the self lay in that field, and I undertook many years of personal psychoanalysis. I soon expanded my interest and activities into social and family psychiatry and ultimately into child psychiatry. As the years went on, I developed my own anger prevention paradigm, or model, as I conducted marital psychotherapy, and I developed a model of child rearing that grew out of my efforts to help parents with their children, and also out of my observation of my own failures. Meanwhile, toward the end, I became a regular participant for many years in a philosophy discussion group (mentioned under "ACKNOWLEDGEMENTS"), in which the group code was that any and every belief that one proposed to the group was open

to be challenged to the greatest extent possible. This group, it seemed, was one that very few individuals could remain in because of this code. The continual exposure of my ideas to this corrosive and cleansing process helped me to develop much greater clarity in my own mind and greater ability to explain to others my own ideas. But what happened that made the writing of this book seem so important was that **I increasingly saw all of these areas coalescing into a coherent set of ideas, each area reinforcing what was developing in the other areas, and all of the areas having to do with the most distressing problems that all of us face, individually and as a species**. During the course of this book, I hope to share this sense of coalescence and importance. In fact, that is what the book is all about. There may indeed be others who have had almost the same background as I have had, and maybe some of them have made similar efforts that I am not aware of. For me, it has become a challenge and a source of meaning in my life to attempt this act of grateful communication to my species.

(2) The reason that we, as a species, have not yet come to an agreement regarding what I am going to point out in this book is, I believe, that there are **three sets of problems that have interfered**. The first two I will deal with in this chapter, because they involve the very **method** of thinking about and discussing these issues. The third is so much a part of what the whole book is about that I will be attempting to cover it in a more detailed manner throughout the whole book, rather than just in this chapter. The following three **problems** are what I am referring to:

      (a) Some confusing characteristics of our natural ways of thinking about and discussing issues
      (b) The inappropriate criteria generally used for legitimating propositions
      (c) The "emotional" determinants of belief and agreement

There is **one other, more general, reason** that could be mentioned, and that is that **the area or topic of this discussion is not of a concrete and specific enough nature that the above three factors would be overridden simply out of an obvious necessity to do so**. In other words, we have not yet been forced, out of some sort of necessity, to overcome the above three factors in our discussions of broad, general issues, even though this has indeed happened in more specific areas of knowledge, where more immediate decision-making has been involved. However, I believe that this necessity is increasing rapidly. These statements will be better understood, I think, after the reader has read the remainder of this chapter, and especially after he or she has read the book.

I will now discuss problems (a) and (b), above.

Beginning with (a), "some confusing characteristics of our natural ways of thinking about and discussing issues," we need first to look at **what the basic process of communication is**. A way of looking at it is that **one person wishes to evoke in the mind of one or more others, to some extent, a mental state (idea, image, fantasy, memory, emotion, motivation) that is similar to the one in his or her own mind, or similar to one that he or she has experienced and can imagine**. If, in addition, the goal is the development of and acknowledgment of **agreement** about something, then **there needs to result in the minds of those involved the belief that the mental state is indeed shared, that is, is similar**. The tool used in this process is the **symbol**. The most important kind of symbol is the "**word**" (and collections of them as phrases and sentences). A more general discussion of symbols will be presented later in this book, but for our current purposes we will simplify and simply refer to "words." But in order for the

communication to work, the words being used must evoke in the minds of the involved individuals, as much as possible, the same mental states. **The words must mean the same to all involved in the discussion.**

And it is precisely this criterion that is so often not met. Discussions may occur endlessly without this very basic requirement having been achieved. As two or more individuals communicate, they select the words that they are going to use according to an automatic, unconscious process that reflects their own past experiences, their own characteristic ways of speaking, their own nuances of meaning, their own impressions as to what ways of speaking will be most convincing, etc. The problem is that the listener may have a substantially different way of using words, relying upon different meanings and upon various connotations, such that when the listener hears the speaker, he or she has a subjective experience that may be quite different than the one predicted by the speaker. What the speaker "means" by what he or she says is not necessarily what the listener "hears" being said. It is as if each person has a **different language**, although the languages have the **same words**. Since the languages have the same words, the individuals experience the **illusion** that they **understand** each other, and they therefore **conclude** that they **disagree**, that is, have different beliefs.

There are **three main reasons** for this problem.

The **first reason** is that **there are indeed often several, or even many, words and phrases that are used to mean approximately the same thing.** As our symbol-using behavior, primarily our use of language, has developed over the past many thousands of years, it has naturally come about that in a given language (1) there are often several different words used for at least approximately the same thing and (2) the same word is often used for more than one thing. However, each of the words also tends to acquire additional meanings, these meanings potentially being different for different individuals. These additional meanings are often referred to as "connotations," as opposed to "denotations." The connotations are often evaluative. Therefore, when referring to the same basic phenomenon, two individuals may refuse to use the same word. For instance, some might attempt to refer to a personality trait of an individual by describing him or her as being persistent, being adamant, standing up for what he or she believes, being stubborn, or being closed-minded. Whether one disagreed with the individual would have something to do with which word or phrase one would use to describe the individual. Two individuals, who might otherwise come to realize that they are in agreement, may believe that they disagree, simply because they will not use the same word or phrase to mean the same thing.

A very clear example that I have often been faced with has arisen in my efforts to help individuals handle anger-containing situations more optimally by learning an anger-prevention paradigm. In order to do so, the individual has to be able to identify anger. The phenomenon itself (anger) can be of all degrees, from just a little to a whole lot, but it is quite common for individuals to have no term that refers to any and all anger, irrespective of its intensity. This difficulty has to be overcome in order to use the anger prevention paradigm.

When there can be no agreement to use a word similarly, and no agreement to use the same word for the same thing, there can be no way of communicating accurately about the same thing. (And, of course, this problem is more likely to occur in broad, general discussions than in ones devoted to very specific, and therefore "well-defined," topics.)

The **second reason** consists of a problem that further intensifies the first one. The second problem is that **there is often an erroneous belief, not fully recognized, that there is a "true meaning" of a word**. This phenomenon is recognizable when individuals are disagreeing with one another as they are discussing the nature of some entity. They will claim that a particular word does not mean what the other person's use of it implies. Someone will say, "But **that's** not what (word or phrase) **is**!" or "But I don't agree that that is what (word or phrase) **means**!" An appeal to the dictionary is often made for determining the "real" meaning of a word, and often with disappointment when it turns out that there are several meanings listed, with perhaps none of them really satisfying the requirements of one or more of the participants in the discussion. There is a tendency to believe that, if we have a word for something, then there is, somewhere in the world, a something that precisely goes with that word, and that it is a matter of armchair analysis or empirical study to ascertain what that something is. This tendency is the very opposite of what should occur. We should recognize that the goal remains the conveying of a mental state from one mind to another, and that the best way of doing this is to **agree, for the purposes of the current discussion,** that a word will be used in a particular, specified manner. This would be called "**defining**" the word. In other words, the discussion should include an agreement on the definition, **for the sake of that discussion**, of any important words, rather than an argument about what the definitions of the words "really" are.

The **third reason** is that **it is usually impossible to define words and phrases precisely**.

Definition ultimately goes back to **pointing** to something while using a symbol (word or phrase) to represent it. (By pointing, we shall mean engaging in behavior to induce in the other either an experience or the memory or imagination of an experience.) The simplest example is that of pointing, say, to a chair and saying "chair." This is the way that we start learning the meanings of words. We learn to associate the word with the thing that we are paying attention to when the word is spoken. After learning the concrete meanings of certain words, we can begin to define other words in terms of these words that we already have defined. We can essentially point with words and phrases, saying, for instance, that "chair" is "the object in front of the table," in this way getting the other to look at the object, or evoking in the mind of the other the image of the object. If someone were to want to define "hunger," he or she would say it was the feeling that one gets if one goes a while without eating. This is a way of pointing to that feeling, recalling it to the other person's mind. As we continue to define the words and phrases contained in our definitions, a kind of pointing will still be involved, an evoking in the mind of the other a particular idea, image, set of words, etc. (As time goes on, we tend to think of the meaning of words as being only collections of other words, and only occasionally or vaguely do we go back to the basic sensory experiences and imaginations that the words ultimately make reference to. So the pointing we do is often to sets of words.)

Now there are **two main inaccuracies** involved in this process of defining.

The **first inaccuracy** comes about because whatever we point to generally has **imprecise boundaries**. A **boundary** is a concept that is a tool that helps us communicate and make decisions. **It does not exist in reality**; it is an **arbitrary** limit that we impose on our concept of the entity. It is an imprecise line that we draw around an entity, so to speak. For instance, the chair could be defined to include the paint on it or not. It could include the stains and dirt on it or not. If we used an electron microscope and other such equipment to study the atomic and subatomic structure of the chair, we would have to be quite arbitrary as to where to consider the

atoms of the chair to leave off and the atoms of other substances, such as air or paint, to begin. The boundary of North Carolina is imprecise, as is the boundary between our atmosphere and space. The boundary of "anger" is also imprecise, as is that of "democracy." For most words and phrases, we will be able to find a shady area where it is not clear whether the contents of the area still fall within the definition or not. This inaccuracy may be said to result from the **nature of the world**, in that nothing in the world has precise boundaries.

The **second inaccuracy**, somewhat like the first, is that when we attempt to define a word or phrase, first by naming the **general set** to which the referred-to entity belongs, and then by listing the **properties** that this **more specific set** (of one or more items) has that none other in the general set have, we will usually be able to find some items that may not be quite covered (pointed to) by the definition, but nevertheless may appropriately, **for certain purposes**, be included in the set to which the word or phrase refers. A doll house chair and/or a car seat and/or a three-legged stool and/or a box may or may not be included in our set of items to be referred to by the word "chair." This inaccuracy may be said to result from the **nature of language**, in that the **decision** as to what will be covered by the definition will be **arbitrary**, and can therefore **vary**. And when a word or phrase is defined, it is generally not feasible to make all the decisions one could conceivably make with regard to what shall and shall not be included in the definition.

So, **probably most, if not all, definitions lack complete precision of meaning**.

And because of this lack of precision, it sometimes happens that an individual will try to establish a definition to be used in a discussion, only to have another individual point out that the definition is unsatisfactory because the boundary of the definition cannot be precisely specified, or could be easily extended to include entities not meant to be included by the individual attempting the communication. **The goal of the communication becomes lost as the individuals debate, and refuse to agree upon, the definition.**

A **major consequence** of often having many **different words for more or less the same thing** is that we tend to choose words for their **poetic overtones** (emotional connotations), with the idea that doing so will evoke **feelings** in the listener that will aid in the process of **convincing** the listener. Poetry, wonderful and helpful in promoting empathy, nevertheless is often not really conducive to agreement, especially when there is already an impression of disagreement and a strong wish to convince. What would happen, for instance, to the agreement as to the certitude of propositions in Euclid's geometry if the entities (e.g., "straight line") were defined poetically (e.g., "that series of points that seeks the goal of intimacy most efficiently")? Political speeches, designed to convince, are good examples of this phenomenon, in which descriptions often contain words that have connotations of always being good, such as "courage," "loyalty," "faith," and "justice," or bad, such as "tyranny," "indecision," "greed," and "discrimination," even though the opposing viewpoint is quite respectable.

So consideration of the above three reasons for confusion and disagreement suggest that **in order to reduce the likelihood of such failure in communication**, we should:
    (1) avoid using multiple terms (words and phrases) for the same thing within a given discussion,
    (2) define any important words, or words that seem to anyone to have some ambiguity,
    (3) recognize that our definitions are for the current discussion only, and

(4) require only that degree of precision of definition necessary for the current
discussion.

It should be noted that the above approach to communication is **designed only for particular kinds of communication**, for instance, ones in which one individual is attempting to convey to others what is to be a way of understanding something in or about the world, that will possibly lead to improved decision-making by virtue of increased accuracy of such understanding. The above approach would **not** be suitable for literature designed to have an emotional impact on the recipient, such as would be true, for example, of poetry and fiction. We should not attempt to retrieve our astronauts with poetry, and we should not attempt to make love with definitions.

So, what I am talking about is the **importance** of using a **consistent, well-defined frame of reference**, in this case, a **set of words** with their **agreed-upon definitions**. And that is what is attempted in the book. And that is why the book has to be **studied**, not just read. If one just reads it, one will just get some interesting impressions to go along with all of the other impressions one has. But if one studies it as one might a geometry text book and increasingly sees how the words are defined and built upon one another, and then looks at the phenomena that those words refer to and considers the propositions being offered for proposed agreement, one will get a stronger feeling, hopefully, that the book is actually **correct**, not just **interesting**. And if this book is indeed **correct**, then it is, I believe the reader will agree, **of utmost importance to us all, now and in the future**.

Now, having discussed (a), above, namely, "some confusing characteristics of our natural ways of thinking about and discussing issues," I wish to move to (b), namely, "the inappropriate criteria generally used for legitimating propositions."

Much more will be said about "propositions" later in this book. At this point, let us simply consider that **a "proposition" is a statement about something in or about the world**.

What I mean by **"legitimating"** is **"giving a reason for believing or agreeing."** In other words, if I were asked why someone should agree with me, and I gave an answer, I would be proposing that answer as a legitimization of the proposition. It could be asked about any proposition (usually a sentence), "Is this proposition true or false?" Then, someone could state that it was true (or false), whereupon that person could be asked **why** he or she believed that it was indeed true (or false). The **answer** given would be the **proposed legitimization of that proposition**. What would be necessary for agreement would be that the other person(s) agree that the reason being given was indeed a compelling (legitimate) reason. If not, there would be disagreement about the **criterion** of legitimization. One example of my attempting to legitimate a proposition would be my showing that it was deducible as the third statement in a syllogism, the first two statements being agreed to already by those involved in the discussion. If someone did not agree with one of the first two propositions, or thought that the structure of my syllogism was faulty, then my attempt to legitimate the proposition would fail to meet a criterion of legitimization. The meaning of legitimating will become more apparent in what follows.

(The above paragraph was a simplification in order to explain "legitimization." Of course, two persons could agree, that is, have the same belief, but for two different reasons. They would be using two different criteria for legitimization.)

The problem, as I have said, is that **it often happens that inappropriate criteria are used**. The result of doing so is that there is failure to legitimate, and therefore to agree, when indeed agreement might be quite appropriate and actually beneficial.

I wish again to point to the problem that there is almost no **universal** agreement about **general** or **basic** ideas, nor even, at this point in our development, a belief that such agreement is indeed possible, or even desirable. However, **I am taking the position that such agreement about certain general or basic ideas is not only possible and desirable, but, to a certain extent, ESSENTIAL**.

Now how has it come to be that there is not only **satisfaction** with general disagreement, but even a **positive valuing** of it?

I believe the following general historical process has occurred. (My discussion will involve only western culture, with which I am most familiar.)

Certainly going back to our prehistoric past, we can assume that there was widespread disagreement, consisting of many different beliefs brought about by those processes involved in the development of superstition. As our species progressed, however, we began to learn how to do certain things that were helpful, and we allowed ourselves to learn from others. We could agree on more and more things. Still, however, there were vast areas of "knowledge" about which, especially in centers of trade, one could find quite diverse opinions. There was little distinction between superstition, mythology, religion, and what would later become "arts and sciences." Then there developed, primarily in ancient Greece, the belief that, with rational inquiry, one could achieve a kind of knowledge that was so superior that if one became adequately educated, one would indeed discover such knowledge and along with it the awareness as to why this knowledge **had to be correct**. The concept of **absolute Truth** arose. Absolute Truth would be self-evident and indubitable if the individual simply became enough educated to contemplate it. Of course, only the educated would have this capability of attainment of absolute Truth, and this led to the idea that only those who had attained it should be in charge of everything, hence the idea of philosopher kings. The thus educated of course were and would be a minority, who could not adequately be judged by the rest of the population.

This idea of absolute Truth became an important part of the Church for many centuries, and was inherent in the idea of "**infallibility**." It was legitimated by referring to the rules of logic, which would presumably show the properly educated person that the conclusions that were considered examples of absolute Truth could be "proven" to be so. Thus arose the criterion of legitimization called "**proof**." Only if something could be proven could it qualify as being definitely true, and there was the assumption that ultimately all that was true could indeed be proven to be true, at least in principle. (Actually, logical truth is only a property of a proposition in a system of logic. It has nothing to do with the accuracy with which a proposition states anything about reality, as will be discussed later.)

Of course there arose the complication that no one seemed to be able to propose ideas that could be shown to be provable, because before long someone else would show that the proof had loopholes in it. Extreme efforts were made to come up with a body of knowledge that was provable and therefore indubitable. Perhaps one of the most widely recognized efforts was that of René Descartes (1596 - 1650), who thought that, by systematically doubting everything, he

could arrive at the ultimately indubitable, upon which a body of indubitable knowledge could be built by the use of logical proofs. This effort failed once again. One problem was that there could be no universal agreement regarding what was indubitable in the first place, or what such indubitable "knowledge" actually **meant**.

As science and mathematics grew, philosophers looked more and more at the nature of the language that was being used to formulate or represent our knowledge, and they began to regard many of the problems in attaining agreement to be inherent in errors in the use of our language. As more and more began to be accomplished in the area of mathematics and logic, the idea grew that if we utilized appropriate self-discipline in the use of our language, so that we used it as we do in mathematics and logic, then we could arrive at knowledge that could indeed be proven. This effort was that of the logical positivists.

Eventually, this effort was shown also to be defective, in that it became possible logically to demonstrate that there could be no set of logical procedures that would result in a complete system of ideas that would follow logically from some indubitable initial set of ideas. Part of the problem again was that there was no way of obtaining that initial set. Legitimating by proof failed.

Alongside this effort there developed another approach to the problem of legitimating knowledge, the **"pragmatic"** approach. This was a real advance, but it became misunderstood and distorted into our current predicament. The pragmatic idea was that we have work to do. We can sit around and debate forever, but we have to have food to eat, for instance, and we have to have fairly reliable knowledge as to how to get it. So the idea arose that we should no longer use "provability" as the criterion to legitimate knowledge, but instead whether or not the knowledge actually "worked." We came to realize that our methods of thinking and experimenting represented only "tools" to help us accomplish what we wanted to accomplish. So, if the idea worked, it was "true" to that extent, or in that sense. We could just forget about absolute Truth and the need to show that the knowledge was indubitable through a series of proofs.

And this idea was an extremely important and appropriate one. We have always placed great reliance upon it. Our science and technology are based upon it. If our beliefs about the nature of the world were accurate enough, then we could send people to the moon and expect to get them back, and we could walk around in skyscrapers without worry, and we could put ourselves in the hands of surgeons with the expectation of improvement. **The basic idea of whether a belief worked or not meant whether, with that belief, we could predict what was going to happen.**

So far, so good. But then a **distortion** of this basic idea came about. (Actually, it was there all along, but it became more overtly proposed.) The concept of "work" was expanded to mean more than just the ability to predict what was going to happen. It was expanded to mean the **total set of outcomes of having the belief**. In other words, the question became, "What will happen if I have this belief?" rather than "What will happen if this belief is accurate and I am faced with such and such situation?" And further, the question became, "Will what will happen be desirable?"

So the idea of legitimating beliefs according to whether or not they "worked" became a matter of legitimating them according to whether they "made life better" for someone. The meaning of "true" now became indistinguishable from "believed." A great sense of freedom was acquired for some by this line of thinking. Now, one no longer had to agonize over whether a belief was true (in the earlier sense) or not. If it made life better to have the belief, that was enough.

It was easy to see that what might make life better for one person might also make life worse for another. Therefore, it became "logical" to conclude that an idea might work for one person and not for another, and therefore that what was "true" for one person was not necessarily "true" for another.

And what is meant by "making life better"? We are basically talking about feeling better (or not feeling as bad). So, if believing something makes you feel better, then that belief is working for you. If someone doesn't agree with you, so what? What is true for that person is not necessarily true for you. He or she is "entitled" to his or her "truth," and debating the issue with that person is probably likely only to cause trouble, and certainly do no good. Agree to disagree, and go on. This approach to knowledge has been part of the "postmodern" position in philosophy.

Needless to say, this approach rapidly runs into trouble. What if that person or group believes something that causes him, her, or them to act in such a way as to cause me suffering or harm? Well, the best remedy then is to find others that agree with me and see if we can overwhelm this other person or group through some sort of force, whether emotional, social, political, or even physical or military. So we should band together to protect and propagate those beliefs that work for us and make us feel better. And those of us in our group had better be loyal to our group and not weaken our position by questioning our beliefs. The important value is not the approximation toward truth, or being able to predict more accurately and reliably, but the acquisition of power. The opinion becomes like a flag, around which a group may rally. Individuals in the group are supposed to espouse the opinion, not because of the ability of the opinion to withstand rigorous but friendly debate and whatever experimentation can be thought of, but instead because espousing the opinion is a sign of loyalty to the group. Belief, then, becomes **an act of obedience**.

Thus, this **distortion of the basic pragmatic idea** sends us backward in our "evolution" to behave in just the opposite manner from that which has worked so well in science and technology, where all ideas are subject to the legitimization criterion of whether they allow us to predict accurately what will happen. **This distortion propels us backward to our basic tendency to solve disagreement by the use of force.**

Above, I made reference to "**friendly debate**." This concept is an important one in understanding what is being advocated in this book.

Friendly debate, as used in this book, is a procedure whereby two or more individuals, who have different beliefs, each try to convince the other(s) of the validity of his or her beliefs while listening to the response of the other(s) in order to detect flaws in his or her own beliefs or in the presentation of them, the **goal being that of increasing one's own wisdom and effectiveness in communication**. The criterion of success is whether the beliefs in question are consistent with the rules of logic and the rules of evidence (to be discussed later in this book). Friendly debate is

the procedure that is most likely to result in increased wisdom. Friendly debate is a very difficult procedure, seldom occurring among our species so far.

Unfriendly debate is a procedure in which **the goal is to win or to achieve the appearance of winning**, and the procedure is often characterized by efforts to suppress the other's viewpoints, distract the other from pursuing a logical presentation, or confuse the other and/or listeners by, for instance, misrepresenting the viewpoint of the other. Anger is generally present and is frequently manifested as hostile speech and hostile non-verbal behavior. Shouting down, ridiculing, abandoning and avoiding, injuring, and murdering are examples. Unfriendly debate occurs frequently, and generally leaves anger-containing memories. It is usually referred to as "argument," and sometimes even as "fighting." Some of "anger management" is the effort to convert unfriendly debate into friendly debate.

It can be seen that since there is the generally held belief that there is no absolute Truth, and therefore, presumably, that there is no reason for expecting agreement, unfriendly debate is considered by almost everyone to be a natural and acceptable kind of interaction (within varying limits of acceptability of hostile behavior), and since it almost never results in agreement, this fact seems to serve as evidence that the expectation of agreement is inappropriate, an example of the phenomenon referred to as the "self-fulfilling prophecy."

The above has been my presentation of some of the factors that have caused us to be unable to develop a set of general, agreed-upon beliefs and that have led us to come to accept the idea that general agreement (by everyone) is neither possible nor desirable. Yet, as I have already said, such agreement is crucial to our survival and well-being.

So now I will describe my basic method in this book for conveying my ideas, with the hope and intention of achieving agreement between myself and the reader. This method is based upon an effort to avoid the above-described problems in achieving agreement.

It will be helpful if the reader keeps in mind the analogy of the cutting of an orange. If one were to want to find out what an orange was like inside, and he or she could make one cut, it would probably be true that there would be greater information gained if the cut were made in one particular way. Analogously, there is more than one way to describe an entity or part of the world. One would hope to find an especially helpful manner of describing it, a way that produced the greatest clarity. One could also, perhaps, find another way of describing the world that had equal clarity, or that might even be better for certain purposes. What one would not want to do, however, would be to mix the different ways up together, or cut the orange with an irregular cut that consisted of parts of several different cuts, mixed up together. So I will be asking the reader to use words in a particular way in this book, and to refrain from adding his or her own meanings, words, and phrases while trying to understand what I am pointing to.

First, I will attempt to define, for the purposes of this book only, certain words in as simple a manner as possible, these words being basic for understanding the ideas that I am trying to convey. Furthermore, I will attempt to refrain from using more than one word to refer to the same thing. When two or more terms in general usage usually do mean the same thing, I may use both terms (often placing one in parentheses), indicating that they are synonyms. Note that this process of definition is one of establishing agreement. I will ask the reader to agree, for the purposes of this book only, to use certain words in certain fairly precise ways, with the

prediction that if the reader does this, I will be able to convey to him or her some important and useful concepts.

I wish to reassure the reader that I will also try to choose meanings for these words that are as close as possible to our most usual usages. It is not my intention to take common words and assign very atypical meanings to them. It will necessarily occur, however, that some of the definitions that I will propose may be different than those that would naturally come to the mind of some individuals. The reader will need to adopt the definition proposed, for the sake of the book, and realize that some such differences may be present. These differences should not make it necessary to conclude that the ideas being expressed are not valid. The willingness of the reader to engage in this method is crucial to the successful communication of my ideas to the reader.

Second, I am proposing a change in the criterion for legitimization, and therefore agreement. I propose that the criterion be that a proposed idea be considered legitimate if everyone agrees that the proposed idea is the best one so far, with the understanding that there will always be a welcoming of a review of that idea to see if any better idea can be proposed. This change in criterion is based upon an observable fact about our existence, and that is that essentially everything can be doubted, and that most of the time we are limited only to doing the best we can in making our judgments. Notice that I am not anticipating legitimating my ideas by proving them. I am legitimating them by describing them in a clear enough manner that the reader will, I believe, say that the ideas are **much more likely to be correct than not**.

So, in this book, I will be asking the reader:
> Is what I have said understandable?
> Does what I have said sound right?
> Is the reader unable to come up with a better idea?

If the reader answers yes to all three of these questions, then I would advocate that the reader tentatively adopt the idea proposed, always with the recognition that it will be replaced by any idea which subsequently seems better. **The new criterion being proposed for legitimization is that, at this time, the ideas seem right (there is nothing that contradicts them), and no ideas can be found that are as good as the ones being proposed.**

Let us agree, then, that our symbols, primarily words, and the rules for using them, are at their best only **rough tools** that we can use to communicate, and that all we can ever do is **approximate** perfect communication by using these tools as **skillfully** as possible. The fact that our effort will always have some imperfections, some rough edges, so to speak, should not deter us in our basic effort to make our lives as good as possible through continuing to strive toward the development of ideas that we all agree really work, namely, that really help us to predict the outcomes of our decisions and that help us to make our best decisions, ones that we are least likely later to regret.

There is **one other proposal** that I am making to the reader. **If it appears to the reader that what I am proposing is not only probably correct, but also important to our species and/or important to the reader and those close to him or her, the reader should attempt to understand the ideas further and attempt to make use of them in his or her decision-making.** Notice that one would no longer say, "Yes, but you can't prove what you are saying, so

I don't have to listen to you anymore." It is my belief that we all suffer when this happens, and that it happens a lot. I am not advocating "blind faith" nor obedience; I am advocating recognizing an obligation to understand as much as possible about those issues that are important to us all. This would be being a good citizen. The bottom line is the advocacy to do the best we can in behalf of us all. **The effort to understand may turn out to be our most important obligation.**

THESIS: THE THREE EXPONENTIAL CHANGES

Once again, I believe that our species is just beginning to undergo a third exponential change. I believe this change is good, in that it will promote the survival of and the good life for our species. I believe that by becoming aware of this change, the reader will be able to assist in promoting it, and will also benefit with regard to his or her own personal life in doing so. This book is an effort to call attention to that change, and to foster its development.

As noted, the change I am writing about in this book is primarily the **third** exponential change. However, I will need to describe the **first two** changes in order to make clear what the third one is.

These changes are making us progressively and dramatically different from all other species on our planet. Each change is or has been dependent upon the one before it, but **each change also makes us dramatically different from the way we were before it took place**.

The first change was largely **made possible** by a change in our **genetic** makeup (compared to any other species), but it was a **psychosocial** change. The second and third changes, which are dependent upon the first, are, I believe, purely **psychosocial**. An implication of this idea is that one could imagine circumstances that could bring about a substantial loss of these changes over a relatively short period of time. Another implication is that these changes are ones that can be influenced psychosocially (that is, without genetic manipulation). By psychosocial, I am referring to processes ranging all the way from those within the individual through those considered social, to those considered political.

By an **exponential** change, I mean that the change began very gradually, starting with barely noticeable change over a long period of time, but ultimately **accelerating**, such that the end result is a **dramatic difference** from what was true a short time before. We can easily see the exponential nature of the second change, because most of the change has been observable within many of our own life spans. We can easily imagine that the first change was probably also exponential. The exponential character of the third change is not as evident, because the change itself is not so easy to see due to it being so early in its development. However, I think the reader, upon understanding what I am referring to, will agree that it, too, is and will be exponential.

Each of these changes has developed gradually over a long period of time prior to its eventual dramatic escalation. Consequently, these changes overlap each other considerably. With regard to any of these changes, we would not be able to find a time when there was no evidence at all of what would later escalate to such a remarkable extent. But the significance of each of the changes can best be appreciated only after the escalation has taken place, so that we can compare how things have become to how they were before the escalation. **Thus, prior to the escalation of each of these changes, the phenomena were not very impressive and largely went unnoticed by most. This is the current status of the third change, about which this book is primarily written.**

In this chapter, we will look at the first two exponential changes that have made our species so drastically different from all other species. (The whole book is about the third exponential change.)

The first change is the development by our species of the ability to use symbols as tools essentially to an infinite extent, and to use them according to certain rules that allow us to construct models of essentially anything.

By **tool** I mean **anything that is created, fashioned, modified, or handled in such a way as to do something better**.

Now let us first look at the concept of the "**symbol**."

Let us assume that I want the reader to **pay attention** to the same thing that I am paying attention to, namely, an object, such as a chair. The most basic way in which I can accomplish this is by **pointing** to the chair, or perhaps touching it, or picking it up and waving it. This method is that of having the other person, as much as possible, have the **same experience** that I am having, by looking at the same thing. Then I can make the assumption that he or she does indeed have in his or her mind approximately the same thing that I do.

(Of course, it won't be exactly the same, since the other person will have a different perspective, a different nervous system, a different past history, etc., but it will probably be **sufficiently** the same **for the purpose intended**. In what follows, I will be assuming that references to the image being the same mean "sufficiently the same for the purpose intended.")

But for the above method to work, the actual object has to be present. What about the situation in which the object is not present? I have a picture, or image, of it "in my mind," but how can I feel fairly certain that I have produced in the other person's mind the same image?

We need to **digress** a moment about this basic ability that we humans have, namely, of having an **image** of something in its **absence**. In other words, I may look at a chair and then look away, but still experience in a vague way the image of the chair, somewhat as if I were still looking at it. We are talking about "**imagination**," a particular kind of **memory**. (A more complicated form of imagination is the taking of **parts** of memories, or images, of different things and putting them together to make something **new**, which we have not yet experienced. But the crucial aspect of this process, **imagination**, is the **production of part or all of an image of a stimulus in the absence of the stimulus**.) And of course all of the above can pertain to other sensory modalities than just vision, or really, **anything that has been experienced**, including thoughts, feelings, and dreams. The ability to produce or maintain an image in the absence of an actual stimulus is probably not very great in most lower animals, though many other animals, it would seem, do have some ability to do this.

It should be noted that we do not have to assume that an image of something, or even imagination itself, requires that the image(s) be in a "conscious mind." We do not know how "conscious" other animals are as they demonstrate activity in the brain similar to ours and behave as we do. We do have evidence that most conscious experiences that we have can actually seem to take place, under perhaps unusual circumstances, without conscious awareness. (We have used the terms, "repression" and "dissociation," as examples of this possibility, as is

the example of certain kinds of seizures.) So either we can talk about imagination meaning a kind of conscious experience that we know we humans can have, or we can talk about imagination meaning an activity that occurs in the nervous systems of animals, including ourselves, whether conscious experience is occurring or not. For our purposes, we do not have to be, and won't be, concerned about whether conscious experience is occurring or not. (This will make unnecessary having to deal with the philosophical "mind-body problem," including even what "consciousness" is. I will mention, for the interested reader, that I believe that the "mind-body problem" results from the attempt to integrate two incompatible models, the psychological one and the physical one, but consideration of this issue is not relevant to this book.) When, in this book, I use the term "mind," I will be meaning whatever processes are occurring in the nervous system that are necessary for the events to take place that we, in our everyday language, are referring to when we use the term "mind." Thus, there will be no need to refer to "the conscious mind" and "the unconscious mind," and also we will be able to see more easily the similarities between ourselves and other species, to which some might find difficulty applying the concepts of "mind" and "consciousness."

This capability, **imagination**, is very important, and is used by us, for instance, to "**find**" something. When we "look for" something, we produce, without external stimulation, an image of it, while then scanning the environment for something that produces a similar image, such that there is a "match," at which point we say we have "found what we were looking for."

Although we really don't fully know what is going on in the brain, we can assume, for our purposes, that when the image is occurring "in imagination," some of the same pathways in the brain are being used as were used when actually experiencing the object while it was present. We may tentatively imagine that some of the same neuronal "pathways" that were stimulated or produced by the original stimulus become active during the process of imagining or remembering that stimulus. Although what goes on in the brain is not fully understood, it is not necessary for us to know this in order to understand what follows.

So now we need to **end the digression** and return to the task of figuring out how I can feel fairly certain that I have **produced a particular image in another's mind when the actual object is not present to point to**.

The solution, as noted, is the use of the **symbol**, something that can be "carried with" one (that is, can be produced on demand, and therefore is an example of imagination) and that can be used to **elicit** the **image** of the "**object**" (experienced entity or process). The most common and obvious kind of symbol is the "**spoken word**," but there are many other kinds of symbols, also, including the "written word," signs in sign language, gestures, mathematical and logical symbols, chemical and electrical symbols, and the components of maps and diagrams.

Now let us look at a more advanced way that these symbols are actually used, going well beyond what other animals can do significantly.

We wish to think about or deal with a **set of one or more "things."** We devise a **label** for that set. The label may consist of a word, a phrase, a sentence, a character, a gesture, a component of a diagram, etc. That label is the **symbol** that stands for the set of one or more things. The set of one or more things is the **meaning** of the label, or symbol. Then we devise a rule that tells us whether any particular thing is a member of that original set of one or more things. That rule is

the **definition** of the symbol. The definition first specifies the domain, that is, a larger set in which the set of one or more things lies, and then the characteristics of the set of one or more things that differentiate it from all other sets in that domain. The rule is to ask of this particular thing, first, whether it is in the domain, and, if so, second, whether it has the characteristics specified by the definition, that distinguish it from all other things in that domain. If the answer to both questions is yes, then the thing is an example of what the symbol refers to, or means. An example would be to define a tricycle as any means of transportation (domain) that had only three wheels, had one seat, had no motor, and had pedals to propel it (differentiating characteristics).

In order to understand further some basic ideas about symbols, I am going to use the example of **words** (spoken and written) almost exclusively. **Whatever is said, however, should apply in a basic way to any use of symbols.**

For the symbol to work, there has to be a way for it to come to pass that the symbol will do at least approximately the same thing to the mind of the other person that it does to my own mind. There has to be some **agreement** as to the "**meaning**" of the symbol. Well, so I can, when I am with the other person in the presence of the object, point to the object and pronounce the symbol (word) for it. I can point to the chair and say "chair." After doing this, perhaps several times, and perhaps with several different chairs, unless I want the word to mean only the one that I am pointing to, the other person is likely to come to "understand" or "agree" that the word "chair" will "stand for" or "mean" the object(s) I am pointing to. Finally, if I want the other person to imagine a chair, I will say the word (symbol) for it, and the other person will probably experience the image of the chair.

Of course, we can also call another person's attention to a sound, and we can associate a particular word with that sound. Thus, I can develop symbols such as "bang" or "music" or "noise." The same can be true for touch, such as "hot" or "rough," or for any of the senses. As time goes on, we can even develop words for situations, such as "storm," or "fight," or "mealtime." We can also develop words for feelings that arise in certain kinds of situations. For instance, we can refer to the feeling that occurs when someone does something mean to us as "anger." Finally, we can develop words that stand for groups or sets of words, such as "furniture," standing for "chairs," "couches," "tables," etc.

We begin the development of the collection of symbols primarily by pointing to, or otherwise calling attention to, something and saying the word that is to be used for it. This is one of the methods used between parent and infant. The basic process is that of bringing about the simultaneous experiencing of the word, or symbol, and what it "stands for" or is supposed to "mean." There are, of course, more complex methods that are increasingly used after a basic set of simple words is learned. And it should be noted that, in reality, **this is not a systematic process**. As children grow, they "catch on" to the meanings of whole groups of words, and the meanings may vary depending upon the situation and upon the emotional behavior of the speaker at the time the words are spoken.

But this is the basic idea of the **symbol**. It is anything that one learns to use to elicit in the mind of another, or of others, the object(s) or entity(s) or thing(s) that the symbol stands for, by **agreement**. (Please note again the extremely basic importance of agreement!) And although the

individual may, at some later time, find use for symbols during solitary activity, the development of symbols, in the first place, must generally be a **social** process, involving agreement.

Another observation to make is that after a while, that is, as we emerge from infancy, the meanings of words cease to be the images of the original objects or phenomena that the words stand for. Instead, a word will elicit a diffuse awareness of a bunch of other words. The collection of symbols that are used in the processes of thought and communication takes on a life of its own, such that the person making use of the symbols is sort of living in a world of symbols, now detached from their original referents, but attached to other symbols, instead. The reader, right now, is experiencing this phenomenon. Nevertheless, the **potential** connections are still there, in that if the user wished, he or she could increasingly focus on any one of the words, and, through efforts at definition and/or identification of examples, perhaps often ultimately arrive at some concrete images that the word was referring to. A fair number of words, however, are pretty remote from any actual images, and, as an extreme example, mathematical symbols are designed to be completely independent of such images, by being uniquely general in nature.

Now let us imagine, though, that we have hundreds, or even thousands, of these symbols, with agreement as to what they stand for. Notice that we have not yet really accomplished much that will be of help to us.

For instance, if I am with my friend, and I look around the corner (but he or she does not), then I will know something that my friend does not know. What I would now like is to have a method of conveying that knowledge to my friend, without my friend having to look around the corner also. In other words, **I wish to create in my friend's mind an image of something he or she has never experienced before, and without pointing to it now.** The image will consist of **parts** that he or she has indeed experienced, but has never yet **put together** in exactly the way that they would be if he or she were to see what I have seen.

Of course, my friend and I already have a tool, namely, the symbol, to evoke images in the mind of the other. But notice that the fact that I have a lot of symbols, names for things, does not mean that I will be able to give an accurate image to my friend of what I saw around the corner. Reciting a long list of names, or nouns, will not do it. I could even have names for relationships, like "over," "beside," "smaller than," etc. I could have names for activities, also, such as "falling," "shading," "obscuring," "walking," "hiding," etc. But if I were to put all these words in a container and shake the container, so to speak, and randomly present them to my friend, he or she would have a very unclear idea as to what I had actually seen.

Let us be clear what I am trying to do. I am trying to produce in my friend's mind an experience such that when my friend "looks at" that experience in his or her mind, it will be very close to the experience that he or she would have in his or her mind if he or she had actually looked around the corner like I did. This means that this experience, or set of images derived from the "memory bank," has some relationship to what is "actually" around the corner. So what I want to do is to construct in the mind of my friend a **"model"** of what is around the corner.

Let us now be as clear as possible about what a model is.

Let us consider the model of a car. This model consists of parts of the model put together in a very specific way. In other words, I can't just put the wheels, doors, headlights, hood, etc.,

together "any old way." The way the model "works" is that the relationships between the parts of the model are such that a person can imagine what the relationships between the parts of the actual car are. (In other words, if I were to look at the model car, I would have some idea as to what the real car looked like, and if I then looked at the real car with this expectation, or prediction, and saw something different, I would say that the model was incorrect, or inaccurate. Conversely, if I looked at the real car and then at the model, and saw something different than I expected, or predicted, I would say the model was incorrect, or inaccurate.) So a model consists of parts, put together such that the relationships between the parts of the model can be **translated** into the relationships between the parts of that which is being modeled. In the case of the **model** car, the distance between its wheels, or between its headlights and its taillights, can be translated into the distance between those equivalent parts of the **real** car.

Notice that **the model is never exactly the same as that which it is modeling**; otherwise it would actually be the same thing rather than a model of it. A thing is a model to the extent to which it allows one to predict, because of the parts of the model and the relationships between those parts of the model, some attributes of or facts about that which is being modeled. It cannot predict everything about it, but there are generally only certain things that we want to know, anyway.

Now a model must be constructed of some "material" or "materials." It is made of something. The model car may be made of wood, metal, plastic, etc. But notice that a picture or a map may also be a model, a two-dimensional one, of something. In a similar manner, a diagram may be a model, one that reduces the number of aspects of something being modeled to a minimum. A mathematical equation is perhaps the most extreme example of the reduction of the aspects of something being modeled to a minimum. But in this book, the most usual meaning of the concept of a model will be a collection of words, put together in certain ways, that evoke in the other person's mind an image or idea of something that is as close as possible to the image or idea of the something that is in the mind of the person constructing the model. Thus, a verbal model of something is essentially a description (in words) of something. There is perhaps little or no difference between the concept of a model of something and the concept of a description of something. And if what I want to do is to convey to you, or describe to you, what I want you to do, I can describe it in words or I can describe it in gestures, or I can even do it myself, such that my behavior is a model for you to "imitate."

Let us return now to the example of my seeing something around the corner that my friend has not yet seen. When, because of my description, my friend comes to have an image in his or her mind of what is around the corner, that image represents a model of what is around the corner. And I want his or her model to be similar to mine, that is, to the image in my mind.

(Actually, saying that the image is a model is somewhat of a metaphor, since it would usually not be referred to as a "tool." It occurs automatically, rather than as a result of a voluntary act, and it seems to be a part of the person rather than something being "used" by that person. On the other hand, there is really no clear dividing line between what a tool is and what a tool is not. For instance, one could regard a boulder as a tool if a person or other animal got on top of it to see further, and one could even regard the use of an appendage as a tool, as for instance in the example of using one's fingernail in the place of a screwdriver. And some of these usages are quite automatic, rather than "deliberate." So the use of the term "tool" in the above manner is optional. The important point is that the image can be broken down into **parts** that have a

relationship to each other, and that those parts and the relationships between them can be **translated** into the **parts** and **relationships** in "the actual thing," in such a manner as to make **predictions** about the actual thing possible. An example is that if I have an image in my mind of something I have not yet seen, that image is a prediction of what I will see when I actually look at it.)

Now in the case of verbal description or modeling, what is the "thing" that I am using to create that image, or model? It will have **parts** (symbols, or words), **and relationships among those parts** such that they will be **translated** into the desired image in my friend's mind. In other words, I will be using a model, constructed of **words and relationships among them**, to create a model, consisting of an image in my friend's mind, of what he or she will see if he or she looks around the corner. (And yes, whatever he or she sees will again be a model in his or her mind, or nervous system, of what is actually there.) So we want to understand more about constructing a model with words, that will produce another model, the image.

As we have seen, the words themselves, by themselves, cannot construct such an image. Something else is needed. What is needed is an understood way of using those words such that a specific image is created. There must be **a way of using the words** that is **agreed upon**, such that if that way of using the words, or that **set of procedural rules for using the words**, is followed, there can be a fair amount of confidence that the desired image will be created in the other person's mind.

These rules are the rules of syntax. These rules are the glue that hold the various symbols together in precise ways, such that the finished product can model a specific thing in the world. The finished product goes by various names. I will use one of them, namely, the "proposition." In other words, **the models we will be talking about will be constructed with a set of one or more propositions**. A proposition, as I am using it in this book, will be essentially the same thing as a declarative sentence.

(There are other kinds of sentences, such as questions, requests, and commands, that usually are not considered propositions. I believe that they can generally be translated into propositions. "Bring me that!" can be translated into "I want you to bring me that and it is consistent with the nature of our relationship that I can expect you to bring it to me if I let you know in this manner that that is my wish." To keep matters simple, we will use as our examples only simple declarative sentences, and to help us think and communicate clearly, I will use the term "proposition," rather than "sentence." But also note that a mathematical equation can serve as a proposition, just as can a series of gestures made in accordance with the rules of sign language.)

Consider "John handed Mary the book." Then consider "Mary handed John the book." Then consider "Handed Mary the John book." The same five words were used, but because of the rules of syntax, the three "propositions" have different meanings, and one probably has little or no meaning at all. And the rules for using the symbols in a mathematical equation are exactly equivalent to the rules of syntax in language. For example, A/B is not the same as B/A. In the same way, there are rules for constructing diagrams, graphs, and charts, and for using signs in sign language. So in the construction of any model, the "materials" of which the model is constructed must be assembled according to an agreed-upon set of rules for their use in order for the model to work, that is, to allow accurate expectations or predictions about that which is being modeled. These rules are the ways in which to use the parts of a proposition such that the

proposition can be **translated** into an **image,** or **understanding,** of what the proposition is supposed to **mean**. (The recipient of the proposition might say to the sender, or speaker, "I believe I understand what you mean," or, "I get your meaning.")

As noted, using this concept of "model," mathematical equations that represent processes in the universe can be considered models. By knowing how to translate the variables in the equations into readings from experiments, one can make predictions as to what those readings will be. Thus, these equations are referred to as mathematical models, and they are especially useful for modeling phenomena that cannot be modeled by objects in the physical world or by objects that we know by virtue of our visual field. (For instance, quantum physics makes use of models of objects that cannot resemble any objects that we are familiar with, such as billiard balls, and therefore quantum physics has become much more of a mathematical model, compared to our understanding of physics prior to the recognition of quantum phenomena.)

So just as, in the model of the car, the parts of the model car had to be put together in just the right way in order for the model to be an accurate model of the real car, in the model of the above interaction between John and Mary, the words had to be put together in just the right way in order for the proposition to be an accurate model of what actually happened between John and Mary.

It can really be said, then, that our "understanding" of something is a model of it. Our understanding of something physical is often our internal image of it, and that image would therefore be a model. Our understanding of a complicated process would be our imagination of the interactions of parts of the process, and that imagination again would be a model.

The more accurate our understanding is of something, that is, the more accurate our models are, the more accurate our predictions will be regarding our experiences and regarding the outcomes of our actions.

The development of the ability to use this new set of tools, namely, models of things about the world constructed of symbols put together according to the rules of syntax such as to make sets of propositions, and the ability to do this essentially to an infinite extent, was the first new development that made our species stand out as different from, and ultimately more capable than, all other species on the planet at this time, and we ultimately became drastically different from how we had been before.

We have been able to demonstrate that other species, primarily primates, do indeed have some capacity to use symbols. Chimpanzees have been taught (laboriously) to use several hundred, and to use them creatively. However, the distinguishing characteristic for us humans is our ability to make **infinite** use of them. By this, I mean that it is difficult to imagine any limit to our use of them, and this infinite use appears to be quite easy for us. This is true of no other species that we know of. Thus, although the use of symbols is not restricted to our species, the infinite use of symbols is so dramatically different from what any other species can do, I believe the **infinite capability of using symbols, especially with rules of syntax**, can reasonably be considered an **emergent**, essentially a **new entity on this planet**.

This ability to use symbols has accelerated. If we imagine the limited amount of symbol usage back when we were little different from chimpanzees, one or more millions of years ago perhaps,

and look at the state of our symbol usage today, it is not hard to imagine that this growth has been, not linear, but **exponential**, in that at a certain relatively recent period of time, perhaps especially with the development of writing, it has been accelerating at an enormous rate. For some of us (especially those of us in some technical schools), our vocabulary and our set of concepts grows almost daily, and we can not easily imagine an end to this growth. More than ever in the past, each generation has some difficulty understanding the language of the next younger generation. And it is not just the vocabulary that grows, but also the combinations of words in phrases, sentences, and works of literature, science, and art. There is no way of imagining any limit to this process; therefore, we can, for all intents and purposes, consider our use of symbols (and syntax) to have become **infinite**.

What our symbols allow us to do is quite striking. There is no other species on this planet that has capabilities such that one animal can convey to another animal what it was planning yesterday to do tomorrow, and how it was feeling about it. We humans can share with others the interiors of our minds, so to speak. We can tell each other our dreams and share the fine nuances of our feelings through conversation, prose, poetry, and song. We can also cooperate to a much greater extent, because, for instance, one of us can direct another to a location the other has never been in, exclusively using words. All in all, we have become enormously more capable of acting in groups of two or more, with assigned roles and unified goals. **We can do what other animals can do, but far more skillfully with this set of tools**.

It should be noted, however, that **these tools, symbols and the rules for using them, though representing a dramatic achievement compared to other species, have nevertheless primarily been in the service of our basic animal nature**.

For the purposes of this book, let us define our **basic animal nature** as consisting of **those aspects of us that are shared with many other of the higher animals (primarily mammals, especially primates)**. If we watch documentaries about other mammals, we may be impressed that there is little of our behavior and feelings that is substantially different from that of at least some of the other animals. They eat and drink, defecate and urinate, play, make love, make war, deceive and play pranks on each other, manifest jealousy, mourn, and even sing and dance. It is interesting, indeed, that when someone refers to someone else's feelings or behavior as "being only human," he or she is generally referring to something that is found in the other higher animals, so that the phrase really should probably be "being only animal." Of course, no one would say this, because we humans, being obviously superior to other species in certain ways, and characteristically derogating that which is different, generally refer to "being animal" as being inferior or bad. (On the other hand, this is not true for many pet owners, who may actually see their pets as superior to humans in certain ways, because we humans have certain undesirable tendencies that are not evident in their pets.)

The bottom line, however, is that **there is very little difference between our species and other higher species, except for the three exponential changes that have occurred and/or are occurring, the first being our infinite use of symbols (with their accompanying rules of syntax), and these changes so far have to a great extent been in the service of our basic animal nature**.

Unfortunately, **not all of what animals do is optimal in our eyes**, so we do not approve of some of the things some of us do with these symbols. We have been known to tell lies about someone

so as to get revenge. We at times tell lies to get something that belongs to another person. We threaten a person to force him or her to submit to being used for our pleasure. We sometimes use symbols to fool and mislead others for our own benefit. We use symbols to inflame emotions and promote the persecution and destruction of others. And we use the symbols of mathematics and science to construct weapons and computer viruses. Examples are almost infinite. But they all represent **our remarkable ability to do with much greater skill and ingenuity what other animals also do, both good and bad.**

Also, it is important to understand the **limitations** of what has been described so far. (We are about to consider **the second exponential change**.)

Remember that the difference between a toy car and a model car is that the model car has relationships between its parts that allow one to "know," or predict, what the relationships will be found to be between the parts of the car for which the model stands, that is, the car that is being modeled. One may have a toy car that is not a model for any actual car. One could, of course, say that the toy car was a model of a car that has never existed, in which case the toy car would indeed be a model, by definition, or agreement, but only if that were indeed the agreement.

So we have sets of one or more propositions, each set of which is a model, **but a model of what**? It may be a model of what is. But it may also be a model of what isn't. It may be a model of what I would like, or a model of what I would dislike. It may be a model of what I think should be or shouldn't be. It may be a model of what would be impossible. It may be a model of something so outlandish that it has entertainment value and makes me laugh or cry.

The fact that a proposition, or sentence, can be constructed such that it presumably conveys an image of, or models, some situation or event in the world, in no way means that the image, or model, is "true," or "accurate." The fact that I can construct the model, "Mary handed John the book," in no way means that she actually did. So, how do we develop models specifically of **what is**, so that we can use these models for **successful decision-making** by virtue of **accurate prediction**? There are additional ingredients needed to make this new set of tools work well, if what we want is to model the regularity in the world so that we can predict accurately what is going to happen.

We know that we have made tremendous progress in the development of accurate models. Think back to the time of Homer, when probably most people lived in a mythological, magical world of monsters and other things that few of us today believe exist. Homer (if there was such an actual individual) was a poet. But perhaps all humans were. And the child is also a poet, with imagination, fantasy, and all sorts of inaccurate images of the nature of the world and how it works. So what has had to happen to get us to the point where we have such accurate models of the world that we can get ourselves to the moon and back safely, and feel confident when someone is sticking needles in our eyes to help us to see better?

In other words, what do we need to add to "symbols-and-syntax" in order to construct accurate symbolic models of the way the world actually is?

Let's consider any model. It must be **well-constructed**, so that it will not fall apart. Also, it must be **accurately constructed**, so that the relationships among its parts are translatable

accurately into the relationships among the parts of that which is being modeled. We will consider each of these two requirements.

The model must be well-constructed.

It can't fall apart. If it is a model car, it can't be such that the door can fit on it more than one way (unless that is true of the real car). If we don't know which way the door fits on the model car, then the model is no good. In the same way, if we are modeling something with propositions, two of the propositions cannot be mutually contradictory. If we have two contradictory propositions, "Mary handed John the book" and "Mary did not hand John the book," we will have no way of knowing what actually happened. So the first requirement is that the model, or set of propositions, must not have propositions that are mutually self-contradictory. There is a whole area of knowledge that has to do with this issue, the field of **logic**.

The field of logic is the development of, study of, and use of a set of rules (procedures) that are used to ascertain if self-contradiction is occurring in a set of propositions, or, another way of putting it, to determine what propositions must be true if an original set are true. The other propositions must be true because if they were not, then contradiction would occur. A familiar example is that of Euclidean geometry, in which an effort is made to demonstrate all of the propositions that must be true if an original set is accepted as true, and the method ultimately involves showing that if any of these other propositions were false, a contradiction would occur. Ruled out would be any propositions that, if included along with the original set, would result in a contradiction occurring somewhere in the set.

We therefore test the **legitimacy** of our ideas, **in part**, by seeing if they can be placed in the form of **syllogisms**, which follow certain rules. ("All men are mortal. Socrates is a man. Therefore, Socrates is mortal.") If the proper rules for syllogisms are followed, then the propositions that make them up are protected against mutual contradiction. If the proposed syllogism does not follow the proper rules, the conclusion is not considered supported or convincing, and this fact is usually called to the attention of the user. I believe that most of the other logical rules, some of which are quite abstruse, are based upon these fundamental rules.

It should be noted that when a person blatantly professes ideas that are contradictory to each other, or blatantly uses syllogisms that violate the rules of syllogisms, he or she is generally regarded as being "irrational."

Now we did not just suddenly sit down and construct some useful rules. Just as is true of all of our major developments, the first appearance of the development of this phenomenon occurred in the misty past. We can assume that as humans began more and more to talk, they recognized that when they tried to use contradictory propositions, they found the set of propositions to be relatively useless. This would primarily be noticed when practical decisions had to be made. It would not be important if the propositions were being used to entertain, or if the propositions had to do with things relatively remote from personal experience, such that the problems induced by the contradiction did not cause immediate difficulties. But starting about 2500 years ago, there began to be real interest in how to avoid contradiction in complex sets of propositions, including mathematical ones, and so the formal study of logic arose, we might say exponentially, if we consider the amount of time that has elapsed since the beginning of speech and the probable dim awareness of the value in avoiding contradiction. Although some of these rules of logic were

first identified over two thousand years ago, more recently they have been studied and elaborated on to a much greater extent, with, for instance, a new understanding of mathematics in terms of logic and with even the development of new basic logical concepts, such as "fuzzy logic," found to be especially useful in certain areas of endeavor.

So the first ingredient to add to the set of propositions produced by symbols and the set of rules of syntax is the set of rules of LOGIC, which enable us to construct stable, non-self-contradictory, internally CONSISTENT models.

But as already noted, **this does not have to do with the way the world is**. It has to do with the **internal consistency** of the set of propositions. In fact, although it was thought for a long time that the propositions in Euclidean geometry were indeed an accurate model of the world, it was later determined that this was not so, that some of the assumptions of Euclidean geometry were **not consistent with the way the world actually is found to be under certain circumstances**, even though the propositions were **internally consistent**, that is, consistent with each other. So the rules of logic have only to do with the structure of the set of propositions, that is, whether that structure is sound (does not involve contradiction). **The rules of logic have nothing to do with whether that set of propositions accurately models anything in the world; they have to do only with internal CONSISTENCY.**

In other words, in order to serve as a model for the way some part of the world actually is, a set of propositions must first pass the test of adhering to the rules of logic, and then **something else is needed**.

The model must be accurately constructed.

A useful image, or metaphor, for the reader to use is that of a car, or some other object, with, suspended over it, a model of that object. (If the object is a car, then the model could be a model car, but it could also be a set of propositions describing the car. For the image to work, it should be a model car.) **The rules of logic exist only in the model**, and have to do with the stability and reliability of the model. Extending downward to the real object, however, are lines that represent connections between parts of the model and the corresponding parts of the real object. Now the lower ends of these lines represent where the model **predicts** the corresponding parts of the real object will actually be, if the model is an **accurate** one. One would predict that the end of each line would be exactly at the part of the real object that would correspond to the part of the model where the line begins. The lines themselves could represent those procedures that **translate** the relationships in the model into the relationships in the real object.

Notice, then, that one could evaluate the **adequacy**, or **accuracy**, of the model by seeing whether the lines did indeed end up at the appropriate parts of the real object. This means that one would have to go to **experience**, that is, make **observations**, to see whether the model was **accurate**. And indeed, that is what happens. As we find, over and over, that a model allows us to predict things about the real world, we become more convinced of the **accuracy** of the model. But if, with the use of our model, we make predictions that turn out to be disconfirmed, then we become very suspicious that there is something wrong with the model. These observations that are relevant to the accuracy of the model could be called **evidence** of the accuracy of the model

And we do know that **we can draw wrong conclusions from evidence**. We can think that a particular finding supports our idea that the model is correct, when in fact that same finding actually also supports the idea that one or more other models is/are correct, and if we ran more experiments, or made more observations, we would find that our first model produced predictions that turned out not to be correct, whereas another model did not. The evidence would be **against** the accuracy of the first model and **for** the accuracy of the second model.

So **the interpretation of evidence is tricky**. We know that we can fool ourselves. We know from experience how a person's personal experience can be unrealistic and mistaken, and yet be extremely convincing to the person himself or herself. We know of the power of the emotional bias, the false or distorted memory, the illusion, the hallucination, and the delusion. But even without the operation of wishful thinking, mental defense mechanisms, or abnormal brain functioning, it is quite possible to interpret mistakenly the significance of even undistorted observations.

An example is superstition. We see two things happen at the same time and conclude that one caused the other, when actually this is not so. Some model involving both things being caused by another, third thing would work just as well, as would the model that involved the concurrence of the two things being a coincidence, that is, having occurred together only by chance. And it can turn out that subsequent experience will favor one of these other models, in that such a model may more reliably predict what will happen than did the first model that was proposed. In the example, it may turn out that future experience will show that the first thing can often occur without being followed by the second thing, and that the frequency with which it does is more consistent with the model that says that the concurrence of the two things was due to chance alone.

And here, in the last few centuries, our species finally came up with another set of rules or procedures that have had an enormous impact on us by virtue of powerfully increasing the accuracy of our models, namely, the **rules of evidence**.

These are the **rules by which we reduce the likelihood that we will fool ourselves**. Combined with the rules of logic, and aided by the development of instruments to increase the accuracy of our observations, the rules of evidence have culminated in our **scientific method**, that has given us a truly amazing ability to predict accurately what will happen if we do certain things, since our models apparently very accurately capture the regularity that is inherent in our world.

These **rules of evidence** have to do with assessing the **quality of the evidence**, that is, the **confidence** we may place in the evidence as support for the particular model that we are evaluating. I will not go into great detail about these rules. Most important is the fact that they work very well.

The basic idea of the rules of evidence is that there is **regularity** in the world such that models may be constructed that increasingly allow **confident predictions** as to what is going to happen under certain conditions or circumstances, and that following certain procedures, some generally referred to as experiments and some consisting of the systematic making of observations and subjecting them to analyses, will lead to the identification of the more accurate of these models. This set of procedures has been called "the scientific method." This ability to use the scientific method then allows us in turn to develop more and more useful, practical procedures that we feel

confident will work, in that we know (predict accurately) what will happen if we follow them. In this way, **knowledge becomes power, the ability to do**.

The rules of evidence are ones that allow us to **compare two or more models**, to see which will give us the **greatest ability to predict**. We plan ahead by comparing what would happen, under certain circumstances that we can bring about, if model A were the best model or if model B were the best model. Then we find out what does indeed happen.

Very frequently, we use as model B the model that says that there is no connection between certain events, but that they will happen together a certain percentage of the time just by coincidence. What is predicted, then, is the percentage of time that we will see a concurrence if we do something over and over. Model A leads to the prediction, say, that the percentage will be a certain figure that we can call "high," whereas model B leads to the prediction that the percentage will be "low." Then we do the thing a large number of times and see what the percentage is. If it is high, model A is supported, and our confidence in it grows. If it is low, then our confidence in model A diminishes. This approach is the field of **statistics**. It involves determining what the percentages would be for a model that implies no connection between certain events (occurring by chance or coincidence), and allows us to assign a numerical value of "**confidence**" to the conclusion that the data support our alternative model (alternative to the one that says the results are due only to chance or coincidence).

The rules of evidence, as epitomized in the scientific method, have become quite complex. The average person cannot have good knowledge of them, at least with our current educational system. But we have learned in general that just looking back on our experience and constructing a model that is consistent with it is not a very safe procedure. We know that the real test of our model is whether it allows us to **predict** accurately what will happen in the future. That is why, when we see some possible new relationship, most of us remain a little skeptical until we try it out a few times.

But once again we can see that this new development, of the **rules of evidence**, began in the misty past, as we began to experiment, that is to try something over and over, in order to see if we could count on our conclusions. We gradually became aware that there were ways to avoid superstition and other mistakes to a certain extent. Yet it was only in the last two or three centuries that we developed such an intense interest in, and such a thorough understanding of, the rules of evidence, such that the scientific method grew as it did. And I believe the reader can therefore regard this as **another exponential change** for our species.

Now, it is through the use of the newly discovered **rules of logic and rules of evidence** that we have been able to construct models of truly amazing accuracy, this being the development of **science and technology**. We have learned ways, with these new rules and the construction of these models, to make our thinking much clearer than it ever was before and to prevent ourselves much more effectively from fooling ourselves. With these two sets of rules, we have been able to model the world such that we can now, with a fair amount of confidence, send ourselves to the moon and get ourselves back. We have learned and are learning to cure terrible illnesses. We have learned how to communicate with each other almost instantaneously, no matter how far apart we are. We have learned how to build enormous and complicated structures. We have learned how to make ourselves much more comfortable, to provide ourselves with much more

recreation, and to accomplish our life-supporting and life-enhancing activities much more efficiently and effectively.

The growth of science and technology has been exponential. The development of science and technology dates back indefinitely into the past, with the making of fire, the discovery of the wheel, the development of weapons, the discovery of methods of agriculture, etc. It is quite recent, however, that the greatest escalation of these capabilities has taken place. The beginning of the exponential escalation could possibly have been noticed probably a few centuries ago, with the enlightenment and the industrial revolution. It is then that we began to be able to speak of the "**scientific method,**" when we started really understanding and using the new rules of evidence, in addition to our use of the rules of logic. And I believe most of us would agree that there has probably been more discovery and enhancement of our scientific capabilities during the past one hundred years than over the entire life of our species prior to then. Thus, I believe we can agree that this growth has indeed been **exponential**.

So let us summarize.

We have learned to make models consisting of sets of one or more propositions, that may be spoken or written in words, or even presented in mathematical or logical equations, that consist of symbols used according to the rules of syntax or the equivalent rules of whatever system of symbols we are using. Such models may model anything we choose. The ultimate goal is for the models to produce fairly predictable internal experiences in the recipient(s) or user(s) of the models. The acquisition of this capability has distinguished us from all other species. It has allowed us to cooperate better, to empathize more intensively, to entertain more creatively, and to do many other things we could not otherwise do. This was the first exponential change.

But what really has added to our capabilities has been the development of the rules of logic and the rules of evidence, that have enormously increased our ability to construct ACCURATE models of the regularities of existence. Now we can do things that would have seemed to us a short while ago probably to be magical. The rules of logic allow us to construct models that are reliable or stable by virtue of not being self-contradictory. The rules of evidence enable us to compare models with each other in order to find those that are most accurate, that is, that allow us to predict most confidently. This is the second exponential change.

The specific phenomenon we are looking at, then, is the **ability to use our symbols in ways that work so reliably**. This means that we are **able to predict reliably what the outcomes of our actions or decisions will be**. Without such confidence, few are going to get into a contraption to go to the moon, or allow someone to stick needles in their eyes in order to see better.

So, these ways of using our symbols, that is, according to the rules of logic and rules of evidence, **actually work**, and work fairly **reliably** (nothing being perfect, of course). For the purpose of this book, I am going to refer to this improved way of using our symbols as "**rationality**."

In other words, **"rational" will refer to those mental and communicative processes, or manipulations of symbols, which derive their legitimacy from their consistency with the rules of logic and the rules of evidence**. Rational beliefs would be ones that, expressed in

propositions, were logically consistent with known propositions that have stood the test of the rules of logic and the rules of evidence. Rationality would be the dedication to the acquisition of rational beliefs.

Thus, **rationality, as used in this book, is that approach to establishing beliefs that makes use of ways we have learned to reduce the likelihood of error**. It is that set of methods used to increase our ability to **predict accurately**, and thus to **make good decisions**. And, if you are getting into a contraption to go to the moon, or having needles stuck in your eye to get to see better, you are **predicting** that you will indeed get back safely, or that you will indeed see better. We have come to take quite for granted the amazing confidence that we have been able to acquire by virtue of the **effectiveness of rationality**. We use things that, if they didn't work properly, could conceivably be quite dangerous, such as cars, microwaves, carnival rides, laser beams, medicines, anesthesia, X-rays, cosmetics, space shuttles, dams, bridges, skyscrapers, etc. The confidence in the development and use of such things has been based upon repeated, rigorous testing and the effective management of the knowledge acquired by that testing, **allowing us to predict quite accurately the outcomes of some of our decisions**.

Once again, however, **these tools have been primarily in the service of our basic animal nature**.

Unfortunately, our basic animal nature is such that we use the rules in ways that **both enhance and interfere with survival and the good life**. We can make love more effectively, but we can also make war more effectively. We can use the resources in our environment much more efficiently and effectively, but we can also deplete and forever destroy those very resources. We can be more creative in producing what most of us would regard as good, but we can also do more effectively and efficiently what most of us would regard as evil, such as developing hi-tech ways of disposing of millions of people. Any tool can be used for bad purposes as well as good ones, and we, as is true of all animals, sometimes make decisions that lead to bad outcomes rather than good ones. **As the ability to do good increases, so does the ability to do bad**.

Thus, **science and technology**, or knowledge about how the world works, **does not guarantee good decisions**. As has been noted, these abilities represent tools that make us more capable than we were, but more capable of good **and** bad. With these tools we can not only protect ourselves but also ruin ourselves. We can promote the survival and good life for our species, but we can also destroy our species. What we **can** do and what we **should** do are **two very different sets of behaviors**. What we can do consists of what we should do **plus** what we shouldn't do. **There is something else besides rationality that is needed to optimize the chances of doing good rather than bad.** And that is bringing us to a discussion of the third exponential change.

The **third exponential change**, remember, is one that I am postulating is just beginning to occur (or, more accurately, accelerate). Thus, I am maintaining that this change will be hard to recognize at first. This is because in order to recognize this exponential change, one has to have at least some picture (imagination) of how things will be **after** the escalation occurs. Since this change will make us dramatically different from the way we are now, and we have never so far been that way, we obviously will have difficulty imagining such a state of affairs. The most immediate reaction of the reader upon hearing such a prediction might well be "how silly," or "how far out," or "how idealistic." But just think about how difficult it would have been for us, five hundred thousand years ago, to imagine creating "Gone With the Wind" or the poems by T.

S. Elliott, or even the verbal poetry of Homer. And then think of how difficult it would have been for someone in medieval times to imagine cell phones, space shuttles, and the Internet. ("Travel 60 mph? Ha! You'd scare all the horses!")

But I believe it is indeed possible to imagine what this change will be like, given enough thought. We will be able to imagine it, but it will be hard to take it seriously as something that can actually happen. We will say, "But that's not possible, because we humans are just not like that!" In so saying, however, we are simply demonstrating that we are not yet there, that we have not yet accomplished the change. So I am preparing the reader to use his or her imagination, and to ask the question, "Is there really any reason why this can never happen?" And if it is indeed possible, what is required to bring it about?

There is one other mistake the reader could make in reading on, namely, the mistake of thinking that he or she has an idea of what the change being talked about would really entail, simply upon reading a brief description of it. If the reader does this, he or she will be left with the impression that, yes, the author has an interesting idea, and probably some of us, especially the reader, have already undergone the change. I can only hope the reader will keep reading so as to get a much clearer idea of the nature and **enormity** of this change that I am predicting, and of the **enormous good** that it can provide for us (or, more especially, our progeny). **I am maintaining that a proper understanding of what I am trying to convey will produce in the reader a drastically different outlook upon the current scene and a drastically different view of the possible future. And I am maintaining that this awareness will bring about a drastic change in how the reader comes to live his or her life and to relate to those close to him or her. Such a drastic change cannot be easy or immediate.**

The third exponential change is the emergence and ascendance to primacy of "rational ethics," thus replacing the ethics that comes to us naturally, by virtue of our basic animal nature. When this has occurred to a major extent, that is, when the escalation really has occurred to about the greatest extent possible, members of our species will be so different from how we are now that they will be able metaphorically to name themselves "**Homo rationalis**." They will look back on how we are now and view our current selves as almost like a different species, perhaps much the way we think about Neanderthals, or even chimpanzees.

I am referring to a change in how we will be **globally, as a species, not individually or in small groups**.

So **my tasks** now are **to convey to the reader answers to the following questions:**

> What do I mean by "rational ethics"?
> How is it different from the ethics that has come to us naturally?
> What will "Homo rationalis" be like?
> Why is this change in our species not only good but possible?
> What is the evidence that the change has already begun to escalate significantly?
> How can the reader do his or her part in fostering this change?
> Why can doing so have an enormously beneficial effect on the lives of the reader and those close to him or her?

In order to carry out the above tasks, I have to give consideration to the order in which the ideas are presented. As I have already stated, I am making an extreme effort to construct this book in a manner that will be convincing by virtue of being self-evident (rather than being dependent upon accepting ideas that only those in specialized fields can feel confident about). I have concluded that the **following sequence of presentations is optimal**:

> Basic Concepts: Determinants of Behavior
> Basic Concepts: Ethics
> Rational-Ethical Anger Prevention
> Rational-Ethical Child Rearing
> Rational-Ethical Belief Management
> Rational-Ethical Government
> Rational-Ethical Religion
> What the Reader Should Do

Before embarking on the above, however, I wish to convey something more generally about what this book is addressing.

The reader has undoubtedly experienced a certain response to many of the distressing and sometimes tragic events that have occurred in his or her life, or that he or she has learned about from others or through the media. The reaction would be something like, "This didn't **have** to happen, so why **did** it?" What this reaction is in response to is the **decision** of some individual or group to engage in some **behavior or action** that has led to much **suffering and misery**. The decision didn't **have** to be made that way, but it **was**. In retrospect, there is the feeling that it could have been predicted that this decision would primarily be a bad one.

Now, it can be said that all of these decisions **shouldn't** have been made. As will be clarified in this book, the area of thought about what **should** or **should not** be done can be referred to as **ethics**. So we can say that there is something that is not optimal about the structure or functioning of our ethics, if indeed a better kind of ethics is possible, that is, a kind of ethics that really **works**. The thesis of this book is that we are **just beginning to identify a better kind of ethics** than that which comes naturally to us, and that **we are beginning to implement a change to that better kind of ethics**. Since the better kind of ethics does not come naturally, there is no way of deliberately changing to it without identifying it and understanding it in such a way that each of us can **replace the natural ethical tendency within us with the new kind of ethics**. This will take not only **understanding** but also **effort**. In order to change efficiently a tendency within oneself, one has to **become aware** of the tendency and actively **practice** replacing it with the new tendency. This is essentially **exercise**, that **strengthens** the new tendency as it repetitively is made to replace the old.

The reader should remember that this change that I am referring to is **just beginning to escalate**, so that it will not be easy initially to see the process occurring. The reader should also remember that, if I am correct, it will be **hard to imagine** what life will be like when the escalation has become almost complete. However, it is indeed possible to imagine this in some sense. For instance, remember the reaction described above to the distressing and sometimes tragic events that didn't seem to have to occur? Well, now imagine that **all** of those events had indeed **not** occurred, and that there was now no longer any significant tendency for them to occur. Imagine

how different the world would be. Imagine also what the important things in life would be for us.

If the reader is asked to imagine such a world, he or she will very likely say, "Well, such a world cannot exist, because we humans are just not built that way." But the reader should remember that this reaction is no different than the reaction would have been five hundred years ago to a description of how our world is today. What we "knew" at that time to be "impossible" is for some of us now commonplace. Again, I am asking the reader to use his or her imagination, while asking the question as to whether there really is an obvious reason why such a change is indeed impossible.

Do I think that this third exponential change is inevitable or guaranteed? No, I do not. If it occurs, it will be through the **coordinated effort of increasingly large numbers of individuals**, such as the reader, **knowledgeable about what to do to foster it** and **convinced that the effort to do so is worthwhile**. In other words, although the change has begun and is already escalating, for the change to go toward completion will require **deliberate effort** based upon **accurate understanding and agreement**.

It is indeed possible that this understanding will never be sufficiently achieved. We may fail for other reasons, also. For instance, we may have a devastating war or act of terrorism that throws our species back millennia. Or we may be rendered extinct by an asteroid from space or a virus from the ocean. But there are **two reasons for putting forth the effort**. The first is that putting forth the effort at least **makes it more possible**, and the second is that putting forth the effort **will have very positive immediate effects** for the individual and those close to him or her.

I hope in this book to convince the reader of these assertions. In so doing, I hope to do my part in fostering the change, and thereby to express my gratitude for all that my species has done for me.

BASIC CONCEPTS: DETERMINANTS OF BEHAVIOR

We humans do good things, sometimes really wonderful things, which bring us happiness and joy. But we also do bad things, sometimes really terrible things, which bring us unhappiness and suffering.

What would life be like if we did more of the good things and stopped doing the bad and really terrible things? Would not such a change promote the good life for all of us? And what would be required for us to make this change? What we are talking about is changing our **behavior**. What is required to change our behavior?

We must understand what the DETERMINANTS of our behavior are, and how to CHANGE those determinants into ones that help us do the good things and help us avoid doing the bad things. **That is what this book is about.**

But I wish first to encourage the reader to persist in reading, and to study in detail, what I predict will be the most difficult chapter to read, difficult because it attempts to deal so specifically and basically with concepts that are generally taken for granted in ordinary conversation. The effort will be rewarded with a much more thorough understanding of the rest of the book, and a much greater sense of the importance of the ideas presented in this book. We will be developing a highly useful model of the determinants of our behavior, useful especially by virtue of the development of an agreed-upon set of words that will be unusually precise in their definitions. Such precision of definition, though a difficult undertaking, will enable a much greater capacity for communication and therefore agreement.

Just prior to this undertaking, let us note and understand that this book is about trying to achieve, as much as possible, **optimal living** on the part of our species.

I will use the term **optimal** to refer to the hypothetical best. It is a goal to aim for. In some cases, it will indeed be possible to say that a particular entity (act, belief, outcome, etc.) is, has been, or will be optimal. Usually, of course, there is some degree of uncertainty. Sometimes an entity will obviously be non-optimal, or less than optimal, even though what instead would be optimal is not clear. "More optimal" will mean closer to optimal. Aiming for the optimal is an effort to improve, insofar as is possible. To optimize is to improve as much as possible.

By **living**, I am referring to all **decision-making**.

By **optimal living**, I am referring to the **hypothetical set of all decisions most likely to lead to the survival of and best quality of life for everyone, now and in the future**.

This book, then, as an effort to help our species to achieve optimal living, is a recommendation to the reader that he or she put forth some effort to develop some **skills** that will not only benefit the reader personally, but will benefit those around him or her and will be a contribution to bringing about a change in our species that will promote the survival of and the good life for our species in general, meaning for all of us, now and in the future.

In order to develop these skills, we will have to **understand** (believe accurately) how to do so. In order to understand how to do so, we will have to have a set of **concepts** (models) to guide us. These concepts, to be of use, must be as **simple, clear, and consistent** as possible, because the alternative is ambiguity, uncertainty, lack of agreement, indecision, and inefficiency, and probably even failure. The purpose of this chapter, therefore, is to present a **basic set of concepts** that will serve as our tools in this effort.

By **basic**, I do not mean that the concepts cannot be further analyzed, nor do I mean that the reader should not do so, if he or she wishes. What I do mean is that, for our purposes, I believe (predict) the reader will not find it necessary to do so, beyond what is carried out in this chapter.

The reader is reminded that any word, like "behavior," may have different meanings to different people, and that the method of this book includes establishing how words will be used in this book, for the purposes of this book. Thus, the reader is asked to agree to these usages while reading this book, in order to grasp the ideas presented in the book. However, I also believe that **the model I am proposing is approximately the usual one according to which all of us operate and communicate most of the time**, even though we do not explicitly say so, and even though we do so with much inaccuracy, ambiguity, and variability of meaning.

So now our **first** basic term will be "**behavior**" (and related words, such as "behave," "behaving," etc.).

Let us, for our purposes, agree that **behavior shall mean that manifestation of animal life in which an animal does something when, as far as we can tell, there would have been other things that it could have done**. For instance, the animal could have stayed where it was (rather than moving), it could have gone in the opposite direction than it did, it could have taken a bite (rather than refraining from doing so), it could have remained silent (rather than barking), etc.

(There are many processes that occur in animals that we will **not** be referring to. For instance, we will not be talking about metabolism or digestion. We will also not be talking about reflexes, such as the knee-jerk reflex. The reason for excluding these processes from the definition is that they are too "automatic" and invariant. It should also be noted that there will of course be things that the animal does that are on the border, such that we might have difficulty deciding whether to consider them behavior or not. This difficulty would simply be an example of how no definition can be perfectly precise, since the world is not divided up into discrete entities like our words are. Our tool, the symbol, "behavior," does not have to be perfectly defined in order to be useful. The reader, I believe, will come to conclude that this lack of precision does not represent a problem, for the purposes of this book.)

Notice that **I am not just referring to human behavior**, though that is what this book is primarily about. Much of our behavior is similar to that of many of the other higher animals on this planet. In this book, we will be looking at behavior by our species both that is a manifestation of our basic animal nature (i.e., also engaged in by many other higher animals) and also that is different from the behavior of any other species on this planet. **Our model is to include ALL behavior, of ALL animals, including humans.**

I will also be using the term, "**act**." I wish to clarify **the relationship between "behavior" and "act."** There will be no definite dividing line between these two concepts, nor any significant difference in their definitions. Any statement containing one of the words could probably always be changed to use the other word instead. We would be more inclined to say that our behavior consisted of a series of acts, but we could also consider each act to be an example of a behavior, and the overall behavior could be called an act. In other words, we could call an act a series of behaviors, but it is a little more typical to call a behavior a series of acts. Whichever way the words are used will make no difference in this book. However, **I generally will use the term "act" to label a more limited, specific, or concrete example of behavior.**

(Before we go on, I wish to call to the attention of the reader a kind of behavior that we humans engage in that we are not generally accustomed to regard as behavior, namely, "**thinking**." We are more accustomed to **contrast** thinking with behavior in our usual conversation, by emphasizing the fact that thinking is "hidden" from others, unless revealed through communication, whereas behavior is presumed to be "observable," at least in principle. However, using our definition of behavior, we can see that thinking might well qualify. In the first place, there is nothing in our definition that excludes hidden behavior from behavior in general. Also, we note that we have some "control" over our thinking. We can think about something or put it out of our minds. We can pray inwardly. We can practice reciting a poem in our heads. We can go over our lines in a play that we are participating in. We have at least some ability to control what words or sentences we think, and even whether we think those words or sentences at all. Also, we know that when we think words, there is some slight activity that can be detected in the musculature of the voice apparatus. When we imagine carrying out a motor act, there is similar overflow into the musculature, though slight enough as not to be observable without instruments. We can imagine that thinking probably first came about through the inhibition of overt speech, which in turn had developed from the vocalization that most animals engage in and that evolved into communicative behavior. It will not be important until later to consider thinking a form of behavior, however, and there are indeed important differences between thinking and other forms of behavior that are more overt and have a more obvious effect on the world. So I wish the reader just to make a note of this paragraph for future reference.)

Our next basic term will be "**decision**."

This term, "decision," is a "psychological" one rather than a "physical" one, in that, at least with our current level of understanding, this concept has little or no connection with the concepts used in the "natural sciences" (physics, chemistry, biology, anatomy, physiology, etc.). ("Psychological concepts" refers to concepts such as "feeling," "thought," "fantasy," "wish," "idea," etc. "Physical concepts" refers to concepts such as "molecule," "photon," "volt," "acid," "action potential," "cell," etc.) We do assume that behavior can also be explained to some extent by concepts from the "natural sciences," but in our daily living, attempting to do so would be very limiting and much less helpful, compared to the psychological models that we can construct. (The reader may recall the analogy of cutting the orange in different directions to find out what it is like inside. Some ways of cutting it will be more valuable than others for certain purposes.) But despite my use of psychological terms and concepts, the reader should remember that I am really referring to **whatever is going on in the nervous system** that is the process referred to by the psychological term. And so, for instance, the question as to whether a phenomenon is "conscious" or not will usually not be relevant.

There is an added benefit in refraining from requiring that the phenomenon, "decision," be locatable or observable in a nervous system of an animal. We use the same term to refer to a phenomenon that is manifested by a group. "The group decided that it should take the following course of action." "Our country decided to go to war." "The decision was made by group vote." We will find, I believe, that the concept of decision, and related concepts, will be helpful in understanding group behavior as well as individual behavior. In doing this, we will be using a metaphor in which the group is regarded as an individual. I predict that the concepts that we will be using to understand individual behavior will be found useful in understanding group behavior, also. Remember that we are simply constructing a model that will help us to predict and influence what will happen. If it works (allows us to predict accurately and optimize our behavior), our goal will be accomplished.

It would probably also be possible to construct a psychological model of behavior that did not involve the concept of "decision," but, again, I believe the reader will come to agree that, for the purposes of this book, no such model would be as helpful as the one I am proposing. Also, the model I am proposing is close to and most consistent with the ones we usually use in our daily lives.

What I shall mean by "deciding" is "choosing" one particular act or behavior out of a set of possible acts or behaviors that the animal could engage in, considering its biological (primarily neurological) makeup (i.e., its capabilities and limitations) and the SITUATION that it currently is in.

"Situation" means, for our purposes, everything that is going on, at a point in time or during a period of time, that could possibly have a direct or indirect effect on the animal(s) about which we are talking.

Consider a monkey in a tree. It leaps from one branch to another. For the purposes of this book, we will consider the monkey to have made the decision to do so. Considering its makeup and the situation that it was in, it could have "chosen" not to leap, it could have leaped to another branch, it could have leaped off to one side such that it would have missed the branch and fallen, etc. It is this possibility of **choosing among a set of options** that allows us to consider **behavior** to be taking place, and the choosing of one of those options will be what we shall mean by the making of a "**decision**."

The term "decision" could be defined differently, such as to apply only to human behavior, and perhaps only to certain behavior of humans that involves verbal activity or conscious thought, but such a definition would undermine the purposes of this book, as I believe the reader will come to agree.

Notice that I am not at all saying that the monkey engages in "thinking," or that the monkey is even "aware of" having made a decision. In fact, using this definition of "decision," I would maintain that **most decision-making, even by our own species, is unaccompanied by "thinking" or even the experiencing of some mental phenomenon that could be called "the awareness of having made a decision."** For instance, when the reader is driving, he or she is turning the steering wheel from side to side, depending on the moment-by-moment conditions of

the road and traffic (i.e., the situation), but this "decision-making" could be called "automatic," "intuitive," "unconscious," etc. Similarly, when walking, each step the reader takes "could have been" taken differently, and with different results, and therefore each step, according to this definition, represents the result of having made the decision to take that step in that manner. However, only in something like ballroom dancing would there be an awareness of deciding to step in a particular way.

But notice that, on the other hand, the idea of "decision" also does indeed apply sometimes to conscious processes the reader has engaged in numerous times in his or her life, involving much thinking, inquiring of others, even research, etc.

So it is the "choosing" of one act among a set of possible acts that we will be calling the "decision," not the awareness of having done so, even though we humans are indeed aware of making some of those decisions.

There is a specific reason why this concept, "decision," will be useful to us, as distinguished from the concept of "behavior." **There is generally the passage of a certain amount of time between the making of the decision to act and the actual act itself.** It has been determined, I understand, that even when the decision to act and the act itself seem to take place at the same time, there is a momentary delay that can be observed to take place in the nervous system. But even if this were not true, we do have clear examples of the lapse of time, sometimes a very large amount of time, between the decision and the act. A simple example would be my deciding now to go to the store tomorrow.

We might hypothesize that a certain state of the brain and/or mind exists between the making of the decision and the carrying out of the act, but I wish to point out that we are not able at this time to identify, observe, or describe such a state, utilizing the "natural sciences." And, for our purposes, it is unnecessary to do so.

What is important is that **we are distinguishing between the decision to act and the act itself**.

Notice that this concept allows us to consider that a person or other animal might make a decision, and before acting as decided upon, change that decision, resulting in the occurrence of a different act. Thus the decision to act might not be followed by the act, but if the act does occur, the decision did also, according to our definition. **Any act or behavior, then, implies that the decision to engage in that act or behavior has occurred, even though some decisions may actually be changed and not result in an act or behavior.**

There is no clear dividing line between "decision" and "act." In the nervous system, something must take place that ultimately results in the state of affairs that we would refer to as "the animal having acted." There is just as much vagueness in when the process of deciding ends and the process of acting begins as there is in where our atmosphere ends and where space begins. What we are referring to as "deciding" extends over some period of time, from close to instantaneous to perhaps months or years, depending upon what we are referring to by the term. Where to step when walking is a decision that is close to instantaneous. Whether to buy a house is a decision that might take months or years. Of course, while that decision (whether to buy a house) is being made, the individual(s) probably would be deciding to do and therefore would be

doing a fair number of things in order to make the decision easier. And if, metaphorically, we talk about a group making a decision, we might see the decision-making process as also occurring over months or years, and as including much behavior decided upon to help make that decision. So a decision may actually consist of a set of "smaller" decisions. We must remember that our words may be discrete from each other, but reality comes with no such well-defined lines drawn in it. The most important aspect of the concept of "decision" is that it is a process in the nervous system that results, at least sometimes, in behavior, and that it is a process that can be influenced. And influencing decision-making in order to achieve more optimal behavior is what this book is about.

So we are saying that we are going to look at everything that an animal does that appears to be optional, that is, appears to be among a set of behaviors that we could imagine might take place instead, and to consider that the behavior is the result of a "decision" to behave that way, whether conscious or unconscious, whether deliberate or automatic, whether immediately preceding the behavior or much earlier, whether described with words or not, and whether engaged in by a human or by some other animal.

Please note that this is not an atypical use of "decision"; it is fairly consistent with our day-to-day conversation. Examples of our use of this concept, consistent with what has been covered above, are:
> "I have decided to go to the store."
> "They made the wrong decision, because they didn't give it any thought."
> "The rat decided to turn left in the maze."
> "I have no idea why I decided to do that."
> "I decided it was better to do nothing."
> "Who knows why people decide to do such things?"
> "I keep on making the wrong decisions."
> "I decided to do it, but someone stopped me at the last minute."
> "I am deciding what to do."
> "I am having a hard time deciding what to do."

So our first three basic terms are "behavior," "situation," and "decision."

Our next basic term will be "**outcome**."

We know that when an animal does something (engages in an act), there will be a resulting situation that is likely to be different than if the animal did something else. Furthermore, to some extent we know what result to expect. But we also know that **this expectation is quite limited**. We may be able to figure out that the act will cause a particular situation to arise, and that this situation in turn will make another situation more likely, and so on. But the further away from the act that we go in time, the less likely we are to know what to expect. So when we speak of the outcomes of a particular act, we have a poorly defined set of subsequent situations, which, as we move ahead in time, can less and less be said to be outcomes of the act. The further into the future we try to predict, the lower becomes the probability that we will be correct. And all of the above can be said without even referring to the current concepts in quantum science about uncertainty.

So if we take a look at the "events," or situations, that occur following a particular act, we must ask ourselves which of those we will consider to be outcomes of the act and which ones not. Right away we can see that there will be no way of drawing a dividing line between "outcomes" and simply "subsequent events." Yet, there will definitely be events that everyone can agree could be considered outcomes. If I turn my steering wheel left and the car turns left, the car turning left surely can be considered an outcome. If I immediately run into something, this may well be considered also to be an outcome. If someone else suddenly makes a turn at the same time, such that I run into that car, it is harder to say that the accident was an outcome of my turning my steering wheel left. If the accident occurs a half block later, after I have made my turn, we would probably say that the accident was not an outcome of my having turned my steering wheel left, even though, if I had not done so, the accident would not have occurred.

Yet, for our purposes, we must have some way of defining "outcome" that will allow us to proceed with a relatively consistent and simple set of concepts. I will propose that we consider "**outcome**" to refer to **that set of events, or situations, that we could reasonably be able to predict if we had as much knowledge of the "laws" of the world, or the "regularities" of the world, as we could ever come to have, and that we recognize that the word "outcome" should always be considered to be shorthand for the phrase "probable outcome."** This will be our way of acknowledging the fact that all knowledge is basically probabilistic, in that we realize that we will never be able to understand the way the world works sufficiently to predict everything that is going to happen in it. (This idea is separate from and in addition to the current idea, in quantum physics, that the basic nature of the world itself may be probabilistic.)

Our basic terms now consist of "behavior," "situation," "decision," and "outcome."

The next basic term is "**mistake**."

We will be making the following basic assumption: **It is possible to make a mistake.**

I believe that the reader will automatically agree to the above statement. It is a part of our normal way of thinking about behavior. However, we need to have a precise definition in order to think clearly about this area.

For our purposes, let us assume that **a mistake is a decision that, in the opinion of the person or persons using the label, is a less optimal decision than some other decision that could have been made in its place.** We might then say that mistakes are that subset of decisions that we consider to be "faulty," or even "bad." In this book, mistake and suboptimal behavior will be used synonymously.

I believe the reader will agree with me that **there are many, many decisions made by members of our species, both by individuals (including ourselves) and by groups, that are less than optimal**. In fact, there is seldom a day that goes by that we do not become aware of some decision (by virtue of observing or learning about some act), made by some individual or group, that we wish had not been made, some of these decisions even being very heartbreaking and tragic. **This book, then, is an effort to promote a basic way of life that reduces such decisions ("mistakes") to a minimum.**

Now, as is so often true, the word "**mistake**" is used in many different ways at different times by different persons. Also there are a number of different words and phrases that persons may use for the same concept. Therefore, because of our effort to be simple, clear, and consistent, it is important for us to clarify how the concept is going to be used in this book.

First, let us clarify that, **for the time being, we are talking about only one kind of mistake, namely, a faulty decision**, as opposed to a faulty perception, a faulty judgment, or a faulty belief about something in the world. For instance, we are not currently talking about a mirage or an optical illusion. We are not currently talking about the incorrect estimate of a distance. We are not currently talking about thinking that the day of the week is Tuesday rather than Wednesday. **We are at this time talking only about the decision to act in a particular way.**

We also should remember that **we are talking about the decision, not the act**, though it will almost always be true that the observation of, or contemplation of, the **act with its actual or probable outcomes** will be the cause of regarding the **decision** as a **mistake**. A shorthand way of speaking might indeed be to say that the person's action was a mistake, in which case most would readily admit that they also meant that the decision to engage in that act was a mistake. But a person could make the decision to do something, and prior to doing it, could come to the conclusion that the decision was a mistake, and therefore change his or her mind and decide to act differently, before ever having carried out the original decision. In such a case, a mistaken decision, or mistake, was made, even though no corresponding act took place.

Now notice that we are essentially talking about what might be called a "value judgment," that depends upon whoever is making that judgment. For instance, one person might consider a particular decision to be a mistake, while another might consider the decision to have been the best decision that could have been made (i.e., optimal). In fact, we could probably take any one of a large percentage of specific decisions that have been made, and find at least someone who thought the decision was a mistake or a bad decision. On the other hand, **there are certainly many decisions about which the vast majority of us would agree.**

Let us take a look at some decisions that almost everyone would acknowledge were "mistakes," using the word in the manner proposed in this book. The monkey leaps for the other branch, which happens to be too small to carry the monkey's weight, so the monkey falls. The rat turns in the wrong direction in the maze and fails to get the food it is seeking. A person believes he is walking on level ground and steps off the edge of something and falls. A person turns the steering wheel too far and runs into the side of a car traveling beside him or her. A person believes he or she can make it into the intersection before the light turns red, but, failing to do so, crashes into another car. A person incorrectly thinks someone at his door is dangerous and therefore shoots an innocent individual. A person eats some food that is spoiled and dies of food poisoning. A group decides to spend its money on a scam. A nation decides to adopt a fiscal policy that later is recognized to be a disaster. In these examples, there would be different reasons for the various mistakes, but in each case, the decision turned out not to be optimal, and therefore, according to our definition, was a mistake.

Notice that, with this definition, one of the causes of making a mistake may be insufficient knowledge, as in the mistake of unknowingly eating spoiled food.

Let us avoid a quite possible misunderstanding. Some would use the word "mistake" to mean "unintended," and they would mean by this that a person would not be considered to have made a mistake if what he or she had done was done "deliberately," or "intentionally," even if the outcome was indeed bad. Using this definition, a person would say, "That was no mistake; he meant to do that." In speaking this way, he or she would be using, as the criterion to judge the decision, the "state of mind" of the person making the decision at the moment the decision was being made. Although this is certainly a perfectly acceptable way of defining "mistake" for certain purposes, it is not the definition being used here, for the purposes of this book. **In this book, considering the outcome to have been bad, when an alternative decision would have produced behavior with a better outcome (better set of probable outcomes), is, by definition, considering the decision to have been a mistake. Similarly, a decision would be considered a mistake, even if no act occurred because of a subsequent change in decision prior to acting, if the outcome(s) of that original decision would be considered likely to be less optimal than would be the outcome(s) of an alternative act.**

Of course, we recognize that some mistakes are an expectable part of life and have no detectable deleterious consequences (actually helping us to learn from our mistakes), whereas some mistakes are very unfortunate, and even disastrous and tragic. Target practice, with anything less than a bull's eye being regarded as a mistake, would be an example of mistakes not having detectable deleterious consequences. So some mistakes are much more important to avoid than others.

I ask the reader to acknowledge that there are many decisions that are made that turn out to be undesirable and can be called (for our purposes in this book) "mistakes," and that the quality of our lives becomes worse the more of these mistakes we make.

As noted above, we also have **other words that mean approximately the same thing**. Examples would be "blooper," "misdeed," "sin," "atrocity," "blunder," "oversight," "slip-up," "fault," "misdemeanor," "crime," etc. These words all have the same primary meaning, that the decision was not optimal, but they generally have additional connotations. Since we are trying to acquire a basic understanding of our topic, it will be helpful if we do not use alternative words that might have connotations that would distract us from our task.

It will be important to acknowledge that there can be said to be **two types of mistakes**, with significant differences between them. Let us call them "**type one mistakes**" and "**type two mistakes**." (There will be no clear dividing line between these two concepts, however.)

Type one mistakes are non-optimal decisions that the individual made when he or she **had**, at the time of making the decision, the knowledge that allowed for the prediction that the probability of a non-optimal outcome was increased. Examples would be failure to wear a life jacket or seatbelt, speeding, stealing, etc.

Type two mistakes are non-optimal decisions that the individual made when he or she **did not have**, at the time of making the decision, the knowledge that allowed for the prediction that the probability of a non-optimal outcome was increased. Examples might be investing in certain stock, taking action based upon someone's lie, eating contaminated food in a restaurant, etc.

This distinction between the two types of mistakes is not relevant to the current discussion, but I am including it here only to make clear that we are at this point talking about **all** decisions. Later, we may, for instance, discuss how guilt about type one mistakes may be considered rational (appropriate), whereas guilt about type two mistakes may be considered irrational (inappropriate). (Irrational guilt is often found in depression, and even in daily living, given certain irrational aspects of our cultures, including certain frequent phenomena found in current, natural child rearing. Again, though, such ideas are not relevant for our current discussion.)

Now we have noted that inherent in our definitions of "behavior," "decision," and "mistake" is the idea that since we are talking about the choosing of one option to act among a set of options to act, we can assume that each of those possible acts will have a somewhat different **outcome**. Each step the reader takes produces a new situation, and if the reader took a different step, that new situation would be at least a little different. But even more noteworthy is the apparent, rather obvious fact that **there is a strong tendency for the act that is chosen to be one more likely to result in a desired or favorable outcome**. There are various ways to point to this phenomenon. We may say that animals are more frequently successful than not (otherwise they would not survive). We may say that behavior becomes adapted to the environment. We may say that animals learn to survive by doing the "right" (adaptive) things. We may say that somehow we "know what to do," and we are usually more right than wrong. We may say that we try to avoid making mistakes. In other words, the acts that are chosen are not random, but somehow seem to be **chosen because of "the outcome that is likely to result."**

Thus, there seems to be **"something" in the nervous system** of the animal that corresponds to the **connection** between its **potential acts** and the **situations that would result** from those acts, making it possible to choose an act that is more likely to be successful, that is, to have a **particular outcome**. For example, the rat develops something in its nervous system that results in it choosing to turn left in the maze, such that it obtains food. There is something in the reader's nervous system that guides his or her feet according to the terrain he or she is walking on and the destination that he or she is seeking. There is something in the person's nervous system that enables him or her to say the right words to other people (words that have the desired effect). It is as if we, and other animals, "somehow know" that choosing to act in certain ways is likely to accomplish certain goals (desired outcomes), and that choosing to act in other ways is likely to result in bad outcomes, or outcomes that are not desired. For this reason, certain acts are more likely to be chosen and others more likely to be avoided. **Because of "something" in the nervous system, we somehow "know what will happen" (at least to a certain extent) if we do certain things, and for this reason we decide to do them or not do them.**

And this "something" in the animal's nervous system is made possible by the fact that **regularity exists in the universe**. **Regularity essentially means predictability.** We can, at least to some extent, "count on" certain things happening "under certain conditions," that is, in certain situations. **This "something in the nervous system" helps the organism to make use of this "regularity in the world."**

To model this "something" in the nervous system (the "something" itself being a model), that makes use of the regularity that exists in the world, we are going to introduce the next two basic terms, "**belief**" and "**prediction**" (to be added to "behavior," "situation," "decision," "outcome," and "mistake").

Let us let "belief" refer to "whatever it is in the nervous system that corresponds to, or models, something in or about the world, such that this something in or about the world could conceivably have some effect on the animal's decision-making (and therefore behavior) in certain situations."

We currently have very little idea what physical condition is actually present in the nervous system that constitutes "belief," but this knowledge is not necessary. (We will speculate about this a little later.)

We see evidence all the time for an animal having some pattern of behavior that implies that **its nervous system has acquired an altered state** that produces a change in behavior that represents an adaptation to **something in or about the world**. We often refer to this as "**learning**." So when the rat "learns" that there is food likely to be found in the maze only if the rat turns left, the likelihood of turning left increases. The nervous system now is altered in a way that corresponds to the fact that food has been found only to the left. There is **what has happened in the world** (food being only on the left) and there is **what has happened in the nervous system** (manifested by an increased tendency to go to the left in certain situations). **All learning implies some alteration of the nervous system, some new "state of affairs" in the nervous system, that somehow corresponds to something in or about the world (that the animal has "experienced," or has been influenced by, in some manner).**

The above description of "belief" has referred to a "**state of affairs**" in the nervous system brought about by learning. It is conceivable (and even perhaps probable) that there are similar "states of affairs" (beliefs) in the nervous system that are brought about by the genetic make-up of the animal. This might be said to be true, for instance, in the case of "inborn fears," repugnance for certain smells that are associated with danger, or even certain reflexes that "work" for the animal because of gravity and other aspects of the world. It certainly can be imagined that the process of natural selection could result in the nervous system having built into it certain beliefs that have survival value. But whether this is true or not will be irrelevant for our purposes. Insofar as there is a state of affairs in the nervous system that "corresponds to," or models, something in or about the world, we may label that state of affairs "belief," no matter how the state of affairs came to be.

Now notice that **our concept of belief does not imply that there will always be an observable manifestation of it at any given point in time**. For instance, the reader might believe that his or her car is in his or her garage, but that belief may not be "doing anything" at the moment, because the reader has no use at this time for the car, or for the knowledge as to where the car is. Nevertheless, there is in the reader's nervous system something such that if the reader suddenly wanted the car, he or she would be able to go right to it. **So we say that the belief exists in the nervous system at all times, including times when it is having no effect on decision-making (and thus no effect on behavior), and in fact is having no effect on anything that we can imagine.**

On the other hand, **there are times when the belief does indeed have an effect on decision-making**. So what term should we use to indicate this effect? I propose that the best term will be "**prediction**."

Notice that **whereas "belief" refers to a "state of affairs" in the nervous system, "prediction" refers to something that the nervous system is "doing" at a particular point in time**.

(But also notice that this statement is partly a reflection of our language, because the "state of affairs" in the nervous system may turn out to be something that the nervous system is indeed actually "doing" all the time, even though we do not know what it is that it is doing. Nevertheless, for our purposes, I believe we can make this distinction.)

Again, to try to clarify these concepts, let us take the simple example of our laboratory rat. We place it in the maze over and over, always putting food to the left, and the rat learns to turn to the left (especially if hungry). Now we put the rat back into its cage. The nervous system of that rat has been changed. But one would never know it to look at the rat in the cage. We don't see the rat continuously running in circles to the left, for instance. We therefore conclude that there is a state of affairs in its nervous system that is not having any effect at this moment on its behavior (or, for that matter, on anything else, such as emotion). But if we put the rat back into the **situation** of the maze, especially when it is hungry, we will see evidence that we are correct about the nervous system having been altered, because now the rat will indeed go to the left more frequently (whereas before we began the experiment it did not necessarily do so). **So when we observe the rat go to the left, and we conclude that it is doing so because of the altered state of affairs in its nervous system, we are assuming that "something is happening" at that moment in time, and it is that "something that is happening" that we will be calling "prediction." The "altered state of affairs" of the nervous system, that is present even when the rat is in its cage, we will designate as "belief," and that BELIEF is the reason for the PREDICTION occurring in CERTAIN SITUATIONS.**

(Notice that when the rat consistently turns left, we consider that the rat has some "memory" of which way to turn, and we can say of that "memory" that it is a **model** of a part of the world. The prediction is therefore a model, based upon or related to memory, of a part of the world. So all of these processes, memory, imagination, belief, prediction, etc., are examples of models occurring in the nervous system, produced by stimuli coming from a world that has some degree of regularity, or predictability, to it. Memory and imagination will be discussed later.)

Notice also that, so far, **the ONLY manifestation of a belief is the set of predictions that may occur because of the existence of the belief**. Of course, many of these predictions may actually never occur. For instance, if we never put the rat back into the maze, we will never see behavior that reflects the operation of the prediction that food is to be found only to the left when in the maze. On the other hand, we can indeed imagine situations in which the belief would be made manifest by certain predictions occurring and thereby producing certain behavior. So we can say that **the belief existing in the nervous system of the animal is indistinguishable from the complete list of all of the predictions that could ever result from the having of the belief**. We can therefore simplify our model, I propose, by saying that a **belief is that list, or set, of all the predictions that would possibly result from the having of that belief**. We are, then, referring to a **set of potential predictions, ones that may never actually occur but would have a tendency to occur in certain situations, should those situations occur. Belief is whatever it**

is in the nervous system that makes for the tendency for these specific predictions to occur in certain situations.

In our model, then, there is included in "belief" nothing different from "prediction" other than whether something is manifesting itself or not. When prediction is occurring, belief is manifesting itself, so to speak. So, **prediction is indeed belief, belief that is currently influential in the nervous system.** It is easy to see that one can say that a prediction is a belief. When I predict that X will happen, I believe that X will happen. I may for a long time have believed that X will happen, but this belief may not have manifested itself because it was not relevant to my current situation. But should the situation change, the belief may become relevant, such that it will manifest itself as a prediction that may affect my decision-making.

So we are saying that a **belief is a set of potential predictions**. (By "potential" I mean nothing more than that they **could** occur, that is, **would** occur in certain **situations**.)

However, a particular belief could **not** be the set of **all** potential predictions, or an arbitrary or random set of potential predictions, but only the **set of all potential predictions that would be brought about by that belief, and therefore would be consistent with that belief and therefore also consistent with each other**. And since we are defining "belief" in terms of these predictions, we want to remove the concept of "belief" from its own definition. So we would define "belief" as **a set of consistent, potential predictions**. I will acknowledge with the reader that the word, "consistent," is vague and undefined at this point. But it is not meaningless. For instance, we certainly could say that if our rat made the prediction that food would be to the right (and therefore perhaps went to the right), then that prediction would be inconsistent with the belief that we have been attributing to it in our example (the belief that food in the maze is only to the left). In fact, we could even say that it is only by virtue of the fact that certain predictions were consistent with one another that we could conclude that a belief existed. (If the rat seemed to predict that food was on the right as often as it seemed to predict that food was on the left, we would question whether the rat had any belief at all about the location of the food.) We will focus on the meaning of "consistent" later.

In summary, our key words at this point are: "behavior," "situation," "decision," "outcome," "mistake," "belief," and "prediction."

And we say that an animal has BELIEFS (in its nervous system) that manifest themselves in certain SITUATIONS as PREDICTIONS of OUTCOMES of BEHAVIOR, those predictions having an effect on the animal's DECISION-making and therefore quite likely its behavior, and that under certain circumstances the animal may make a decision that we can label as a MISTAKE, because the outcomes of that decision will or would be less than OPTIMAL. What we would like to do is to find ways to reduce mistakes to a minimum, since the more mistakes we make, the worse is the quality of our lives. REDUCING MISTAKES TO A MINIMUM, in order to promote the good life for everyone, or, in other words, OPTIMAL LIVING, is what this book is about.

It will be helpful at this point to **speculate**, for the next 20 paragraphs, about **how the brain works**. The validity or adequacy of the speculations will not be essential for understanding and using the concepts in this chapter, but they will again serve as a best-model-so-far to help us

think more clearly and easily about the other material in this chapter. We will be trying to tie the above "psychological" terms tentatively to a "physical" model of brain functioning, not only to help us conceptualize more clearly, but also to produce a greater sense of confidence that our model will not produce beliefs that are contradictory to beliefs acquired by means of the physical sciences. We must remember that these speculations will necessarily be oversimplified and inaccurate, but I believe they will be of help to the reader.

An animal's current situation is causing input into the brain through a number of different sensory organs and other sources of nerve impulses. We know that these various inputs are actually going to several or many different parts of the brain. (For instance, visual impulses go to the occipital cortex, whereas auditory impulses go to the temporal cortex.) We could refer to each of these areas of the brain as responding at the level of "**sensation**." These various parts of the brain then model that input (classifying and quantifying it), and send the results of that process to a "higher level" area of the brain, that in turn "combines," or models, that input from some or all of these lower level models. We might be inclined to refer to these higher level models as examples of "**perception**." The modeling that goes on in these various areas of the brain may be influenced by other models from elsewhere in the brain, especially from even "higher" levels. (This is why we refer to perception as being influenced by various factors, including past experience.) As the modeling of stimulation from the current situation takes place at higher and higher levels in the brain, the resulting models become **more and more general.** Even the lowest levels of modeling involve the stripping away of, or loss of, some of the specific details of the incoming stimuli.

It is often true that the more times that one nerve cell (neuron) stimulates another, the easier it gets for that stimulation to take place. Therefore, when a particular pattern of activity in the brain occurs, there is a tendency for that pattern of activity to occur more easily in the future. Thus, the more certain "pathways" in the brain get used, the more easily they become activated in the future. So when a particular area of the brain creates a model of stimuli coming from a situation, or creates a model of input from several areas of the brain that have responded to a situation, that model will become active a little more easily in the future in response to some stimulation. Such models, especially perhaps the lower level ones, could be considered to be "**memories**," in that if they were somehow activated again, the animal would experience something like the original experience. However, it is apparent that the original experience could not be reproduced exactly, in the same detail, with all of the sensations exactly the same, since much of the input has been stripped away. Memory does not work like a video recorder. What is reproduced is actually the activity of a somewhat **generalized** model of the experience, with specific details tending to have been lost. (The brain can add back in details from other memory fragments or other models in the brain, this being why memory can be so inaccurate and "creative," and thus at times "false.")

Now, as noted, the "activation" of a persisting model of a previous experience could be called "**remembering**," and we could call that model a "**memory**" of the previous experience, which, however, might lie dormant in the nervous system until possibly "activated" by **incoming stimuli** from a new experience (that serves as a "**reminder**"), or by some other process in the brain, such as the **output from a higher level model**. The model activated might itself be of a "lower level" **specific memory** and/or a "higher level" **generalized "kind" of situation**.

When new stimulation, by a new situation, is being modeled, the new model may be very similar to a model that already exists from previous experience. The new model will most likely have a tendency to activate the already existing model. Thus, a new experience may become "recognized" as an example of a **kind of situation**, or as being very similar to another **specific memory**. There does appear to be some degree of **comparison** of current experience with previous experience. This tendency toward comparison is obviously brought about by the fact that there is **regularity** in the world, and that recognition of such regularity promotes adaptation and survival.

Of course, the animal is also engaging in **behavior**. This behavior is the result of nerve impulses leaving the brain and traveling to various muscles (and other components of the body, including glands). This output is the result of patterns of activity in various parts of the brain that we could say constituted a **model of the behavior** that would result. These behavioral models also probably exist somewhat hierarchically, such that lower level models would produce simple behaviors, while higher level models would "orchestrate" various combinations of and sequences of the simpler behavioral components. These behavioral models not only produce actual behavior, but also probably send input into other developing models, such that the behavior that is occurring in response to a situation becomes **a part of the situation** that is being modeled as a memory of that situation. Therefore, the animal may have a "**memory**" of behaving in a particular way in a particular situation, or perhaps even of engaging in a **kind of behavior in a kind of situation**.

Animals appearing later in evolution and capable of more complex functioning probably accomplish such functioning through having more (and therefore "higher") levels of modeling. (Most of this higher level development seems to be in the frontal lobes of the brain.) Their patterns of perception, memory, and behavior become more complex and generalized, and these more complex and generalized models are modifiable, of course, by incoming information (current stimulation) and by memory (persistent models of earlier stimulation).

Note that "remembering" is really a kind of primitive **imagination**, the activation of an "**image**" (the memory) in a manner different from the simple ongoing modeling of currently incoming stimuli ("perception"). (Of course by "image" I do not mean just visual experiences, but any kind of possible input, even from the brain itself, as in the remembering of having had a thought or feeling.) The use of the word "imagination," however, is usually reserved for processes more complex than just memory. If, for instance, various of these (memory) models were activated at the same time (by a higher level model, for instance), a **new combination** of them would be an **"image" that had never before been experienced in its totality**, but was instead a **new creation**. Thus **something new** could be "**imagined**," the parts of which, however, would indeed have been actually experienced, probably at various times in the past.

An important part of the modeling that the brain does has to do with **time**. Somehow, the brain sometimes models the **chronological sequence** of the states of the various parts of the brain as the output of those parts passes on to higher levels, such that the **memory** of at least some situations includes the **chronological sequence of events** (the order in which they occurred) in those situations. This means that, to a certain extent, the reactivation of this memory model produces a **sequence** of states over time. (Under certain neurosurgical circumstances, stimulating part of the brain results in a person reporting experiencing a "memory" of an

unfolding event that continues while the stimulation continues, and begins back at the beginning if the stimulation is interrupted and then resumed.) Under normal conditions, the speed with which "remembering" occurs may be substantially faster than the speed of the original development of the model by virtue of the original stimuli. (In other words, it does not take as much time to remember a sequence of events that has occurred as it did for the sequence originally to have occurred.) In fact it may even be that the brain has a way of modeling some experience such that the **model of a sequence of events** may be active **at essentially one time**, just as a graph of some process may display instantly the variation of some quantity over the course of a period of time.

Now as we have said, when a new experience is occurring, incoming stimuli are bringing about the ongoing production of a new model. Then, if the new model begins to resemble a previous model (a memory), the previous model somehow begins to be activated also (the process of being reminded), and that model includes components that are **ahead** of the incoming stimuli in time. Thus, as the new model is being developed of the incoming stimuli, there is the possibility of **matching** the currently developing model with the model from the past. In this way, the animal has the capability, while receiving the current input, of responding to whether the current input is consistent with the memory of the previous input. It can tell whether what is happening now is turning out to be similar to or different from what happened last time. It can, then, tell whether something is happening "as expected" or not. (We could say that the incoming pattern of stimuli is being found to be "familiar" or "unfamiliar.") And **what is expected is what is PREDICTED**, using our terminology. In other words, in a particular **situation**, the animal may **predict** that certain things are going to happen, because they have happened that way in the past, and this prediction may be confirmed or disconfirmed as the experience proceeds.

So we may say that **as a model of a previous situation is being activated by a current situation, that part of the previous model that contains parts of the situation that have not yet occurred in the current situation are what we mean by prediction.**

For example, in Pavlov's famous experiment in "**classical conditioning**" of a dog, every time he rang a bell, he would place meat powder on the tongue, causing salivation to occur. Thus, a **model** occurred in the dog's nervous system that included, sequentially, the hearing of a bell and the tasting of meat powder (which in turn activated salivation). Then Pavlov would ring the bell without putting meat powder on the tongue, and the hearing of the bell would activate the whole model, including the memory of the taste of meat powder (in response to which salivation would occur). This "imagination" of the taste of meat powder, as an **expected** experience, would thus be equivalent to our psychological term, "**prediction**." (Remember, we are making no assumption that the animal is consciously experiencing anything, despite our use of these "psychological" terms.)

Now on the other hand, if the model of the past that is being activated is one that contains "memory" of the animal's **own behavior** (that is, the internal and external stimuli produced by the animal's own acts, including input from the activated behavioral models that produced the behavior), then the later events within the (memory) model from the past would be the **predicted outcome** of the behavior. Let us remember that there is a period of time, perhaps at times quite brief, between the decision to act and the actual act. So we have the model from the past that contains memory of the animal's behavior in a situation and the outcomes of that behavior, and

stimulating it we have the developing model of the present that at first contains the situation that the animal is in but then begins also to contain the behavior that is about to be engaged in, and at that point the rest of the activated model from the past is a prediction of what the **outcome** of that behavior will be. Notice also that if the predicted outcome is aversive, that is, "undesired," the effect could be to suppress that model and to activate one that contained a model of different behavior to be engaged in, the outcome of which was less undesirable or more desirable. Something like this process is probably what is involved in the process of decision-making within the nervous system, and it is an explanation, in "physical" terms, of the previously mentioned fact that animals "somehow know" what the outcomes of their behavior are likely to be. It also describes "**instrumental conditioning**," the changing of behavioral tendencies by the rewarding or aversive consequences, or outcomes, of those behaviors.

And we humans (and probably some other animals) can spontaneously, in the absence of immediately relevant stimuli, because of higher level models that activate lower level models, **create in imagination** a model of a situation, that includes our own behavior, leading to a prediction of the outcome of that behavior. (I can imagine doing something when I am at a certain place tomorrow, and imagine what will happen if I do.) And even more, we humans can **try out in imagination** several different behaviors in response to an imagined situation, to see what the different predicted outcomes will be, and then finally decide upon the behavior that is most strongly predicted to result in the best (most desired) outcome. We may also even imagine different situations and different decisions within each of those situations, and then compare the results so as to be prepared with decisions based upon whatever situations arise, this process being referred to as "**contingency planning**." Thus, to some extent we can go beyond "**learning from experience**," to "**figuring things out**," simply because we are more able than many animals to activate models of past experience, and even models of new experience (imagination), independently of currently incoming stimuli. It is probably primarily "even higher level" models that are doing this "activation."

We have said that the repeated use of a particular set of "pathways" in the brain leads to a greater tendency for those pathways to be used. It should be apparent, then, that **the more times** a situation has been similar, activating a similar set of pathways in the brain, the **stronger** will be the tendency for the model of that situation to be activated by newly occurring, similar situations. Thus, **the more times** one event follows another, the stronger will be the **prediction** that the second event will occur if the first event has just occurred again. The "**confidence**" in the prediction is increased by each repetition.

So the more times the dog experiences the taste of meat powder following hearing the bell, the stronger will the prediction of the taste of meat powder become, and the greater will be the tendency of the dog to salivate in response to the bell. (And conversely, we can imagine that repetition of the experience of hearing the bell without subsequently experiencing the taste of meat powder would result in the gradual weakening of the confidence in the prediction of the taste of meat powder, with a diminishing tendency to salivate.)

And if the first event, or situation, includes the **behavior** of the animal itself, then the strength of the **predicted outcomes** of the animal's behavior would be increased by the repetition. For instance, the more times food is found when the rat, in the maze, turns to the left, the more strongly the rat will come to **predict**, in the maze, that finding food will be the **outcome** of

turning to the left. (And it will then take a longer time, or more repetitions, of finding that food is no longer to be found by turning left for the prediction to become "unlearned," the process of "extinction.")

(Since it seems that connections in the brain grow stronger with repetition, just as muscles grow stronger with repetition of contraction, **exercising accurate predictions** in the brain would seem to be as important as exercising the muscles, if the goal is maintenance or enhancement of function, as understood by "use it or lose it." But there will be more about this under "belief management.")

So we are saying that a **situation** brings about a **prediction**, because the situation **activates a model** in the nervous system that contains within it the potential prediction. **This model then must be at least close to what we are referring to as a BELIEF**. In our example of the dog "conditioned" to salivate to the sound of the bell, the model (belief) lies dormant in the nervous system until activated by hearing the bell (situation). The model is something in the nervous system that **corresponds** to a **regularity** in the world, and we would therefore say that it represents a **belief** about the world, that nevertheless is not doing anything unless **activated by a situation**, or some other process, in which case it then becomes manifest as a **prediction**.

And the "strength" of a belief, that is, the "confidence" in those (potential) predictions that would be brought about by certain situations, would correspond to the "strength" of the "connections" in the model, produced by its repeated activation.

Let us note that we have described even a simple "memory" as a model residing in the nervous system, which causes predictions to occur when stimuli that are coming in construct a model that "reminds" the animal of the already existing memory model, such that the animal predicts that the same thing is happening again (the experience of finding the current events "familiar"). That being so, **even the simple memory model qualifies as a belief**. And this conclusion is certainly acceptable, in that we might readily say that a memory is a belief about something that happened in the past. Basically, if it is a model in the nervous system that **causes** a prediction, even a "weak" one, to occur in some situation, or **could cause** one, then it is acceptable to call it a **belief**, whatever else we might also call it (such as "memory").

The above **speculation** about **how the brain works**, which remains to be verified, elaborated on, and improved by scientific observation and experimentation, has been partly for the purpose of giving the reader an idea of the underlying similarities between very primitive behaviors and brain processes of lower animals and the more complex behaviors and brain processes of higher animals, especially humans. This is important because we are attempting to understand the determinants of **all** behavior (simple and complex) of **all** animals (lower and higher). And the reason that doing so is important to us is that our own behavior ranges from the simplest to the most complex, **the more complex** having been **added to**, rather than having replaced, **the simple**. And by understanding as much as possible the determinants of **all** of our behavior, we can optimize our ability to change it and thereby achieve a much better quality of life.

Now we have been talking about beliefs and predictions **in general**. But we will also want to talk about **specific beliefs and predictions**, so we will need to have a way of referring to them, designating them, labeling them, differentiating between them, or, in other words, **modeling**

them. So for the next 33 paragraphs, we will be developing this **method of modeling specific beliefs and predictions**.

It so happens, of course, that we humans have already done this. And in fact our way of doing this has had a **profound effect** on our beliefs. As we shall see, our method of modeling beliefs in the nervous system has led us to be able to have a much larger number of beliefs and also to drastically **improve** the precision, consistency, and accuracy of those beliefs (the tendency for those beliefs to produce predictions that turn out to be what actually happens). However, this method of modeling our beliefs, which has developed **naturally**, has only **gradually** come to produce these improvements, and only to a very limited extent, compared to what is ultimately possible. We have not yet reaped anywhere near the full benefit of this new capability.

So what I suggest to the reader is that we "start from scratch" and develop our own method, designed to be as precise as possible, but keeping in mind that this method will be the same as that which we already use naturally, but use of course with great clumsiness.

We will model beliefs and predictions using PROPOSITIONS, these amazing tools that our species has come to be able to use.

But first, in order for us to proceed successfully, a somewhat subtle but important distinction must be made when we talk about a "belief" or a "prediction." Our language can confuse us here because of the fact that, as is so often true, the same words may be used to mean different things. This clarification will be best carried out by looking first at "prediction."

Suppose I go around to people and ask them who they believe is likely to win the next election, and I write down what they tell me in a list, using the format "X will win the election." Then I go to someone and I point to the sentences on the piece of paper and say, "Look, here is a list of predictions." Notice that these "predictions" could be said to be "disembodied." I am pointing to some propositions that anyone might indeed call "predictions," in that they have the form, "X (or Y or Z) will win the election." But these "predictions" are **NOT processes that are occurring in a nervous system at that point in time**. In fact, by the time I show the list to someone, something may have happened such that none of the contributors would make the same statement again. (So I could even say that these sentences, or propositions, are a set of predictions that no one is making anymore.) The reason that these propositions are being called "predictions" is essentially because of their reference to the future. This meaning of "prediction" is perfectly acceptable and frequently used. However, we are not trying to model (with a proposition) a "prediction" in a "disembodied" sense, as, for instance, something we might find in a book, but are instead trying to model a **process actually going on in the nervous system** of an animal (human or other). In the same way, "belief" could mean a "disembodied" belief, such as a belief that no one has anymore, or it could mean a **state of affairs actually existing in a specific animal's nervous system**. We are currently using only this second meaning of "belief."

We would be tempted to make this distinction clearer by saying that our concept of "prediction" refers to the "act" of predicting, whereas the other kind described above does not, except that this use of words would be contradictory to our previous use of "act," as being similar to "behavior." In our model, "prediction" may **lead to**, or **influence**, decision-making and thus may be a "**precursor**" of an act, so it would be confusing to call prediction itself also an "act." But we do

consider it to be a **process** or **event-of-some-sort** occurring in the nervous system of an animal. (Remember, we excluded certain activities, such as digestion, from our set of animals' activities that we define as "behavior," because they were too automatic. We might consider prediction to be another example. But, of course, if a human were to **decide** to "predict" something, then doing so would indeed be considered an "act," or "behavior.")

Now let us start trying to develop our method of modeling beliefs and predictions, existing or occurring in a nervous system, with propositions.

Let us take the simplest sort of prediction, one that **does not involve creative imagination** and one that **does not involve decision-making**. The stimulus input from the current situation is activating a model in the brain that includes what is likely to happen next. Our proposition would be "Since X is happening, Z will happen." We could also say, "Because X is happening, Z will happen." Note that Z may (or may not) be something that induces fear, anger, sadness, hunger, sexual arousal, etc. In the case of Pavlov's dog, the proposition modeling the prediction would be, "Since (or because) the bell is ringing, the taste of meat powder will appear." The taste of meat powder produces certain automatic responses that include activation of the autonomic nervous system to produce salivation. This is **classical conditioning** described by the use of propositions.

Now let us add **decision-making** to the situation. In this case, our proposition would be, "Because X is happening and **I am about to do Y**, Z will happen." In the place of "about to do Y" we could use "deciding to do Y" or "planning to do Y," or "am in the process of doing Y." In other words, this part of the proposition is modeling whatever is occurring in the nervous system that we would refer to as "**deciding**," or "**decision-making**." In this case, "Z will happen" represents the **predicted outcome of the decision**. "Z will happen" is the model of the remainder of the general model in the nervous system that has been established by one or more repetitions of a similar set of events that have included a behavior or kind of behavior. Again, we may note that Z may produce a reaction within the nervous system that either inhibits or promotes this model (for instance, produces fear or hunger), and therefore decreases or increases the tendency for the model to unfold to completion (producing the behavior). The **predicted outcome** thus **influences decision-making**. This is **instrumental conditioning** described by the use of propositions.

Now we have noted that "**imagination**," as described in this book, is a capability that has been developed by some species, in which a model of a situation or sequence of events can be activated, not by incoming stimuli, but by a "higher level" model that calls forth this model. The animal "imagines" X happening and therefore imagines Z happening. We would model this with the proposition, "If X happens, then Z will happen." Note that when the animal makes this prediction, even though it is not produced by incoming stimuli, but instead by an imagined situation, the prediction may nevertheless also induce a motivational state. For example, the animal could imagine a situation that would produce a prediction that induces fear, anger, etc. If Pavlov's dog were to have the capability of imagination, it might **imagine** the bell ringing and thus begin to salivate, even though no bell had rung. For us humans, obviously we are able to **decide** to imagine, for instance, a favorite meal, and thereby induce an increase in hunger. The same would be true for imagining a sexual situation and experiencing sexual arousal, or, for some, imagining a storm and experiencing fear.

And now we can add **decision-making** to the imagined situation. Our proposition would become, "If X happens **and I do Y**, then Z will happen." Once again, Z may produce a motivational state, either inhibiting or promoting the tendency to imagine doing Y in response to X, and therefore increasing or decreasing the likelihood of actually doing Y if X eventually happens.

Remember that **beliefs** manifest themselves as **predictions in response to situations**. As we can see, if the animal is not capable of imagination, then the belief will be manifested only in certain actually occurring situations that activate the model that we are referring to as the belief. If the animal is capable of imagination, however, then the belief may be manifested as the animal **imagines** various situations. We, capable of imagination, looking at the animal and attempting to model with our propositions the beliefs of that animal, can imagine various situations that the animal might be in and the predictions that the animal would make in those situations. Therefore, we would say that the animal's belief would consist of **all** of the predictions that **we** might **imagine** that the animal would make in response to **all** of the **situations** that the animal could conceivably find itself in. **Whatever predictions that belief would lead to, in all possible relevant situations, would be what we would MEAN by that belief**. We humans can use our imagination and our ability to use propositions to construct a list of propositions that model many of the predictions that would occur in various situations, and this list of propositions would be our approximate **meaning** of the proposition that we used to specify the belief. The greater the number of such propositions for imagined predictions we listed, the more completely described would be the **meaning** of the proposition modeling the belief. Of course we could never list all of the predictions that we could imagine could possibly occur, partly because we could not list all of the possible situations, but we are saying that the **list** is what the proposition modeling the belief actually **means**, or **stands for**.

If the proposition modeling the dog's **belief** is, "Ringing bells are followed by the taste of meat powder," then one of the propositions that this proposition would mean would be the **prediction**, "Because I hear a bell ringing right now, I am about to taste meat powder." If the proposition modeling the rat's belief is, "Food of some sort is found to the left in mazes," then one of the propositions that would be in the list representing the meaning of that proposition would be the prediction, "If I turn left in this maze, I will find food." If I, myself, believe that "My car is in my garage," then one of the propositions constituting the meaning of this proposition would be the prediction, "If right now I ask Mary to look to see if my car is in my garage, she will report back that it is."

Notice that the **proposition modeling a belief** (an example being, "It is raining") does not necessarily have to have all of the ingredients that a **proposition modeling a prediction** would have (including X, Z, and perhaps Y, as described above), but a **proposition modeling a prediction** (with all of its components) would certainly also be a **proposition modeling a belief**, just as we have previously acknowledged, when we have said that any prediction, itself, could also be regarded as a belief.

Remember, however, that although a proposition may model a belief, it might instead be a lie, or a joke, or a metaphor, or something that is not believed or no longer believed, or something that is to be tested or examined further but not currently believed. There must therefore be some

designation, overt or implied, that the proposition is indeed modeling a belief. We actually do this all the time. The **context** usually is what designates the proposition as a belief. For instance, all of my propositions in this book are representing my beliefs, and the reader is assuming that. A proposition could be preceded by an **indicato**r, such as "I believe that…," as in "I believe that *it is raining*," (or "He believes that *it is raining*" or "It believed that *the food is only to the left*"), the proposition (*it is raining*, or, *the food is only to the left*) being thus contained in another proposition that designates what the original proposition is. An example of the proposition not being the model of a belief would be *it is raining* in, "He doesn't believe that *it is raining*," although the whole proposition might indeed represent a belief (of the author of the statement).

In summary, we may state simply that **any BELIEF may be modeled by a PROPOSITION. So this proposition is our model of the model in an animal's nervous system of SOMETHING IN OR ABOUT THE WORLD. This belief consists of a set of consistent potential predictions (activated by possible situations), each prediction of which can be modeled by a proposition, and it is the TOTAL SET of these propositions, modeling those predictions, that is the MEANING of the proposition modeling the belief.**

At this point, I wish to discuss the previously-mentioned **extremely powerful effects** that our having developed this ability to use propositions to model beliefs and predictions has had **on our beliefs**, compared to all other species. (But then I will also attempt to point out how little of this power we actually use, compared to what would be possible.) The four amazing effects on our beliefs are on their number, their precision, their consistency, and their accuracy.

The number of beliefs that we can attain is enormously larger than the number that other species can attain. We are able to bring about the development of new beliefs in each other simply by using these propositions, that is, by conveying "information" to each other, **about things that we have no direct experience of**. Our symbols work by means of a kind of **imagination**, such that when a symbol is used, it produces in the nervous system an activation of a model of something previously experienced (memory). With our propositions, these individual memories or memory fragments can be rearranged and combined in an almost infinite number of ways. We can therefore create stories (models) of events that have not yet happened, or happened long ago. We can create models of things which have never existed, have existed long ago, or will exist in the far future. And we can create models of (beliefs about) the way the world is, was or will be, consisting of things, events, and processes that we can never directly experience. For instance, someone can tell me about atoms and energy fields that I have never seen, and never will, and thereby leave me with beliefs about those things. A rat can have no beliefs about atoms and energy fields. A rat's set of beliefs have been acquired through its own, personal experience, and not through induction in the rat's brain (mind) of symbols by other rats. Only we humans can come to have beliefs about science, history, politics, religion, etc., as well as beliefs about what a friend has just done, or is planning to do, in another part of the world. Only we humans can come to believe the sun will one day engulf the earth. And **increasingly higher level models** in the brain may be modeled by **increasingly abstract propositions**.

The precision of our beliefs is enormously greater than that of other species. We have noted that the phenomena in the nervous system (belief and prediction), at least as far as we can describe them, are quite amorphous, vague, and confluent. But our use of propositions can be

quite precise, primarily by virtue of precise, agreed-upon definitions of the symbols (words) in those propositions, along with use of agreed-upon rules of syntax. For instance, I can tell you that I will reward you if and only if you refrain from opening the door unless you hear three knocks, a pause, and then two knocks. I can say it once, and you will have a very precise belief that you can act according to, if you wish. The reader may imagine what would have to be done to train a member of another species to carry out this procedure, even if the animal was eager to obtain a reward by obeying correctly.

The consistency of our beliefs is enormously greater than that of other species. Whereas we are dealing with amorphous, vague, and confluent phenomena in the nervous system, **we are using a system of modeling of those phenomena that has built into it a rather marked capacity for consistency, by virtue of the ability to use the rules of logic.** Building upon our acquired ability to model beliefs and predictions with precision, the rules of logic allow us to conclude whether, if proposition A is true, then proposition B must also be true, by virtue of whether a contradiction would otherwise occur. Thus, with the rules of logic, we can test our beliefs to see if they are contradictory to one another. And we can test a specific proposition, modeling a potential **prediction**, to see if it follows logically from another proposition that models a **belief** (to see if the prediction is a part of the meaning of the belief). Of course, these judgments are determined also by any number of other propositions, many of which are implied. For example, believing my car to be in my garage of course leads to predictions as to what will happen if I look in the garage, but such predictions are **also** dependent upon beliefs as to whether I have a car or not, whether I have a garage or not, whom I can trust, etc., and such beliefs, in turn, have their own sets of potential predictions. So we are able to develop "**belief systems**" or sets of beliefs, with their potential predictions, that are internally consistent with each other, in that their combination does not result in contradiction.

The accuracy of our beliefs is enormously greater than that of other species. Because we can produce such precise and consistent predictions, we are then able to determine if our predictions indeed turn out to be correct. Failure to predict accurately what will happen implies that something is wrong with our beliefs. The accuracy of our beliefs has allowed us to do with confidence a large number of things that we would otherwise not even think about doing. Despite the fact that many of the things we do would be quite dangerous if not done correctly, we feel very confident most of the time when doing those things. Driving would be an example. Undergoing surgery or going to the moon would be others.

But, as stated above, we must realize that we fall far, far short of what we really could be able to do with regard to precision, consistency, and accuracy of belief, and this is because we have not yet learned to do well what is involved in attaining these goals.

Please note that these goals (precision, consistency, and accuracy) are only appropriate for certain kinds of propositional behaviors, and they would actually be detrimental to other kinds of propositional behaviors. They are usually appropriate for making good decisions, sharing helpful information, giving directions or instructions, studying the way the world really is, was, or will be, coordinating our behavior, entering into contracts, carrying out legal proceedings, etc. They are usually not appropriate for fostering creative new ideas (including new scientific theories), "brainstorming," sharing one's feelings, entertaining, stimulating emotion, etc., or for fiction, poetry, vocal music, games, etc. The thesis of this book has to do with changing our

behavior such that we stop making so many mistakes, and so precision, consistency, and accuracy of belief are the important focus of this book. Ideally, we should be able to aim for and to a great extent achieve those goals when appropriate, but also be able to do other things that add to our quality of life, including making use of some of the natural lack of precision, consistency, and accuracy that exists in the functioning of all of our brains. And we should have accurate beliefs as to which goals are appropriate to which kinds of situations.

But how do we fall far, far short of the precision, consistency, and accuracy that we really could attain?

Regarding **precision**, even in our most important efforts to solve our most important problems, we are unable to engage in efficient, effective comparison of ideas in order to choose those that are optimal. We have many different words for approximately the same thing, and we use the same word for many different things. Thus, when we debate, there is continuing apparent disagreement, and there is very little ability to focus on one idea to the extent that it is fully explored. Apparent disagreement because of different word usage leads to wandering discourse, and almost never to the changing of anyone's original beliefs.

Regarding **consistency**, the above lack of precision fosters another problem, namely, failure to use the rules of logic. Logical inconsistency becomes most apparent only when the same words are used for the same things in sequences of propositions. In a debate, we often make logic impossible through "creative" use of words to promote confusion. On the one hand, we have seen that we are able to develop "belief systems," sets of beliefs that are indeed internally consistent, but we also quite readily look the other way when apparent contradiction in our own belief systems is occurring. We do not have a strong need or commitment to apply logic to our most cherished beliefs.

Regarding **accuracy**, we do not readily follow, or even learn, the rules of evidence (generally acquired currently only through formal education), and therefore easily draw conclusions from our own personal experiences (which have been shown to be highly unreliable), and from listening to others who present what is to be believed in such a manner as to produce very good feeling that rewards accepting the beliefs offered. There are many, many belief systems, to some extent internally consistent (at least on the surface), but many of which are different from and contradictory to one another, and therefore cannot all be correct, and some of which have caused our greatest tragedies. Yet the adherents of those belief systems have strong beliefs that produce very confident predictions, and thus have strong tendencies to make mistakes, sometimes tragic ones. Consistency of belief is not enough. If we are consistently wrong, our quality of life becomes terrible, because of the mistakes we make. It takes our growing use of the **rules of evidence** to help us develop beliefs that **accurately** model the way the world **really** is and thus cause us to make decisions based upon **predictions** of the outcomes of our behavior that **turn out to be the same as what actually happens**. The rules of logic are necessary, but not sufficient. The rules of evidence are also essential. (And something even more is needed, something that is the primary focus of this book, and will be specifically discussed in the next chapter.)

So we humans have acquired, by virtue of our ability to use propositions, an almost unlimited number of beliefs, but we have a very long way to go before we globally, as a

species, reward, teach, and model for identification the effort to attain, when appropriate, precision, consistency, and accuracy in our use of our propositions to model and manage our beliefs.

I wish now to call to our attention how, because of our acquired ability to use propositions, our **behavior** has become so drastically different from all other species.

The behavior that I am referring to is VERBAL (communication and thought). As we carry on conversations, we are, according to our model, continuously deciding (not necessarily consciously) what to say, and then usually saying it. Some of this **verbal behavior** is **the saying of one proposition after another**, many of these propositions consisting of a model of a belief that we are reporting we have. And as we rehearse (imagine) what we are going to say, what we are doing again is **saying (internally) propositions**, this being one part of what we usually mean by "**thinking**." So for us humans, as opposed to all other species, **much of our behavior consists of the production of propositions internally in the form of thinking and externally in the form of speech.** We may refer to this internal and external behavior as "**propositional behavior**."

Furthermore, our attention tends to be focused on the **relationships between these propositions**, rather than the relationships between the propositions and the things that those propositions are modeling. **It is as if we humans have constructed a whole new world**, consisting of propositions, that ultimately is supposed to model the world that all animals, including ourselves, are faced with. Much of our preoccupation is with this new world, which is essentially unavailable to all other species on this planet. But as we have dialogue with each other, it is somewhat infrequent that we imagine in our minds those parts of the world that our propositions are referring to or modeling. That is, when we are talking, or thinking, it is seldom true that each word in the sentence evokes an image of what the word is supposed to stand for. The meaning of the word has more to do with the **other** words being said or thought, such as whether such words are usually used with each other in this manner. Much of what is said consists of phrases, or collections of words, that have become frequently used together in this manner and are recognized as accepted sets of words, implying that those collections of words have already been agreed upon as either "true" or "meaningful." **The propositions themselves are what primarily occupy our minds.**

This "**propositional behavior**" (communication and thought) is subject to "**instrumental conditioning**," that is, can be promoted or inhibited by **consequences**. We humans engage in complex rewarding and punishing behavior in response to our communication with each other, and secondarily then in response to our own thinking. What we say and what we think is subject to powerful sanctions by others. Our beliefs, modeled with propositions, come to be molded by our use of those propositions, and by the consequences of doing so. Systems of belief come to be promoted and defended vigorously by individuals and groups. Whether beliefs are accurate or not is not necessarily the strongest determinant of many of our beliefs. Belief, as manifested by the recitation of propositions, is frequently required as an act of obedience, deviation from which may result in ostracism, punishment, and even murder.

So we, and all other animals, live in a world in which decisions are required. But we humans have built **another** world, **constructed of propositions**, that is a model (or set of models) of our

beliefs about the first world. We have discovered ways to make this second world much more precise, consistent, and accurate, and this process of doing so has had much beneficial effect on our beliefs about the first world. It has been a part of what, in this book, we mean by "rationality." It is this world of propositions, or this continuous production of propositions (externally as a form of communication and internally as thought) that make us "human." It is **superimposed** upon our basic animal nature (all those aspects of ourselves that we share with at least some other animals), and has the capability of producing good behavior that is drastically different from what our basic animal nature would have us do. But it also is to a great extent **in the service of** our basic animal nature, and since our basic animal nature has developed by natural selection only to promote survival (and has nothing to do with "the good life"), that which is our most valuable tool has also become our most awful weapon and most dangerous source of mistake. **Optimizing our use of propositional behavior (thought and communication), in order to promote the good life, is what this book is about.**

The reader should recall at this point what we are attempting to do.

We are beginning to develop, as a tool, a **model** that includes a list of simple, **basic concepts**, with which we will work in trying to change our behavior to promote the survival of and the good life for ourselves and our species. So far, we have said that **behavior** is considered to be the result of **decisions** to act or behave that way, based upon **beliefs** that manifest themselves in certain **situations** as **predictions** having to do with the **outcomes** of these acts. Some decisions are good (desirable) ones and some are bad (undesirable). The bad decisions are, for the purposes of this book, being called **mistakes**. Whether a decision is a mistake or not will be a matter of opinion, but will depend upon whether the resulting outcomes of that act are or would be considered good or bad (the meaning of "good" and "bad" to be covered later). Although this will always be a matter of opinion, there will be widespread agreement regarding some of these decisions, as to whether they are mistakes or not.

We have digressed from building this basic model by discussing the development, nature, and limitations of our new **tools** (symbols, syntax, propositions, rules of logic, and rules of evidence), so that we can use these tools in the construction of our model.

We now will continue to construct that model.

We now need **one further concept** to add to our conceptual model, **to help us understand, in a very basic way, how decisions are made and therefore how mistakes are made**, so that we can develop ways of influencing these processes for our benefit.

It is easy to see that just having beliefs in the nervous system, or even having them active in the form of predictions, is insufficient to account for behavior, that is, for the animal actually doing something. I may believe that I can get a particular item at the store, but this belief, in itself, is insufficient to cause me actually to do so.

I will now propose for our model the idea that **there are two main sets of factors, which, operating together, are the determinants of decisions**. (This model will correspond closely with how we talk in our normal language about decision-making.)

Any decision may be considered to be the result of one or more MOTIVATIONAL STATES and one or more BELIEFS relevant to the motivational state(s) and the situation.

The new term is "**motivational state**."

We know that animals have a **tendency to behave, to do things**. This tendency may vary from time to time anywhere from an apparent lack of such tendency to a very strong tendency. For instance, we can place a harness around a rat and attach it to a string that is also attached to a scale, such that we can measure the amount of force with which the rat is pulling to try to get somewhere. In some experiments it can be shown that the closer the rat is to a goal (e.g., food), the harder it will pull to get there. We do not know at this point exactly what is going on in the nervous system and other parts of the animal that results in this variable intensity of motivational states, but it is quite an accepted fact that it happens. **So, motivational states have variable amounts of strength.**

These motivational states are quite varied, and go by different names. The most common general names for these states are "drives," "emotions," "feelings," "wishes," "wants," etc. All of these states tend not only to produce behavior, but to produce **specific kinds of behavior that are related to different kinds of outcomes, depending on the motivational state**. For instance, hunger motivates different behaviors than does thirst, sexual drive, pain, itching, anger, fear, envy, etc. **What motivational states have in common is the tendency to produce behavior or the tendency to change behavior from what it might otherwise have been if the motivational state had not been present.**

Just as we have developed a way of **modeling specific beliefs and predictions with propositions**, we have also come to **model specific motivational states with propositions**. The "motivational state," then, is a hypothetical state existing in a nervous system or "mind" (or metaphorically in a group) that can be modeled with a particular kind of proposition, namely, a sentence that follows the format, **"(subject) wants (object)."** The subject is the animal that has the motivational state. The object is a sought-for outcome. Let's look at examples:

Motivational State	Sought-for Outcome
I want to eat. (Or, I want food.)	Having eaten food
I want to sleep.	Having gone to sleep
I wanted to hear good music.	Having heard good music
I will want to obtain a good education.	Having obtained a good education
I want to move. (Or, I feel restless.)	Having moved and ended the restless feeling
The monkey wants to get to the other tree.	Having gotten to the other tree
The driver wanted to turn right.	Having turned right
John wanted a wife.	Having obtained a wife
The nation wants a good fiscal policy.	Having accomplished a good fiscal policy

The sought-for outcome or desired situation, may be very specific ("I want to see X movie tomorrow afternoon") to very general ("I want this bad feeling to go away" or "I want something, but I don't know what").

It is important to note here that **there is no implication that the human or other animal has an "awareness" of the presence of these motivational states**. We humans are often aware of some of them, and that is the main reason why we have symbols, or words, for them. However, we know that sometimes the strength of these motivational states is so low that we may not notice them, and we know also that sometimes the awareness of them is inhibited within us for "psychological" or "defensive" reasons. In fact, it is not at all unusual for us to conclude that a motivational state has indeed been present just by looking at the behavior of the person (self or other), even though the person does not feel or perceive its presence. (Examples are, "He denies feeling that way, but just look at what he did!" or "I must have been awfully scared, without realizing it.")

What leads to the appearance of these motivational states? Of course, we do not know exactly, and perhaps we never will know the whole story. But we know enough to make some statements that are most likely accurate enough.

We know that some motivational states somehow arise because of **certain processes that increase over time, that occur in and between cells in the body**. For instance, we are aware of the build-up of motivational states such as hunger, thirst, sexual drive, and drive for sleep over a period of time.

But we also know that some motivational states, such as pain, anger, fear, sexual arousal, etc., sometimes **occur more or less immediately in response to specific events**, independent of passage of time.

Furthermore, it is important to note that **motivational states may become "attached" to certain other states in the nervous system**, such that when one of these other states occurs, a specific motivational state will also occur. These other states include memories, fantasies, perceptions, thoughts, and even other motivational states. The memory of having been treated badly is likely to produce anger. If one imagines (fantasizes) falling off of a high building, one is likely to experience at least a little fear. Seeing one's favorite food is likely to produce hunger. Certain thoughts may produce sadness or embarrassment. The experience of anger may produce fear. The experience of sexual arousal may produce guilt. Some, but probably not all, of these connections appear to be **acquired through learning or "conditioning."**

Closely related to the above is the fact that **certain predictions can come to produce motivational states**. If I have the belief that whenever situation X arises I will experience pain, then if I begin to predict that situation X is about to arise, I will experience fear. Therefore, certain beliefs will lead to the appearance of motivational states under certain circumstances (situations) that "activate" those beliefs into actual predictions. I have, since childhood, had the belief that tigers are prone to eat people. But it is only when I see the tiger that has escaped coming toward me that I begin to experience fear based upon the prediction that this tiger may attack me. I may not have started to experience hunger until I saw them bring me my favorite food. Or, my hunger increased when I saw this food. I have beliefs about what the experience

will be like to eat this food, based upon old memories, and my prediction that I am about to have this experience again increases the motivational state of wanting to eat this food (similar to the rat pulling harder, the nearer it is to the food).

So, in general, **situations produce motivational states**. These situations may include intracellular and intercellular processes, perceptions of environmental objects and events, memories, fantasies (imagined situations), thoughts, predictions, etc.

When a situation produces a motivational state, it is often labeled as a "pleasant" or an "unpleasant" situation. "Pleasant" situations are those in which the behavioral tendency is to do that which will prolong or intensify the experience, whereas "unpleasant" situations are those in which the behavioral tendency is to do that which will diminish or avoid the experience.

When a situation produces a motivational state, the situation then includes that motivational state. This situation activates relevant belief(s) into specific prediction(s), which promote specific decisions, and therefore specific behavior.

Modeling with propositions, let us look at simple **examples of the relationship between motivational states, beliefs, and decisions**.

(Bodily processes occur in the animal, producing hunger.)	(situation produces motivational state)
"I am hungry, or, I want to remove this feeling of hunger."	(model of the motivational state, with sought-for outcome)
"Eating substances like that in front of me removes hunger."	(model of a relevant belief)
"If I eat this substance, I will remove this feeling of hunger."	(model of belief activated by situation into a specific prediction)
"I therefore want to eat this substance."	(model of new, more specific motivational state)
(The animal therefore decides to eat this substance.)	(motivational state, when specific enough, promotes decision)
(The person learns of tomorrow's test and wants to pass.)	(situation produces motivational state)
"I want to pass tomorrow's test."	(model of the motivational state, with sought-for outcome)
"Studying usually leads to passing tests."	(model of a relevant belief)
"If I study tonight, I will probably pass tomorrow's test."	(model of belief activated by situation into a specific prediction)
"I therefore want to study tonight."	(model of new, more specific motivational state)
(The person therefore decides to study tonight.)	(motivational state, when specific enough, promotes decision)

Notice that **BOTH the motivational state and the belief are necessary factors**, and that one without the other is insufficient to produce or explain the decision (behavior). For instance, if I am not hungry, I am not as likely to eat this substance. Also, if I don't believe this substance

will remove the hunger, I am not as likely to eat it. If I don't care about passing the test, I may not study, and if I don't believe that my studying will help, I will be less likely to study.

Metaphorically, it is as if there is a "push" (motivational state) to do something, and then a decision (based upon belief) as to what to do.

Now let us return to our central task.

I am proposing that we look at **ALL BEHAVIOR** according to the following **basic model**. **Because of a situation, an animal develops a motivational state and, because of one or more beliefs that it has that are relevant to that situation and motivational state, it makes predictions that lead to a decision to act in a particular way.** This means that a change in either the motivational state(s) or the belief(s) may result in a change of decision, and therefore probably of behavior.

The satisfactory understanding of the reasons for a decision requires the knowledge of both the motivational state(s) and the belief(s).

The reader may already have noticed that **there is almost infinite complexity inherent in this model**, as is shown in what follows.

More than one motivational state relevant to the decision may be present at the same time. For instance, I may not eat the substance because, simultaneously, I have a strong need to go to the bathroom, a need that must be taken care of first to prevent a bad outcome.

Also, **more than one relevant belief may be present at the same time.** For instance, I may not eat the substance because, even though I believe it would stop the hunger, I also believe it has poison in it, and eating it would lead to a bad outcome.

With a little imagination, one could make up increasingly complicated scenarios that would change the decision back and forth. For instance, I might indeed believe that the food had poison in it, but I might also believe that the poison was very slow acting and that a harmless antidote was available, and that if I did not eat the food, I would let on that I knew poison was in it and therefore expose myself to an alternative attack on my life. But then I might also believe that if I do not die, many more will, etc. So the decision is produced by all of the motivational states present (in varying strengths, of course, and therefore of varying amounts of influence) and by all of the relevant beliefs.

But although there is this almost infinite complexity inherent in the model, it is also true that in many situations in which an effort is being made to understand and/or influence behavior, it will be possible to identify the main, or most important, motivational states and beliefs, and to come to conclusions with a fair amount of certainty. We are neither perfectly able to understand nor completely unable to understand, just as is true regarding our ability to predict the weather.

Now let us return to the concept of "**mistake**."

A mistake has been defined as a decision that has led to, or would lead to, a bad outcome. This is one use of the word, "mistake." Another common use of the word refers to **mistaken belief**, which, in this book, will be called **inaccurate belief**. **Inaccurate beliefs lead to inaccurate predictions, and therefore to mistaken decisions.** If, when I attempt to eat this apple, I find that the apple is made of wax, my prediction is found to be inaccurate, and I conclude that I have made a mistake (the bad outcome being a mouthful of wax). The mistake occurs because of an inaccurate belief, namely, that the apple is food. **So, an important cause of mistakes is inaccurate beliefs.**

But **some mistakes are made primarily because of the strength of motivational states** rather than the existence of inaccurate beliefs. (It is well recognized that strong emotions often lead to mistakes. "I knew it wasn't right, but I felt so upset I couldn't control myself.") On the other hand, strong motivational states perhaps most often are based upon beliefs that have been activated into predictions in certain situations. It is the **interpretation** of the situation, namely, the **beliefs** about the nature of the situation, that often produce unusually strong motivational states, and we have often seen such motivational states, brought about by accurate or inaccurate beliefs, lead to mistakes.

In the case of the faulty or "mistaken" perception, such as the mirage or the optical illusion, the mistake (in the sense of the decision) that might be caused by such a perception is caused by the **belief** that the perception is indeed accurate. (I go off course in my journey across the desert because I believe there is water in that direction, based upon what I am seeing. But seeing is not believing, because another person, already knowing about mirages and also having a map, does not believe what he or she is seeing.) Thus, there is no need to add another set of determinants (beyond motivational states and beliefs) to account for mistakes caused by faulty perceptions.

So we are saying that, at this point, our model will explain ALL BEHAVIOR in terms of just TWO phenomena, namely, motivational states and beliefs, and that all MISTAKES are therefore caused ONLY by aspects of one or both of these two phenomena.

The above being true, it is apparent that we must learn as much as possible about these two phenomena, including their determinants and their interactions. **What follows, then, is a set of important observations and conclusions regarding motivational states and beliefs.**

First, we need to expand upon the previously mentioned fact that situations, or the perceptions of them, can come to produce motivational states. Upon seeing an appealing plate of food, I may notice the appearance of or an increase in hunger (modeled by "I want to eat"). Upon seeing the low price offered on an item, I may notice the appearance of or an increased wish for the item ("I want to have it"). In each case, the perception appears to produce or increase the motivational state. But remember, this effect, according to our model, is mediated by **beliefs**. If I believe the food is just a wax model, or if I believe it has poison in it, the motivational state will become different. If I believe that there is an even better deal on, or style of, the item, or a better way of spending my money, my wish to have the item may diminish. So **beliefs essentially can cause and/or modify motivational states**.

Second, there is an interaction between motivational states and beliefs that can be modeled, as has already been done, by **syllogisms**. As a further extension of this idea, the reader is asked to consider the following propositions (motivational states are italicized, beliefs are not):

I want to satisfy this hunger.
If I eat some food, my hunger will be satisfied.
Therefore, *I want to eat some food.*
If I obtain some food, I will be able to eat it.
Therefore *I want to obtain some food.*
If I go to the grocery store, I will be able to obtain some food.
Therefore, *I want to go to the grocery store.*
If I turn left at the stoplight, I will get to the grocery store.
Therefore, *I want to turn left at the stoplight.*
If I turn my steering wheel left, I will turn left at the stoplight.
Therefore, *I want to turn my steering wheel left.*

(The reader should once again remember that we are not talking about thoughts that go through the mind of the animal, human or otherwise; we are just constructing a **useable propositional model** to correspond as closely as possible to what happens in the nervous system, despite our knowing very little about what is indeed happening in the nervous system. We might speculate vaguely that this channeling process is the progressive activation by motivational states of lower and lower level models, or beliefs, in the brain.)

Notice that **any change in the beliefs modeled above could change the motivational states following them**.

Notice also that the motivational state at the beginning of this set of propositions is quite general, and that one of the functions of the beliefs is that of leading to more specific motivational states, and therefore more specific decisions. So we may say that **beliefs "channel" motivational states into specific behaviors or acts (or, more accurately, decisions).**

Notice also that the beliefs listed above are part of a broader network of beliefs upon which they are dependent. They are dependent upon such beliefs as "There is a grocery store," "There is food in the grocery store," "The street is not one way to the right or blocked," "My steering wheel works," etc. And these beliefs, in turn, are dependent upon other beliefs, such as that I can believe what others have told me, that I am not dreaming, that gravity is such that my car will not float away, etc. Therefore there is probably an ultimate connection between **all** of a person's beliefs, such that a faulty or incorrect (inaccurate) belief may have widespread effects on decision-making and therefore behavior.

Now I am not saying that our beliefs are the only point of intervention in order to optimize behavior. Our motivational states are also dependent upon the normal functioning of the brain. We do know that certain substances and certain illnesses can modify motivational states. We know, for instance, that cocaine can induce strong motivational states. We know that certain mental illnesses can spontaneously produce anger, fear, sadness, etc., and that medication can often help. (We also know that certain kinds of psychotherapy, aimed at helping an individual change his or her beliefs, this being one example of "belief management," can sometimes similarly help alleviate unpleasant or painful motivational states, even at times without the use of

medication.) And sometimes the mental illness itself can produce, in ways not fully understood, but possibly primarily through the production of chronically abnormal motivational states, highly unusual and inaccurate beliefs ("delusions"). Nevertheless, I believe that the reader can readily see that **it is INACCURATE BELIEFS, through the motivational states they promote, that contribute the most directly, and the most often, to MISTAKES.**

In summary, our motivational states push us to do something, but it is primarily our beliefs that lead to our specific decisions as to what to do. And our beliefs produce and modify many of our motivational states.

Remember that we humans have constructed a "**new world**" of propositions that we have become preoccupied with. In other words, in addition to all of those behaviors that we share with other higher animals, we have an entirely new kind of behavior, **propositional behavior** (communication and thought). This is indeed behavior, and therefore has the **determinants** of any behavior, namely, **beliefs and motivational states**. What we say and what we think are determined by our beliefs and motivational states. The motivational states may conflict with each other, promoting different speech and thought, and it is the resultant of these "forces" that produces what we actually say and think. What we say produces responses from others, which in turn have an effect on how we feel. What we think has an effect on how we feel. Our basic animal nature tends to produce speech and thought that has the immediate effect of inducing positive feeling. As we all really have always known, sometimes that which produces immediate good feeling in the self may nevertheless result in outcomes that cause bad feeling in the self and/or others, and are therefore "mistakes," as the term is used in this book. It is only by the building up of a set of beliefs that produce predictions that cause the appropriate feelings (motivational states) that we can avoid doing what, in the long run, may turn out to have been mistakes.

But note that our beliefs promote certain thoughts and speech, using certain propositions, and then those propositions, when "managed" by the rules of logic and the rules of evidence, tend to have some backward effects on those beliefs. When we observe contradiction occurring among our propositions, we tend to try to correct that situation, because increasingly our culture, that is, the people around us, express disapproval if we are blatantly self-contradictory. To some extent, our beliefs, and therefore our behavior, are changed by the necessity to maintain apparent logic in what we say. We do not want to be considered "irrational." Therefore, there is an ever-growing, though still quite minimal, change in our beliefs and therefore behavior, toward consistency. Unfortunately, of course, we still, instead, often remove the awareness of contradiction by "removing" those situations or individuals that bring it to our attention.

In the next chapter, I will be dealing with a particular subset of beliefs, namely, **ethical beliefs**, that produce, I will maintain, **our most important motivational states**. We must, above all, **want** to do the right thing, and therefore it will be important to have **accurate belief** about what the right thing is.

The bottom line, then, is that "belief" is the most crucial determinant of behavior. Beliefs can bring about motivational states, change their intensity, and channel them into decisions and therefore into behavior. How optimal one's behavior will be will have to do primarily with one's beliefs. If we see non-optimal behavior, implying a mistake, we are likely to be

able to find inaccurate belief. The most important concern that we should have is that our beliefs be accurate, in order to avoid making mistakes, some of which can be devastating. Belief is modifiable by experience. Coming to new conclusions, developing more accurate beliefs on the basis of our experience, happens all the time. What we need is a set of methods to optimize this process. There can be no more important effort, since all of our behavior, good and bad, is primarily dependent upon our management of our beliefs, that is, optimizing their accuracy.

Now I wish to refer back to what I covered earlier in this book, namely, that there has developed, especially recently, the idea that what a person believes should be left to personal taste, since no particular belief can really be proven. "What is true for you may not be true for me, so let us just agree to disagree, unless your beliefs make my life bad, in which case let's settle it ultimately according to who is strongest or most powerful (emotionally, physically, politically, or militarily)." I am letting the reader know that I have the diametrically opposed opinion to this, and that I believe that **our most important task as a species is to make our beliefs as accurate as possible**. But before the reader comes to a conclusion about this belief of mine, I recommend reading on to find out what I mean more specifically, especially regarding how we should attempt to achieve such increasing accuracy. But I will say that the changes in our way of life that need to be made are **enormous**, and that we, as a species, are just at the **very beginning** of making those changes. Our species, in certain ways, is just a toddler, with the future possibility of a wonderful adulthood. And that is what this book is about.

BASIC CONCEPTS: ETHICS

In the previous chapter, I believe I demonstrated how important accuracy of belief is to the welfare of each of us and to the welfare of our species. To review, there are **two basic reasons** for this.

First, the accuracy of our beliefs allows us to make the decisions that produce the outcomes that we want. By accuracy, I mean the degree to which the set of potential predictions that constitute the belief are those that coincide with what actually does happen or would happen in response to our behavior, actual or imagined. I may want to accomplish a particular goal. If I have an inaccurate belief about what will happen if I engage in a relevant behavior, I may make a mistake and therefore not accomplish the goal. In fact, I might instead accomplish a disaster. If I want to make some money and believe incorrectly (inaccurately) that this advertised method of making money is effective rather than being the scam that it really is, I may make a mistake and lose my money instead. If I believe that this alternative medical procedure will cure me of my cancer when it won't, I may lose money and possibly my life. If we believe that global warming is not taking place when it is, we may decide to do nothing about it, with major negative consequences to our species in the future.

Second, the accuracy of some of our beliefs helps us to WANT to do the right things. Certain beliefs themselves produce certain motivational states. If I believe a situation is dangerous, I will want to leave it. If I believe an activity will safely produce pleasure, I will want to engage in it. If I believe that an enjoyable activity will soon bring me death, I will want to avoid the activity. If I believe that I will be punished if I do something, I will want to avoid doing it. If I believe that an activity will make the world a better place, I will want to do it. If any such beliefs are inaccurate, they will tend to make us want to do the wrong thing, or will fail to make us want to do the right thing, and will therefore cause us to make mistakes, with a resulting reduction of quality of life for ourselves and/or others.

This chapter focuses on the **optimization of those of our beliefs that influence what outcomes we do WANT**. More specifically, it focuses on a **subset of beliefs** that specifically make us want to do those things that produce a good (to be defined later) outcome. This subset of beliefs can be modeled by a set of propositions that has sometimes been labeled **"ethics."**

For our purposes, **let us define ethics as that subset of beliefs that can be modeled by propositions containing the verb "should" in them, or propositions that could be rephrased to do so.**

Now there are problems with this definition that can be overcome simply by recognizing them.

The first problem is that the word "should" has more than one meaning, and we are referring only to one of those meanings. We are using the word to mean what it does in the sentence, "You may want to do X, but you really *should* do Y instead." We are not using the word to mean what it does in the sentence, "According to this map, the next street *should* be X street." In the second sentence, a prediction is modeled.

The second problem is that there are many ways to state ethical propositions that do not use the word "should." Some examples are as follows:

You ought to do X.
It is only right that you do X.
Doing X would be the right thing to do.
You are required to do X.
It is common decency that you would do X.
It is only fair that you do X.
It would be a sin for you not to do X.
It would be a crime for you not to do X.
It would be wrong for you not to do X.

Nevertheless, all of the above propositions could usually be rephrased to say, "**You should do X**." Therefore, for our purposes they represent ethical propositions, modeling ethical beliefs.

There has been a long-standing tendency to regard **ethical beliefs** as being different from **existential beliefs**, that is, beliefs about existence, or about the way the world is, was, or will be. Ethical beliefs have been regarded by many as belonging to a set of beliefs that are called "values," as contrasted perhaps with beliefs about "facts." There appears to be a difference between a proposition such as "It is (or was, or will be) raining" and a proposition such as "You should not steal." One line of thinking would be that, with regard to existential beliefs, one could, at least in principle, check with reality (by making an observation) to see if it really is raining, or to see if the evidence is in favor of it having rained or in favor of the prediction that it will rain. But whether or not you should steal would seem to be more a matter of personal taste, so to speak, just as would be whether you considered a particular work of art to be good or bad.

And using our definition of "belief," it is hard to imagine that we could regard an ethical belief as a set of potential, consistent predictions.

Nevertheless, I believe the reader will come to agree with me that **there is actually no such difference between ethical beliefs and existential beliefs, and that the belief that there is such a difference occurs because of an inaccuracy in the understanding of what the full meaning of an ethical proposition actually is**. In other words, I am maintaining that the statement, "You should not steal," is in actuality no different from the statement, "It is raining." Both propositions, I maintain, are modeling beliefs about the nature of the world.

[Edit 09/02/2020: Although the above statements will make sense in the context of this chapter, it is actually quite useful to consider beliefs to be divided into existential beliefs (about existence and how it works) and ethical beliefs (about what should and should not be done.]

But demonstrating this will require a further clarification of the **nature of ethics.**

First, I wish to give a simple explanation regarding the probable **development** of ethics**.**

Remember that **some beliefs produce motivational states**. Ethical beliefs are an example of such beliefs. If I believe "I should study," then I want to do so. I may also want not to study, because I believe I have something more fun to do. These are competing motivational states. The motivational state that goes along with the ethical beliefs has been referred to as the "**ethical sense**." This ethical sense is the feeling that goes with the use of the word "should." Many have

wondered about the nature of this ethical sense, and therefore have wondered about the nature and origin of ethical beliefs. This is the question we are now addressing.

In other words, **how did ethical beliefs ("I should do X"), along with the ethical sense, arise?**

Let us use our imagination. Let us imagine an animal feeding by itself at a carcass. Now let us imagine another animal of the same species being at the carcass also. The behavior of the first animal will be somewhat different. This difference may be considered "social" behavior, that is, modification of behavior due to the presence of one or more other animals of the same species. We may say that the belief on the part of the first animal that the second animal is present, combined with beliefs about the likely behavior of the second animal, produce motivational states, and therefore behavior, that would not have existed otherwise. None of this, however, would be referred to as ethical belief or the ethical sense.

Now let us imagine that a particular species has survived and reproduced exceptionally well because the members have existed in groups and those groups have been able to accomplish more than individuals would have. What we mean by a group is **a set of individuals such that the individuals in the set modify their behavior according to the existence, presence, and/or behavior of other members of the set of individuals, in such a way that something is accomplished that would not likely have been accomplished otherwise.**

But there must be some sort of **coordination** among the members of the group. That coordination consists of **a somewhat predictable set of behaviors of the individuals that results in the group benefiting, at least with regard to its ability to survive and reproduce**. The individuals must be able to influence one another in some predictable, beneficial manner.

There must develop in the genes of those individuals characteristics that allow this coordination to happen. It is not surprising, then, that group animals will have characteristics that allow individuals reliably to induce motivational states in each other. To simplify, we may say that genetically the members of the group will be inclined to experience motivational states dependent upon the behavior of other members of the group, and that some of the motivational states are "positive," that is, tend to promote certain kinds of behavior, and some are "negative," that is, tend to inhibit certain kinds of behavior. For instance, certain sexual behavior of one individual may induce sexual behavior in the other. Certain touching behavior on the part of one will induce efforts to be close on the part of the other. Certain behavior that we may refer to as "hostile" will induce "submissive" behavior in another. Certain behavior on the part of one will induce in the other feeding behavior. The bottom line is that these group animals develop a set of motivational states that **depend upon** the behavior of others, and they also develop certain behaviors that **induce** motivational states in others.

This scenario may be modeled by propositions that stand for motivational states and beliefs, as in the following three examples:
> (1) I want you to stay away. If I growl, you will stay away. I therefore want to growl (and do).
> (2) I want you to feed me. If I cry, you will feed me. I therefore want to cry (and do).
> (3) I want you to have sex with me. If I strut, you will have sex with me. I therefore want to strut (and do).

But there is one thing missing from this scenario if we are trying to explain how the group functions as a group. The missing item, already mentioned above, is **coordination**. By this statement, I am referring to the fact that the survival of the group depends on more than just the fact of mutual influence. If every member of the group has an equal effect on every other member of the group with regard to every motivational state and behavior, then there will be randomness of behavior of the members of the group. It will be just as likely that A will feed B as that B will feed A. The parent would obey the child as often as the child would obey the parent. Another way of saying this is that there would be no **role-taking** phenomena.

In other words, there must be some **asymmetry of effect** of individuals on each other in order to have coordination. One individual must be more able to influence another with regard to certain behaviors than the other is able to influence the first with regard to those behaviors. So it is not surprising that there would develop in the genetic makeup of group animals a set of mechanisms that tend to establish such asymmetries in influence of behavior, and we refer to such asymmetries as hierarchies. We say that certain members of the group are metaphorically "over" other members, are more "dominant," are "leaders," are "more powerful," etc.

So now we see the familiar scenario in which there is a group of animals such that a hierarchy exists, in that some animals are more successful in getting other animals to do what they want them to do. There is a **power hierarchy**. Certain physical (size, etc.) and/or behavioral (loudness, etc.) characteristics determine the position of an animal in this hierarchy, with change of positions over time with the occurrence of interactions.

We may model the beliefs of those animals with propositions, such as, "That alpha male will attack me if I try to have sex with its female." Such beliefs will produce motivational states in those animals, and thus modify their behavior (decisions). So we are talking about motivational states induced in animals by other animals' behavior that is a reflection of the motivational states of these other animals. One animal wants to do that which will cause another animal to behave a certain way, and engages in behavior to bring this about. The other animal is therefore ultimately responding in some way to what the first wants.

Now let us clarify one possible misconception. I am not at all saying that one (non-human) animal "knows" or has a belief about "what is in the other animal's mind." I am not at all saying that one animal necessarily "empathizes with" another animal, or even has the "idea" that the other animal has a "mind." To speak in such a manner would be a metaphorical, shorthand way of speaking. We humans, with the capacity for intensive empathy through use of our symbols, indeed do have the ability to communicate what we want, and therefore the ability to have beliefs about what is in the other person's mind, that is, about what the other person wants. But when we speak of a non-human animal having a belief about what another animal wants, we are really talking about the animal having a belief about what the other animal will do (in response to the first animal's behavior).

We could possibly now speak of ethical beliefs, even though we have not yet required that the animals have language. The beliefs in the animal could be modeled by shorthand, metaphorical propositions such as "X does not want me to do Y" or "X wants me to do Y," in cases where "X is powerful" or "X is more powerful than I am." However, to use the term "ethics" at this level of animal development, prior to the development in our species of **language**, would be quite atypical, and I am not advocating that the term be used in this manner. The reason I am saying

that we could possibly now speak of ethical beliefs is that it is out of this basic groundwork of response to what others want oneself to do that what almost all of us would agree was indeed the field of "ethics" has arisen. Actually, however, I am going to be restricting the term "ethics" only to **human** phenomena, because I am restricting it to certain phenomena that require use of **symbols**, primarily **language**.

[Edit 09/02/2020: As time went on, it became apparent that the concept of ethics is indeed applicable in a useful way to non-human social animals, such that they can be considered to have ethical beliefs and motivational states that can be placed in the "ethical sense" category. It is only we humans that can study such phenomena, and it is the study of such phenomena that is also referred to as "ethics."]

The phenomenon that we are talking about is one in which the individual animal develops beliefs about the likely behavior of one or more other members of the group, beliefs that produce motivational states in that individual animal that would not otherwise be present, and that alter the decisions (behavior) of the individual animal such as to produce a picture that we refer to as **obedience** or **submission**. Furthermore, added to this phenomenon is the development in the species of kinds of behavior (produced by beliefs and motivational states) that specifically have the effect of bringing this submission or obedience about, perhaps best labeled generally as "**dominating behavior**." And there is a variability in this behavior and in other attributes of the individual animals that **makes it more likely that certain individuals will elicit such submission in others**. (Size, strength, and other aspects of appearance would be examples of such other attributes.)

We need also to recognize that obedience, or submission, is not limited to the relationship between the individual and another individual more powerful. Similar obedience may be produced by the group as a whole, or a majority of the group, or an important minority of the group.

Another important aspect of this phenomenon is that the behaviors (decisions) that an animal engages in or avoids as a part of submission tend to be only of certain kinds. For instance, if the animal has had induced in itself by another animal an inhibition of approaching that other animal, there are certain paths that the animal might take that would be inhibited and others that might not be. The animal most likely could indeed walk away in the opposite direction. The animal of course would not walk directly toward the not-to-be-approached animal. But the animal might circle the other animal or walk away at an angle, or perhaps even walk slightly toward the other animal, but at an angle. So we humans, with our symbols, might refer to the existence of a set of behaviors that were "allowed" and a set of behaviors that were "not allowed." The main point of this is that **that set of behaviors that would result from a particular example of submission tend to be similar to each other, and behaviors that are too different from these behaviors would not be influenced by this situation of submission**. Or, more simply, someone might say, "He doesn't stop me from doing everything, just certain things." It is this fact that allows for us humans to construct ethical "**rules**."

So now we are indeed ready to start talking specifically about **humans**. Following, and by virtue of, the first exponential change that has forever made our species different from all others on this planet, namely, the ability to use symbols (and syntax) to a much greater extent than any other species, essentially to an infinite extent, we now have a way of **designating** those sets of

behaviors that are subject to being influenced by submission, as opposed to those that are not. In other words, **one human can designate a set of behaviors that he or she wants the other to engage in or avoid engaging in, by using as a tool these symbols, usually (but not always) words**. In the above example, one human could say to the other, "Do not take another step toward me." The other individual might even obtain clarification by asking, "Well, may I at least step over to your right?" In other words, **our ability to use symbols has allowed us to become enormously more precise in our ability to coordinate our behavior as a group**. For instance, the "leader" might say, "I want you to take this spear and hide behind that tree and wait until that animal comes along, at which point I want you to spear the animal, and I don't want you to come back until you have done this." Think how much more ability we humans have than any other species for coordinating our activities. And some of this coordination consists of very predictable and stable patterns of obedience or submission, brought about by our ability to use symbols to designate situations, behaviors, motivational states, beliefs, and other relevant entities. **We can much more precisely tell each other what to do.**

Because we are able to use symbols to designate sets of behaviors, we can then convey to others our wish that others behave in certain ways **in general**. We are not limited to using our symbols in one specific situation after another. We can convey to others a **rule** that states that we want behavior of a particular kind or class (for which a symbol or set of symbols has been created) to be performed in situations of a particular kind or class (for which a symbol or set of symbols has been created). "Refrain from talking (behavior) when you have food in your mouth (situation)." "Ask for permission when you want to speak." "Salute me whenever we meet." "Refrain from stealing in any situation in which stealing might be an option."

Now let us consider the development of the "**ethical sense**."

Those beliefs that may be modeled by propositions that have the word "should" in them, or that could be rephrased in such a way, may be seen as having an origin in a basic kind of situation that every human individual arises from, namely, being reared in a group (of one or more additional persons) who will want the individual to behave in certain ways and will behave toward that individual (using primarily reward and punishment) such as to induce in that individual ethical beliefs that produce complex motivational states of the sort that we recognize as the "**ethical sense.**" These motivational states are multiple, including fear, shame, guilt, sadness, joy, etc., and are produced by disapproving behavior in its many forms as well as approving behavior, including affection, admiration, and gratitude. It is not surprising that we do not remember having had this ethical sense induced in us, in that it has been happening all our lives, every day of our lives, from infancy onward. None of us can avoid the feeling that there are certain things we should do and certain things we shouldn't do, even though we may not be clear as to what those things are, where we got those feelings, or why we should have them.

[Edit 09/02/2020: Note again that this also applies to non-human social animals, except for the use of propositions that model such beliefs and motivational states.]

(There are, of course, some individuals that seem not to have an ethical sense, but they are quite unusual and quite a problem for the rest of us. Why they have this difference from us is being studied, and I will leave a discussion of that to the researchers of that problem. On the other hand, there are many individuals that most of us would say have an **inadequate** ethical sense, or a **distorted** ethical sense.)

(In what follows, I will be talking primarily about a subset of ethical beliefs, namely, about those beliefs that can be modeled with propositions of the form, "I should…." It is important to note that ethical beliefs that can be modeled with propositions of the forms, "You should…," "They should…," etc., are also accompanied by motivational states in certain situations, but that the motivational states will be somewhat different. If I perceive that someone is about to do X, and I believe that he or she should not do X, then I will experience certain motivational states that are different than those that occur when the beliefs have to do with what I should or should not do. These other issues will be covered elsewhere, as in the chapter on "Rational-Ethical Anger Prevention." For now, we will concentrate only on the beliefs about what "**I** should do.")

So for our purposes, **ethics** consists of a set of **ethical beliefs**, that can be modeled by **ethical propositions**. Ethical beliefs produce in certain situations the **ethical sense**, which is a (complex) **motivational state**.

In my discussion of ethics, I will be referring to a tendency for there to be a **hierarchy of ethical beliefs, from the most concrete and specific to the most general, even ultimate**. Let us look at this tendency with a specific example of a hierarchy of ethical beliefs.

Let us imagine that I am looking at an object that does not belong to me, which I might nevertheless want to take (motivational state). I also have the **ethical belief**, "I should not take this object," which motivates me (by the ethical sense) not to take it. Now, the reader becomes aware that I have this ethical belief, and asks, "But why should you not take this object?" The reader could be said to be asking me to tell him or her why I believe, and why he or she should believe (agree), that the proposition is "true." My answer, according to our terminology, would be the **legitimization** of my proposition (or belief), that is, **why** I believe it to be true and **why** the reader should agree. So I say to the reader, "I should not steal, and if I take this object I will be stealing, so I should not take this object." The statement, "I should not steal" would be a "**higher level**" (more general) ethical belief, quite easily referred to as an "**ethical rule of conduct**." But now the reader may ask me, "Well, why should you not steal?" My answer might be, "I should do no things that violate the rights of others, and if I steal, I will be violating the rights of others, so I should not steal." The statement, "I should do no things that violate the rights of others" would be a still higher level ethical belief, quite easily referred to as an "**ethical principle**." (Remember that definitions are arbitrary, and that there is often no clear dividing line between one term and the next. Thus, there is no clear dividing line between an ethical rule of conduct and an ethical principle.) Now, if all of the ethical principles could be subsumed under one, **highest** level ethical proposition, **beyond which one could not go**, then that proposition could be called the "**ultimate ethical principle**." The concept of the "ultimate ethical principle" will be extremely important in this discussion.

Now I described above the development of our **naturally** occurring ethics. The thesis of this book, however, is that **we are just beginning to observe a (third) psychosocial exponential change in our species**, hard to see at this point because the acceleration has only just begun, and that this change will produce a dramatic and beneficial change in the quality of life for our species. The most fundamental part of this change, I believe, can best be described as **a change in the nature of our ethics**, which will in turn produce drastic changes, hard to imagine at first, in how we will live our lives.

This change in the nature of our ethics will consist ONLY with regard to the ultimate ethical principle.

[Edit 09/02/2020: Subsequently, it has become clear that this change in the nature of our ethics is also the change from authoritarian ethics (determined by obedience to the "most powerful") to rational ethics (determined by commitment to rationality, i.e., consistency with beliefs legitimized by the rules of logic and the rules of evidence), with the recognition that the "most powerful" is not necessarily committed to rationality, and thus to any ultimate ethical principle other than that of obedience to his/her/its wishes.]

Let us first attempt to identify **the ultimate ethical principle in our NATURALLY occurring ethics**. We may notice that ultimately this ethics derives from "**authors**" of the ethical propositions, and that the response to these propositions, about what I should and should not do, is **obedience or disobedience**. We may therefore say that the **naturally** occurring ethics, that which derives from our basic animal nature, is **"authoritarian" ethics**, which is modeled according to the concept of **obedience** (or disobedience) in response to the author of the ethical propositions. This is true even though we may have lost track of who the author is or was. If we search for the **ultimate authoritarian ethical principle**, we will find it to be that **we should do whatever the author (who is the most powerful one, for instance, parent, leader, group, or deity) says or said we should do, no matter what the author's reason is for wanting us to do it**.

So, the child asks the parent, "Why should I do it?" and the parent says, "Because I want you to!" And the subject asks the autocratic leader, "Why should I do it?" And the autocratic leader says, "Because I want you to!" And the group member asks, "Why should I do it?" and the group says, "Because we want you to!" And an individual is asked why he should do it, and he replies, "Because God wants me to." Of course, the "author" could give a reason as to why he, she, or it wanted it to be done, but that would be extra information, not a required part of the answer. That the author wanted it to be done would be considered by the author to be a sufficient reply. A parent might say to a child, "I don't have to explain to you why I want you to do it. You should do it because you are supposed to obey me." And we could well imagine a deity, or anyone "in authority," giving the same answer. Obedience is a phenomenon that is part of our basic animal nature.

So in other words, **the authoritarian-ethical ultimate ethical principle is that we should do whatever X wants us to do, X being whoever or whatever is most powerful.**

Before looking at the new ethics, let us examine in detail some of the problems associated with authoritarian ethics, that explain why it has never worked, and never will, assuming that by "work" we mean "optimize the chances of the good life for everyone."

The following are **the main problems with authoritarian ethics**:
Different authors issue different, sometimes conflicting, rules.
Intermediaries at times disagree as to what the author's rules or wishes are.
There may be disagreement or confusion about the author's specific meaning of some rules.
There may be disagreement as to which author to obey.

> Situations usually can be imagined in which to obey the author's presumed wish would seem to be awful.
> The absence of the author weakens the motivation to adhere to the author's wishes.
> There is no guidance about those things the author doesn't care about.
> The fantasy of and hope for the author's ultimate forgiveness weakens the motivation to adhere to the author's wishes.
> When two individuals or groups have acquired different rules from different authors, they tend to avoid and fight each other.

Remember that in authoritarian ethics the ultimate criterion for legitimization of an ethical proposition is the demonstration that the proposition indeed models the **motivational states and beliefs of the author**. One can ask the author, if he or she is around. One can ask an intermediary, someone who we believe knows what the author wants or wanted. Or we can guess at what the author probably has in mind or had in mind. And if, after doing the above, we disagree, we can either agree to disagree (avoid each other or avoid talking with each other about it), or we can fight (emotionally, physically, or militarily).

If the reader thinks about all the examples that he or she has seen of individuals, groups, or nations fighting, literally or figuratively, I would predict that the reader would find that the main reasons for the fighting were disagreements about what the individuals, groups, or nations **should or should not** be doing. **Most fighting, then, comes about because of disagreement about which ethical propositions are correct.** Without accepted, agreed-upon criteria, ethical questions tend to be settled by force (emotional, physical, or military), with the strongest winning (temporarily). **This is the way of nature, of natural selection, of our basic animal nature.** And yet we know that **the quality of our lives is markedly reduced by fighting** (both physical fighting and behavior that is metaphorically called fighting), which is notorious for producing suffering. (Fighting is skilled induction of suffering, if not death.)

Now in order to understand the new ethics that is just beginning to emerge, let us review the first two exponential changes, as related to ethics.

We have noted that the **first exponential change** involved the development by our species of the ability to use symbols, and the rules of syntax to form propositions, to an essentially infinite extent. That new ability, however, has been **in the service of our basic animal nature**. Authoritarian ethics is an example. With our authoritarian ethics, we are able to do exactly what other animals do, only much better. Other group animals engage in coordinated behavior, but our species can do this with much greater precision, creativity, and consequent effectiveness, an extreme example being a well-disciplined army. This has made our species much better able to survive. And if it were not for the development of the second exponential psychosocial change in our species, the story might end here.

The **second exponential change**, the development of rationality, the reader may remember, has been the development of the rules of logic (beginning to escalate about 2500 years ago) and the development of the rules of evidence (beginning to escalate about 500 years ago) that have allowed us to construct models of the world that have amazing accuracy, meaning that they allow us to make amazing predictions of the outcomes of our potential and actual acts or behavior. By virtue of this new ability, we now have been transforming our lives in a manner that one can easily see has been exponential, with the development of amazing new abilities to do things,

referred to as science and technology. However, these new abilities have, for the most part, once again, been **in the service of our basic animal nature**. This being true, we see that the ability to do what most of us would regard as good has been equally matched by the ability to do what most of us would regard as bad. And so, for the most part, the members of our species have continued to treat each other both well and badly, on the interpersonal level and on the international level, and all in between. Rationality helps us to predict more accurately the outcomes of our behavior, such that we can do much more good, or much more harm, depending on what we want to do, that is, depending upon our motivational states. Thus, rationality as here defined does not, in itself, help us to avoid doing harm. Rationality does not, in and of itself, tell us what we **should** do, just **what will happen** if we do it.

The third exponential change, which I am attempting to point out to the reader, consists of a change in our ethics, from the natural, authoritarian ethics to a new kind of ethics that is now feasible by virtue of the second exponential change.

So what is the new ethics, that will work better?

It should be noted that natural selection tends to foster the survival of the species, but has nothing to do with the quality of life for the species. Both pleasure and pain or suffering are motivational states that produce behavior that may promote the survival of the species. Therefore, pain and suffering are a natural part of the world, and are built into our basic animal nature as the ability to **experience** pain and suffering and as the ability and tendency to **induce** pain and suffering. But we humans, having learned so much about how the world works, and therefore so much about how to do things, are able to aid each other in ways such as to **reduce pain and suffering**, that is, **improve the quality of life**. So we humans have a goal that **goes beyond** what natural selection produces. Natural selection has produced authoritarian ethics in the manner described above. **But we have the opportunity to do differently than our basic animal nature would have us do, with a consequent improvement in our QUALITY OF LIFE.** We have the opportunity to develop a different kind of ethics that will immensely improve the quality of life for all the members of our species, **in addition to** its chances for survival. I believe that this is happening, and this belief of mine is what this book is about.

And **how** are the ethical propositions in the new ethics to be **legitimized**? What **criteria** will be used?

In rational ethics (the term I propose for the new ethics) the criterion for legitimization of an ethical proposition is that the proposition is consistent with the ultimate goal of promoting BOTH the survival of AND the good life for all of us, now and in the future. This, then, would be the rational-ethical ultimate ethical principle.

[Edit 09/02/2020: For quite a while after writing this, the proposed ultimate ethical principle was therefore referred to as the Rational-Ethical Ultimate Ethical Principle, or REUEP. However, it eventually became apparent that the above was only one such possible ultimate ethical principle, and so its name has been changed to the Humanian Ultimate Ethical Principle, or HUEP, referring to Humanianity, the label for this movement to this new kind of ethics, i.e., rational ethics consistent with the HUEP.]

Now what this means is that whether I or you or we should do something or not depends on the **total set of outcomes** of that behavior, compared with the total set of outcomes of not doing it or of doing something else that is being considered as an alternative. Therefore, the effort should be to attempt to **predict** as much of the total set of outcomes as possible, with the **goal** of choosing that behavior which will most contribute to the **good life** for us all (now and in the future), in addition to contributing to our survival as a species.

Hopefully the reader has not had in mind that the new ethics would suddenly make decisions easier for us, because we would now easily see what it is that we should do. If so, the reader will immediately be disappointed, because, of course, we can never predict the total set of outcomes of a behavior. But neither is it true that we have no ability to do so. I believe that the reader can easily come up with an essentially infinite set of behaviors that would be inconsistent with the goal of the survival of and good life for us all, many of which behaviors have actually already occurred. For our current purposes, let us call decisions to do these things "**bad decisions**." (These are the decisions that we have called "**mistakes**.") And I believe that the reader is, most of the day, engaging in behavior that would be **consistent** with such a goal, that is, making "**good decisions**." But there is indeed a "gray area" in which it is not clear what the best thing to do is. And it is here that **we should have a basic method, or set of methods, that optimize our chances of making good decisions**.

In **authoritarian ethics**, there is indeed a set of methods, mentioned above, of determining, as well as possible, what the author has in mind or had in mind. In **rational ethics**, there needs to be a set of methods for determining, as well as possible, what the outcomes of our decisions are likely to be, and whether those outcomes are optimal, compared to the outcomes of other alternative decisions, for promoting our survival and the good life for us all, now and in the future.

Let us recognize and acknowledge, right away, that there will be differences of opinion in rational ethics, just as in authoritarian ethics. But there should therefore be a **method** or **set of methods** for **legitimizing** ethical beliefs that, **itself**, promotes the survival of and good life for us all. Note that this is an ethical proposition regarding the method(s) of resolving differences in ethical beliefs. They should be good methods. They should work. We all should benefit from them. So what would they be? And how would they be different from those methods that occur naturally, as a part of authoritarian ethics?

As a prelude to answering this question, I wish to remind the reader that one aspect of the thesis of this book is that this third change, to rational ethics, is an **exponential** change. Therefore, just as has been true for the first two changes, one cannot identify a time when the new phenomena suddenly came into existence. One can always find some examples of the phenomena being present, no matter how far back in time we look. But, if I am right, we should be able to conclude that the presence of rational ethics has grown a little over the last few thousand years, and even more so recently. And I believe that we can indeed use our imaginations to picture a world in which an almost complete transition to rational ethics has been accomplished, a world in which we are trained from our earliest years to utilize rational ethics. This is indeed my prediction, regarding the time of "Homo rationalis," and it is my prediction that the reader will agree if he or she continues to learn what I am referring to.

In order to identify the methods of legitimating rational-ethical propositions, we need to see what works, that is, **what new methods of arriving at decisions** as to what should be done have been arrived at that result in an increased likelihood of doing that which promotes the rational-ethical ultimate ethical principle. In other words, we need to take a look at what we can observe **already having happened** as a part of this third exponential change.

So I wish now to call the reader's attention to what I consider to be evidence of the very beginnings of this escalation of change from authoritarian ethics to rational ethics. In all of what follows, the **main phenomenon** that I am referring to is the development of **new ways** of determining what **should** be done when there is **disagreement** about what should be done, ways that are **better** than authoritarian ethics as far as improving our quality of life, now and in the future.

First, let us look at **government**.

Up until the time of ancient Greece, the evidence seems to point to the idea that all government had been to a greater or lesser extent based upon the most powerful individuals and groups being in a position of dominance over the rest, and therefore determining what the rest should or should not do. Autocratic or totalitarian regimes had been the usual way. But in **ancient Greece**, there was an effort to have a procedure, "**democracy**," for decision-making that was predicted to be a **better way**, a way that would work better for "**everyone**." Of course, we know that there was in actuality very little change in the structure of their society, but the important element was the effort, the experiment, the decision to do things in a particular way that was **not** the **natural** way, **because of the prediction that it would work BETTER**.

And if we come forward in time, we can see that this idea has caught on and has been elaborated upon. The **constitutional democracy** is a deliberate effort to outline how decisions should be made, using a set of procedures that are **predicted to work better** than those that had come before. The effort in constructing the constitutional democracy is to avoid going back to the situation in which certain individuals or groups would be able, by force, to assert their will over others in the society in ways not necessarily approved of by that society, and simply because of the wishes and self-interests of those individuals or groups, independent of what would be best for all within that society.

Note that in the constitutional democracy, there is the provision for methods of developing, elaborating on, and changing certain ethical rules ("laws"), methods of interpreting and applying those rules, and methods even of optimizing the constitution itself. All of these methods have been chosen because of the prediction that they would work better, that is, produce a better set of outcomes for the society as a whole, **for everyone**.

The reader should note that there is no reason to believe that any particular current example of constitutional democracy is the best form of government. The important concept being presented here is only that we as a species are **trying something new**. We are getting together and constructing a way of living together optimally, that is, such as to promote our survival as a species **and** our having as good a life as possible, now and in the future, for one and for all. I would maintain that we are still just beginning this process, but that we have made definite progress. In fact, there is even a gradually increasing emphasis upon **world government** as an

alternative to nations conquering and dominating other nations as a way of attempting to establish orderliness.

Now let us take a look at a very much related phenomenon, namely, **law**.

Law, to a great extent, is our method of handling dispute. We can look back to ancient cultures and obtain, I believe, a fairly accurate picture that disputes were ultimately handled, if necessary, by presenting them to whoever happened to be most powerful. It would be the decision of the **leader** that would determine the outcome of many disputes. And the decision of the leader would be the result of the motivational state(s) of the leader, however it or they might arise. Hopefully, of course, the leader would decide in a manner that was fair and that fostered the benefit of the society, but we well know that this could not be counted on.

But now look at the new idea that we have come up with, namely, the development of a set of laws that have been designed to handle disputes **in advance** of the disputes occurring, along with the idea that **no person is "above the law."** Great attention is given to the precise wording of these laws, so that they will work as well as possible without having to be interpreted by someone, and, of course, procedures have been developed for such interpretation when it becomes necessary. The effort is always to develop procedures that work in a **fair** manner, **for everyone**, independent of the whim or wish (motivational state) of some person or group that happens to be unusually powerful at that point in time. Again, we well know that what we have so far arrived at is far from perfect, but it is a major step forward, that continues to be worked on.

In courts, the effort is to try to apply procedures and decision-making to everyone in a **fair** manner, and this is done by paying much attention to the **wording** of laws, agreements, evidence, judgments, etc., in order to avoid having the decision-making distorted by the naturally-occurring emotional processes produced in accordance with our basic animal natures. **Debates** are heard, **ideas are compared** using the **rules of logic**, evidence is presented according to the **rules of evidence**, and the meanings of laws are interpreted, always with the goals of **impartiality and fairness**.

Now let us right away avoid the mistake of saying that this observation is incorrect because of the obvious distortions of the processes by emotional factors. Remember that we are still talking about a change in our species that is **just beginning to occur**, and that therefore may be **easy to overlook**. It is actually easy to see **both** emotional and rational processes occurring in the same setting. For instance, in the courtroom, we see a judge allowing the jury to hear only one or two examples of some evidence that might inflame the emotions of the jurors and thus distort the rational processes, while at the same time everyone expects the attorneys for the opposing sides to be skilled at playing on the emotions of the jurors in their presentations on behalf of their clients. This emotionality represents a factor in decision-making that is based upon the skills (power) of individuals, rather than on the **meanings** of words, **principles** of impartiality and fairness, and **accuracy** of evidence. (This is not to say that such emotional processes are always bad; it is to say that we have only come a short way in developing procedures that are highly rational and resistant to distortion by emotional processes.)

Next let us look at the phenomenon of "**rights**."

There is some confusion in some discussions about rights, having to do with **two different meanings** of the word "right." The proposition, "I have the right to do X," can either mean "The law in this society allows me to do X without fear of punishment by the government and without obstruction being placed in my way that is condoned by the government," or it can mean, "I **should** be given the right (using the first meaning) to do X, though currently I do not have it."

It should be noted that originally the concept applied only to the members of a specified group, as in the "rights of citizenship." It is relatively recent that our species has become preoccupied for the first time with the issue of what protective principles should apply to **all** individuals, irrespective of their socioeconomic status, genetic background, physical characteristics, set of beliefs, group membership, etc. This protection is basically a protection against power, and it is protection produced by the construction of documents containing propositions organized in highly precise ways. Whether individuals have a "right" to do something (or to have something) is a decision made by a society because of the judgment that having that right will foster a certain amount of good life for everyone. The concept of "rights" is one that has as its rationale that establishing them **works** (fosters the good life for everyone). It is one more example of our species attempting to establish **procedures that actually work**, that actually promote the good life for everyone, independently of who happens to be more powerful than whom. And the concept of individuals having rights is not one that has been arrived at by a powerful individual or group that grants the rights and is above or outside the domain of individuals to whom the rights apply.

The above three examples of the relatively recent development of rational ethics have to do with **large populations** of individuals. I believe there are some, perhaps less obvious, examples that have to do with **small group and person-to-person relationships**.

With regard to small groups, we may look at the development of **"rules of order"** designed to have orderly and fair discussions within such groups. There has developed a fairly strong belief that if a group conducts itself according to certain agreed-upon, **written procedures**, the chances will be greater that decisions of the group will be more satisfactory and fairer. And these procedures involve the effort to establish agreement through **comparison of ideas**, not through domination by the most powerful. Attention is given to making sure that all ideas are adequately heard, while still preventing paralysis of decision-making caused by individual domination of the group process through excessive repetition. A balance is sought between the concern for the individual and concern for the majority.

In employment situations, the tendency has grown to have **written procedures**, not only for the carrying out of the business of the organization, but also for the **fair treatment of the employees**. These procedures are generally ethical propositions that are overtly stated, and are subject to review to see if they are indeed fair to everyone, at least as believed by that culture.

On the **person-to-person** level, there has been a similar growing concern about the issue of **fairness** and the value of **contracts**. For example, some effort has been directed toward having an understandable and workable **marriage contract**, with variations from the basic legal marriage contract being possible through prenuptial agreements. The basic idea is that the good life is promoted to the extent that we live up to each other's expectations, and that we therefore should have a good way of knowing (having accuracy of belief about) what each other's expectations indeed are. **Precision of wording and clarity of meaning** promote such

understanding (accuracy of belief). And provision for change, according to mutually agreed-upon procedures that are considered to work best, allows for a way to deal with the fact that "times change," that what works well at one time may no longer be best because of changes in circumstances (situations).

Also, there has been developing an increasing attention to interpersonal interaction, such as to foster behavior that is more likely to result in an improvement in the quality of life for the individuals. Efforts have been increasing in the development of principles of **interpersonal skills** as a way of reducing conflict and fostering coordination of effort. In a later part of this book, specific attention will be given to principles to be used in situations containing anger, this already being talked about to some extent as "**anger management**." All of these procedures are designed for **everyone**, and have been developed because to some extent they **work**.

In the area of **child rearing**, where parents are more powerful than children, efforts have been made to improve the process through **understanding of child development**, such that inappropriate expectations of the child are avoided, a far cry from the times when children were considered to be small adults. There are increasing efforts to provide education and training with regard to child rearing **principles and procedures**, and a part of this book will be devoted to this extremely crucial area of concern.

In all of the above examples, the effort has been to use our increasing knowledge (accurate beliefs) about the nature of our species and the nature of the world in general, acquired through rationality (adherence to the rules of logic and the rules of evidence), to make decisions that foster the good life for everyone, independent of who might be most powerful. That effort has been directed toward the development of new procedures that actually work better, that produce progress, and that stop (literal and figurative) fighting.

And the new procedures all include COMPARISON OF BELIEFS, using the rules of logic and the rules of evidence in order to choose and develop beliefs that are increasingly accurate, and this comparison of beliefs increasingly involves LISTENING to the other, in order to UNDERSTAND (have accurate beliefs about) and EMPATHIZE with the other, rather than forcing the other into silence through power or force (emotional, physical, or military).

Let us now review **the basic differences between authoritarian ethics and rational ethics**.

In **authoritarian ethics**, the accuracy or "truth" of an ethical proposition (containing "should") is determined by whether the proposition, insofar as it represents a belief, brings about, or would bring about, behavior that indeed is wished for (wanted) by the author of the proposition, for whatever reason (hopefully a good one). The author may be a parent, a leader, a deity, or a social group or subgroup that is in a more powerful position with respect to the individual or group to whom the proposition applies. The proposition does not necessarily apply to the author ("Do as I say, not as I do"). In acting in accordance with the ethical proposition, one is **obeying** the author. The ethical sense associated with the proposition arises from the prediction of what the response of the author is likely to be to obeying or disobeying the proposition. There is no necessity for the outcome(s) of following the proposition to be beneficial to the individual, the group, or the species. It is not difficult to come up with examples of ethical propositions, or

ethical beliefs, that have resulted in outcomes that have been detrimental, or even disastrous, to the individual, the group, and/or the species.

In **rational ethics**, the accuracy or "truth" of an ethical proposition is determined by whether the proposition, insofar as it represents a belief, brings about, or would bring about, behavior that will or would have the optimal set of outcomes, compared to any alternative ethical propositions. But in order to proceed further with regard to the difference between authoritarian and rational ethics, we must address the issue of the "**optimal set of outcomes**."

It is very likely that the reader is thinking something like, "But who determines what set of outcomes is optimal?" or "Optimal for whom?" Such thoughts reflect, I believe, an awareness of how many systems of thought have been proposed that have been found to reflect special interests, to the detriment of others.

The missing ingredient is universal agreement. With regard to rational ethics, what is needed is a **basic ethical philosophy**, one that **everyone** can agree to.

The reader will remember the earlier discussion in this book about the difficulties we have had in coming to any universal agreements, and that in this book the new criterion for legitimization of agreement is that, at this time, no ideas can be found that are as good as, or better than, the ones being proposed, but always with the understanding that other ideas should be freely explored to see if they are better.

What I will now propose, as a foundation for rational ethics, is what I believe to be **a basic ethical philosophy that everyone can agree to and probably will**, given enough thought about the issue. This basic ethical philosophy is based upon observations that anyone and everyone can easily make, along with the rational-ethical ultimate ethical principle, which I believe everyone will easily accept, because of there being no better such principle.

Let us first restate and look at this **rational-ethical ultimate ethical principle**:
> **What should be done is that which will most likely promote the survival of and the good life for our species, that is, for everyone, now and in the future. The good life is the experiencing of as much joy, appreciation, and contentment as possible, and therefore as little pain, suffering, disability, and early death as possible.**

Now I know that the reader will have much skepticism at this point that this principle will be a useful one for the full range of decisions that have to be made, but I ask the reader, first, to try to propose a better ultimate ethical principle and then, second, to consider what follows with regard to the elaboration of this idea.

Let me address one specific issue, however, that may concern some individuals. They might say that the principle is too narrow because it does not include promoting the survival of and the good life for other species. They would refer to the value of diversity (survival) of as many species as possible and the desirability of the ethical treatment of animals. But I believe that these concerns are "built into" the above rational-ethical ultimate ethical principle. We believe that the survival of other species is important for the quality of life of, and quite possibly the survival of, our own. And the ethical treatment of animals primarily involves the prevention of their needless suffering at our hands. We can easily ask whether it is in the interest of our own

species that we be sensitive to any suffering, even of other species. If we can make ourselves uncaring about the suffering of other animals, to what extent does that make us prone to have the same attitude toward those of our own species that we are not close to? Many consider the way one treats one's pets to be a reflection of the type of person he or she is, meaning how he or she relates to fellow humans. In other words, what kind of person does it cause you to become or be to be cruel to other animals?

I do agree that one could come up with an alternative ultimate ethical principle that was not centered upon our species, but I would predict that essentially no one would agree to it. For instance, the ultimate ethical principle might be that what should be done would be that which will promote the survival of the greatest number of species on the planet, in which case it could probably be shown that the most successful method would be the extermination of one particular species, namely, our own. Of course, in this case, ethics itself would disappear.

Notice again that the rational-ethical ultimate ethical principle that I am proposing is not one that has been told to us by an authority that commands our obedience, but is instead the product of all of us by virtue of our examination of it and our agreement with one another. Now one could hypothesize a deity that actually was commanding our species to destroy itself, but there surely would be debate as to the existence of such a deity, and it is questionable, at least, whether we should indeed obey such a deity, as opposed to trying to change its mind in some manner. It is therefore quite unlikely that there would be universal agreement. But most who are convinced of authoritarian ethics based upon the will (motivational state) of a deity would probably **also** be convinced that the deity would in no way be displeased with our having the above-proposed rational-ethical ultimate ethical principle, even if we were not adhering to it just to please the deity.

So, I will assume that the reader is still, if only tentatively, accepting the above rational-ethical ultimate ethical principle, as a part of the basic ethical philosophy that is to underlie rational-ethical living.

I wish now to describe a rather "basic" observation that is likely to be evident to everyone and that will allow us to elaborate our basic ethical philosophy, namely:

> **There is hardly a single thing that we can have, or a single thing that we can do, that does not require others having done their part.**

The reader is asked to test the above proposition by thought experiments. Imagine even our most basic and essential activities and ask whether or not we are making use of implements or products that our species has brought into existence by engaging in cooperative, coordinated behavior. Imagine also how our ability to do any of the things we can imagine doing was acquired, and whether or not this involved, once again, cooperative, coordinated behavior, including instruction and demonstration by others.

Although this observation, I believe, can become overwhelmingly clear to anyone upon a little reflection, it is my impression that, at the time of the writing of this book, this fact goes relatively unnoticed by almost everyone. In fact, I think that there are aspects of advanced civilization that interfere with its recognition. More specifically, children grow up in a milieu in which there are countless manufactured objects that must seem to the child as if they are a part of the natural environment, since there is never any evidence that they are a product of the labor of members of

our species. In more primitive societies, it is easier for the child to see objects being made and otherwise being worked on and used by members of the group. It is also much more evident where food comes from, and what is necessary to bring it to the individuals that are going to eat it. There is also a much greater respect, I believe, for the value of teaching carried out by members of the group that have learned the special skills and knowledge that result ultimately in each individual having what he or she has and being able to do what he or she can do.

So, this being so, it is apparent that the **quality of life** for everyone is **dependent upon what everyone else does**. In fact, the **survival** of everyone depends upon this also. We are a group animal. To the extent that we all do our part, and do it the best we can, we all benefit. In infancy, we learn that our quality of life is dependent upon those around us, and we also learn, as we mature, that we can help, by doing some things for ourselves, such as feeding ourselves, dressing ourselves, toileting ourselves, etc. It is not long before we begin naturally to learn that doing things for others is valued. But again, there are aspects of advanced civilization that cause us to lose track of this important idea, and this leaves us with a tendency to become much more eager to receive than to give. And for many in our current societies, this eagerness becomes even an expectation, with anger when the expectation is not met.

The **basic ethical philosophy** for the individual that would appear to be the most realistic, the most valuable to everyone, the most productive of good self-esteem, and the most consistent with the rational-ethical ultimate ethical principle would be, I propose to the reader:

> **I should do my part to make the world a better place, within my sphere of influence, and within the limits of my capabilities.**

By **sphere of influence**, I mean that set of individuals upon whom the behavior of oneself can have some impact, now and/or in the future. The center of one's sphere of influence would be oneself, since oneself is the person upon whom one has the most effect. Close to the center of this sphere of influence would be those that one is "closest to" psychologically, meaning those upon whom one has the greatest influence or effect. Obviously, this sphere has an undefined outer boundary, since we never know the total set of outcomes of our behavior. On the other hand, just as there are obviously individuals that one can easily see are impacted by one's own behavior, there are other individuals that one cannot imagine having any effect on, so the concept is not meaningless.

Note that everyone has a sphere of influence, and everyone has some capabilities if they are conscious and able to respond. To take an extreme example, a person in a nursing home being taken care of by another can show appreciation for the care received, making the work of the other more rewarding.

Let us expand on this idea of doing one's part to make the world a better place.

We should take care of our EQUIPMENT, which will enable us to make the world a better place.

I would propose that **one's equipment would be one's body, one's brain, one's mind, and one's possessions**. These four items are not meant to be mutually exclusive. They are overlapping concepts. Looking at them individually, however, is valuable because they help to

clarify different activities that we can engage in. What follows is only a partial list of examples for each of the above items.

It stands to reason that the healthier one's **body** is, the more able one will be to do one's part. There is ample evidence that lifestyle has a dramatic effect on one's health. According to rational ethics, one should do those things that are likely to increase the chances of living a longer, productive, disability-free life. Scientific studies continue to be conducted to identify those things, which certainly include appropriate diet and exercise, as well as avoiding chances for infection or injury, as in cleanliness and the wearing of seat belts.

One's **brain** (and central nervous system in general) is crucial to one's functioning. Engaging in those things that foster the health of the brain include preventing head injury, refraining from taking toxic substances, refraining from taking substances that alter brain function in unpredictable or detrimental ways, avoiding sleep deprivation, avoiding stress (such as abusive or otherwise unhealthy relationships), recognizing and treating early any brain disorders (such as depression, schizophrenia, bipolar disorder, post-traumatic stress disorder, etc.), and providing the brain with proper exercise of all of its beneficial functions (development and maintenance of skills).

Recognizing that the "**mind**" is a model of brain function that is more useful in discussion of the "programming" of the brain, we may readily see that the sensory diet that is presented to it is important. There is currently increasing attention to the evidence that certain kinds of media presented to the mind, especially the youthful mind, can have very significant effects on the mental health and capacity for optimal functioning of the individual. There is also ample evidence that individuals can alter their thinking such as to produce positive effects on their quality of life and their functioning, as has been referred to as positive thinking and good mental hygiene. The importance of recreation and pleasure in our lives, the experiencing of good feeling through entertainment and positive interactions with others, is recognized by many, and probably will be supported increasingly with findings from science. I personally believe that there is a mental hygiene benefit to exercising the "pleasure centers" in the brain (whatever parts of the brain are involved in the experiencing of pleasure). When individuals lose the capacity to experience pleasure, their ability to function deteriorates significantly.

Taking care of one's **possessions** means keeping them organized, attractive, and well-functioning. Organization leads to greater efficiency and better time management. Attractiveness leads to positive feeling and higher motivation. Any tools will serve us better if they are better able to do what they are designed to do, whether they are carpentry tools, kitchen equipment, the computer, a musical instrument, or one's sports equipment with which one improves the functioning of one's body and entertains others (helps them exercise their "pleasure centers").

As stated, the above paragraphs are meant only to be suggestive of a more complete list of the ways in which taking care of one's body, brain, mind, and possessions helps one to do one's part in making the world a better place. Most of these efforts involve increasing or maintaining one's **capabilities**, and they represent being concerned about the very center of one's sphere of influence.

Let us now look at **what it means to make the world a better place**. Again, we should remember that what we are adding to our survival as a species is **the promotion of the good life for all of us, now and in the future**. This means promoting as much joy, appreciation, and contentment as possible and preventing as much pain, suffering, disability, and early death as possible. It means avoiding immediate pleasure that produces suffering in the future, either our own or that of others. It means treating others well, even if our basic animal nature would promote our doing otherwise. We will never be able to achieve perfection in these efforts, but that does not mean that we can do nothing at all. In fact, we can see many ways in which we are able, or are becoming able, to promote the good life. But these ways always involve individuals doing their part.

Let us look at **characteristic ways in which we may do our part, dependent upon our stage of life**.

Even the infant soon learns to start doing things for itself, and this will develop into the freeing of the parent to do other things. The child learns to feed himself or herself, dress, toilet, put things away, and follow instructions. As the child grows older, he or she will learn even more skills that enable the child to do his or her part. Chores around the house are an important part of the child's training, as well as a direct contribution to the quality of life of the family. Also, and extremely important, the child learns how to make others feel better rather than worse, by learning tact, taking turns, inhibiting hostility, speaking properly, expressing gratitude, etc.

And then the child begins schooling. The child learns to think systematically and logically, and to understand increasingly complex phenomena and processes, as well as to participate in coordinated activities within a larger group. The more the child learns, the more the child will be able to do and the more the child will be likely to make good decisions and become a good citizen. School is the job of children.

Ultimately, the child will become an adult who is able to take care of himself or herself, and even someone else. Productive work contributes to the welfare of the species, not only by the direct effect of the work but also by the fostering of healthy economics. And for those who decide to rear children, a great responsibility rests on their conscientiousness and efforts, not only because of their effects on the quality of life of those children, but also because of all the good (and bad) that the resulting child can ultimately, in his or her lifetime, contribute to others within his or her sphere of influence.

As the person grows older, he or she may increasingly contribute wisdom and serve as a model for those who follow. And when the person's abilities begin to wane, he or she can contribute to others by generously allowing them to provide care for him or her, while expressing gratitude for their efforts. And in the end, many others can be helped if they know that the person has "died well," ending his or her life with satisfactory closure and the sense that the life was well lived.

One's sphere of influence has no definable outer boundary. We have the most influence over that which is close to the center of the sphere of influence, and that is where the most effort should be directed. First we should treat ourselves well, so that we can do other things well. Then we should think the most about those who are "closest" to us, that is, are most affected by what we do. And what we should do is anything that will enhance the lives of others, now and in the future. The more we treat each other well, the more everyone benefits from the benevolent

and pleasant interpersonal environment that we create. A good deed or kind act may have all sorts of beneficial outcomes that we will never see. And when we act well, we model for others how to do so, thereby helping others to behave similarly. The effects of our little deeds (good or bad) ripple away from us in ways we cannot see.

And how would the reader say we were doing currently on all these efforts? Is there room for improvement? What factors stand in the way of optimal living? What can we do about them? That is what this book is about.

The reader should note right away that what I am proposing is that the maximum attainment of the survival of and the good life for our species does involve everyone doing his or her part. In order for this to happen, we have to **agree** on what to do and how to do it, **at least to a certain extent**. Without agreement, we will have inefficiency and even failure. But what is needed is **not just agreement, but correct agreement**. More specifically, we have to have **accurate ethical beliefs** that lead us to want to do the right things (those things that will optimize our chances for survival and the good life for us all), and we have to have **accurate existential beliefs** about the nature of the world, so that what we predict will happen as outcomes of our behavior will indeed usually happen.

And when we don't have agreement, we should have an agreed-upon way of responding to the disagreement, one that works to promote our survival and the good life for all of us, now and in the future.

It should be evident to the reader that we have a long way to go before we routinely handle disagreement optimally. That is also what this book is about.

Let us now examine the concept of the "**ethical rule of conduct**."

There is a tendency for individuals to believe that there are rules (of conduct) that should never be broken, that doing so is automatically a bad thing. This would be true especially in many religions and other authoritarian-ethical systems. In such systems, it is often true that individuals are left with the understanding that the author "has spoken," and that there is no way to review a specific situation in which the rule would seem to lead to a bad outcome. The individual is often left with the choice of having guilt over disobedience of the author or guilt over producing a bad outcome. I believe the reader could take any specific ethical rule, that he or she has understood to be mandated by an author, and construct an imaginary scenario in which the adherence to the rule would cause terrible consequences.

So what would be a more optimal way of regarding ethical rules? We are talking, of course, about ethical propositions of a particular sort. We are talking about "**rules of conduct**." These rules specify how one should behave **in specific kinds of situations**. They exist before situations arise in which the rules would apply. They may be contrasted with ethical propositions that state "what I should do in **this specific situation**, considering all of the relevant factors." They also may be contrasted with ethical propositions that state **what outcome or outcomes should be sought**.

Let us recall that almost all of our behavior is fairly "automatic." As I have stated earlier, I would maintain that most decision-making, even by our own species, is unaccompanied by

"thinking" or even the experiencing of some mental phenomenon that could be called "the awareness of having made a decision." It is as if we watch ourselves behaving, usually with the feeling that we are doing the right thing (or with an absence of the feeling that we are doing the wrong thing).

The appropriate function of the ethical rule is that of an alarm. It is supposed to become activated when we observe that we are about to do something that is quite questionable, because there is a high probability that doing it will be regarded subsequently as a mistake. It is at that point in time that we should "think." Thinking involves an internal dialogue that debates the issue, which, in this case, would be, "Which option is the one I should choose?" Of course the method of choosing will be somewhat different, depending upon whether one is adhering to authoritarian ethics or rational ethics. But the bottom line is that the function of the ethical rule is to convert automatic decision-making (and therefore behavior) into deliberate decision-making (and therefore behavior), or behavior that is the result of deliberation. **The function of the ethical rule is to make us "stop and think before we act."**

It is therefore important for us to have many ethical rules, or rules of conduct, that serve to alert us as to when the danger of making a mistake has increased, so that we can optimize our chances of making the best decisions. This concept of ethical rules is quite different from that of having a list of ethical propositions that are to be obeyed, no matter what.

Now let us return to the issue as to **whether there is any difference between ethical beliefs and existential beliefs**.

Existential beliefs are phenomena in the nervous system that are manifested as consistent potential predictions about the world, all of which may be modeled by propositions such as, "In situation X, Z will happen," and many of which may be modeled by propositions such as "In situation X, if I do Y, Z will happen."

We also remember that motivational states are phenomena in the nervous system that can be modeled by propositions of the form, "I want to bring about outcome Z," or "I want to experience Z," or "I want Z to happen."

And we also remember that some beliefs produce motivational states, an example being the belief that the current situation is dangerous.

Well, ethical beliefs, modeled by propositions of the form, "I should do Y," are beliefs that produce a **motivational state**, namely, wanting to do Y, referred to in this book as the **ethical sense**. (I may want also to refrain from doing Y, for other reasons.) (Admittedly, there are some individuals in whom an ethical belief does not produce a very strong ethical sense.) The quality of the ethical sense produced by an ethical belief will be somewhat different, depending on whether the individual is responding to authoritarian ethics or rational ethics, as we shall see, but in both cases we may say that the ethical sense is a pleasant state produced by **deciding** to do what the ethical proposition states and/or an unpleasant state produced by **deciding** not to do what the ethical proposition states, and whether this motivational state is pleasant or unpleasant will increase or decrease the tendency to carry that decision-making process in the nervous system to completion in the form of actual **behavior**. Statements of an individual that might reflect this are, "If I decide to do Y, I will feel good about myself. If I decide not to do Y, I will

feel guilty." The sought-for outcome would be the attainment of good feeling about oneself and the elimination of guilt.

Now we remember that decisions are determined by motivational states and beliefs. So we may construct a "syllogism" as follows:

 I want to feel good about myself. (motivational state)
 If I do Y, I will feel good about myself. (existential prediction or belief)
 Therefore, I want to do Y. (motivational state)

or,

 I want to reduce guilt. (motivational state)
 If I do Y, I will reduce guilt. (existential prediction or belief)
 Therefore, I want to do Y. (motivational state)

or,

 I want to please (the author). (motivational state)
 If I do Y, I will please (the author). (existential prediction or belief)
 Therefore, I want to do Y. (motivational state)

or,

 I want to make the world a better place. (motivational state)
 If I do Y, I will make the world a better place. (existential prediction or belief)
 Therefore, I want to do Y. (motivational state)

Notice that, in each syllogism above, the second proposition is an **existential** belief (prediction) about something in or about the world. ("The world" as used here means everything that exists, has existed, and/or will exist.) But also notice that in each syllogism above, the first and third propositions are also **existential**, reporting the existence of a motivational state. (One could say that the propositions modeled a belief regarding what the individual was experiencing.) Finally, notice that, in each case, the syllogism could indeed be summarized simply by, "I should do Y." **So an ethical belief is simply an existential belief that carries with it the ethical sense**. The format of the ethical proposition, having the word "should" in it, is just a shorthand way of modeling the whole syllogism, which consists of existential beliefs.

So a prediction, involved in decision-making, that happens to produce the ethical sense as a motivational state, then, is a manifestation of an existential belief. It is no different from an existential belief that one's house is burning down, producing predictions that cause various other motivational states.

Let us state this idea in another way:

 "I should do Y" is an ethical proposition, modeling an ethical belief.
 This ethical belief may be that the author will be displeased if I don't do Y.
 This ethical belief may be that I will feel guilty if I don't do Y.
 This ethical belief may be that I will be punished if I don't do Y.
 This ethical belief may be that I will make the world a better place (however defined) if I do Y.
 But each of these four propositions is an **existential** prediction (belief).
 Each of these four propositions may be part or all of the meaning of "I should do Y."
 An ethical proposition may therefore be restated as one or more existential predictions or beliefs.

There is thus no difference between an ethical proposition and an existential proposition, except that the ethical proposition models a belief that consists of predictions that produce, for that person, the "ethical sense."

However, in another sense there is still something that sets ethical beliefs apart from existential beliefs, and that has to do with how such a belief is **legitimated**.

In **authoritarian ethics**, the ethical belief is **legitimated** by the ultimate ethical principle, "**I should do that which the author of the ethical proposition wants me to do**." The ethical sense has to do with my belief about the author's wishes and the author's responses to whether I obey or not.

In **rational ethics**, the ethical belief is **legitimated** by the ultimate ethical principle, "**I should do that which is most likely to promote the survival of and the good life for my species, meaning everyone, now and in the future**." The ethical sense has to do with my belief about the outcomes of my contemplated behavior with regard to the survival of and the good life for my species (within my sphere of influence and within the limits of my capabilities, of course).

Given the particular kind of ethics, a specific ethical proposition entails a prediction, or predictions, as to whether the **outcomes** of the act will indeed be most likely to be **consistent with the ultimate ethical principle**. This is, as we have seen, a belief about the world, and a proposition modeling it will be no different from any other existential proposition.

But now we come to the **ultimate ethical proposition itself**. Here, there would seem to be a difference from existential propositions. We may clarify this by asking, "Well, which ultimate ethical proposition is correct (or more accurate)?" This same question can be asked of any existential proposition. It may be impossible to answer it, since we may simply not have enough information, understanding, computational power, etc. But it is at least **answerable in principle**, by the utilization of a **criterion**, namely, for example, how well it allows us to predict accurately.

But can we ask this same question with regard to the ultimate ethical principle? We have at least two principles to consider, and perhaps there may be more, such as the one that says that what should be done is that which would promote the greatest diversity of species on our planet (such a principle suggesting that we should exterminate ourselves). How are we to conclude which ultimate ethical proposition is the correct one? What **criterion** shall we use to make the decision?

My answer to this problem may be a little surprising. We must go back and look more closely at the criterion for legitimating **existential** propositions. We have said that existential propositions may be legitimated by determining **how accurately they allow us to predict**. But notice that, in actuality, this is not the only way in which existential propositions are legitimated. This is the rational way (consistent with the rules of logic and the rules of evidence). In actuality, however, existential propositions are also at times legitimated by **how they make us feel to believe them**. In other words, it would not be too difficult to find someone saying, "I don't care what science has to say about this; I feel much better believing the opposite, and that is why I believe as I do." So, in point of fact, the criterion that one uses to legitimate existential beliefs is every bit as "**arbitrary**" as the ultimate ethical principle is. Indeed, there is the question as to which

criterion one **should** use to legitimate existential propositions, and the answer is therefore an **ethical proposition**!

So one can attempt to have existential beliefs that are as accurate as possible, or one can attempt to have existential beliefs that make one feel as good as possible. Similarly, one can attempt to please an author of ethical propositions, or one can attempt to do his or her part to foster the survival of and the good life for our species. What **should** we do? And by this question we see that we are **always** faced with an **ethical** choice. We **must and will** decide how we are going to live our lives, and our decisions will drastically influence what happens to us, individually and as a species, but the decision will ultimately be **arbitrary**! There is no way to say which we **should** do that is not **arbitrarily** chosen, and no one that is in a position to make the decision who is not **arbitrarily** chosen to be in that position. Therefore, it is a matter of **arbitrary** choice as to what to do, and no one can do more than what I am doing, namely, doing what feels right to me by virtue of as much thought and dialogue as possible, and urging others to do the same.

So I am proposing ARBITRARILY that we all agree that we should attempt to live rationally, that is, in accordance with beliefs that are legitimated by being consistent with the rules of logic and the rules of evidence, and that each of us should attempt to do his or her part to make the world a better place, within his or her sphere of influence and within the limits of his or her capabilities. And I am proposing that we do both of these things because doing so is most likely to promote the survival of and the good life for our species, that is, for all of us, now and in the future. So this is a proposal that we engage in rational-ethical living, as the phrase is used in this book. But it is not just I that am advocating this. Others are also advocating this, in various ways, and the increasing tendency to do so is what I am referring to as the THIRD EXPONENTIAL CHANGE. We are very early in this change, but to a greater and greater extent the change is becoming a significant determinant of how we live.

And for the purposes of this book, all belief is being divided, by definition, into (1) ethical beliefs that may be modeled by propositions that state that a given behavior is or is not consistent with an assumed ultimate ethical proposition, and that therefore may have the word "should" in them, and (2) existential beliefs, meaning all other beliefs. An existential belief may be one about **what will happen if I do X**, and an ethical belief may be one about **whether I therefore should do X**.

It should be noted that the beginning of the attainment of the ethical sense was in infancy and early childhood, at a time when the approval of the parent is of supreme importance to the child. Thus, **the ethical sense originally arises from authoritarian ethics**, the need to please and not displease the parent. But the parent may (or may not) reward the attainment and development of rational ethics, so **rational ethics, which does not come naturally, has to have its origin in authoritarian ethics**. Just as we learn (or don't learn) to be rational primarily from our parents or parenting figures, we also learn (or don't learn) from them to move to rational ethics. Even if we do not learn these things from our parenting figures, they can be attained (with greater difficulty) later in life, but again, **only from others**.

So where are we at this point? **We have a decision to make, a choice as to how we are going to live our lives, individually and collectively.** We see how we have been living our lives so far, and we see how much pain and misery we endure because of it. We look at all those

decisions that people (including ourselves) have made that we wish had not been made, and we ask **why** they were made. But the answer is clear. We have no globally agreed-upon, readily recited ethical principles that provide a strong ethical sense, including the strong ethical belief that we should make our existential beliefs as accurate as possible, irrespective of how those beliefs make us feel. And because we see others primarily interested in "short-sighted" goals, ones developed without the attempt to predict all of the outcomes of their behavior for everyone, we tend to have similar short-sighted goals, so as to protect and enhance ourselves in such a milieu. And because we do not yet hold our newly acquired rationality in high regard, and therefore do not subject **all** of our beliefs to the criterion of consistency with the rules of logic and rules of evidence, we still readily believe almost anything. And because we believe almost anything, we do almost anything. And because we do not see the comparison of ideas as an opportunity to increase the accuracy of our beliefs, we avoid, shun, and even kill those that might give us important feedback. Consequently, much of what we do is damaging to ourselves and each other. It has always been this way, and it still is to a great extent. But a new possibility for a better way is beginning to become apparent to us.

The reader should recall that, at the very beginning of the book, I expressed my belief about the nature of this book, namely, that "this book is an effort to share a set of observations and conclusions, and to share a set of proposals based upon those observations and conclusions." So I am indeed proposing some things. **I am proposing that we become more rational (as defined in this book) and switch to rational ethics as rapidly as we can, and I am proposing that we do this in order to promote the survival of and the good life for our species, meaning everyone, now and in the future.**

Please note again that it is not just I making this proposal. I am reporting on my observation that there is an increasing tendency for us to propose this to each other, usually in less global and general terms than is occurring in this book.

The reader does not have to accept my proposal. But it is my prediction that the reader will move in this direction, if he or she learns how to do so, because I believe that it is natural for us to **want** both **survival** and a **good life**.

I wish to ask the reader again whether he or she can indeed come up with a **better** ultimate ethical principle than that we should do that which will promote the survival of and the good life for our species, meaning all of us, now and in the future. Is there an even more ultimate ethical proposition that would tell us **when** we should do something other than this? What would that **more** ultimate ethical principle be? Would it be that we should do as stated except when doing so interfered with our own individual interests, which should always be considered first? Which principle is the one the adherence to which would be likely to give all of us closer to what we are looking for, that is, closer to our individual interests? If no one put himself or herself out for others, if no one were generous, if everyone considered his or her own needs or wishes first, how much better off would we all be than if we all did our part, as well as possible, to make the world a better place for everyone (including ourselves)? Would we be able to define the circumstances when the ultimate ethical principle I am advocating should **not** be followed?

The whole problem would be removed if we were able simply to **remove** ethics from our lives. This would entail getting rid of the ethical sense. In other words, we would simply disregard completely, disregard as invalid or without meaning, any ethical proposition, any statement as to

what we should or should not do. But I ask whether the reader believes that this is any option at all. Would we be able to do that? My belief is that the answer is definitely no. If so, we are stuck with the fact that we should do certain things and should not do certain other things. So what are these things going to be? How will we determine what they are?

But as a part of my advocating the proposals of this book, I would like to make the decision-making a little more **concrete** for the reader. I would like to point out some more concrete examples and implications of authoritarian ethics, the ethics that we have for the most part been using, as a part of our basic animal nature. I wish to show even more clearly that there are problems with this kind of ethics, problems that I have already mentioned. In doing so, **I wish to ask whether the outcomes of the examples given are better than, or even the same as, the outcomes that would be produced by adherence to rational ethics**.

(First let me say that I agree that the vast majority, perhaps, of our authoritarian ethical beliefs probably are indeed consistent with the rational-ethical ultimate ethical principle also. But let us look at some that are at least questionable.)

A suicide bomber, in obedience to the wishes of his or her deity and/or subculture, kills and injures a large number of people.

Someone bombs an abortion clinic and kills an obstetrician, thus obediently carrying out the wishes of his or her deity and/or subculture.

In compliance with the wishes of a deity and/or subculture, female genital mutilation is performed, sometimes causing death.

In compliance with the wishes of a deity and/or subculture, a woman immolates herself on her husband's funeral pyre.

Now it may be somewhat unclear whether the above wishes are those of a deity or of the subculture, but it would probably be the belief of the individual that it was the wishes of the deity that were being followed. Notice that there is the issue of the accuracy of the existential beliefs, namely, whether it is really true that there is a deity, and if it is true, whether the deity really has the wish that the individual engage in the act. But then there is also the ethical issue as to whether, if there is such a deity and the deity does have the wish, the wish should be obeyed. If the ultimate ethical principle is that one should do whatever the deity wishes, then the individual should indeed engage in the act.

But let us ask whether these same acts would likely have occurred through adherence to rational ethics. **Would these acts be likely to promote the survival of and the good life for our species, meaning all of us, now and in the future?** Could any of these acts have been shown to be an example of the individual doing his part to make the world a better place, meaning a place where there is more joy, appreciation, and contentment, and less pain, suffering, disability, and early death? What would be the line of reasoning? Would it be possible to demonstrate the probable accuracy of all of the existential propositions involved in that reasoning, using the rules of logic and the rules of evidence?

The reason I am advocating that we push ourselves to switch to rational ethics and rationality in general is that I wish to contribute to the effort to make the world a better place, one in which there is as much joy, appreciation, and contentment as possible and as little pain, suffering, disability, and early death as possible, and **I believe this is the way to do that**. Therefore, I would have to say that we should obey authors only if doing so promotes the survival of and the good life for our species, all of us, now and in the future.

This does mean that I may be regarded as disobedient by some authors and by those who adhere to authoritarian ethics, since I would be saying that the authors should sometimes be disobeyed. But I do want to be clear about the issue of **disobedience**. If I, in compliance with my rational-ethical ultimate ethical principle, am contemplating whether to obey an author or not, I must consider the **total set of outcomes of my contemplated behavior**. Now I may come to an opinion that what the author wants me to do is not optimal for promoting the survival of and good life for our species, but I must also include in that assessment what will be the total set of outcomes of my disobeying. In other words, there may be situations in which one decides to obey something that does not seem to be a good idea, only because the effect of disobeying would be worse. This issue is involved in continuing to obey a "bad law" while engaging in vigorous efforts to get the law changed, as opposed to simply disobeying the law and hoping that one is not "caught."

I would now like to discuss some **general implications of the concept of the ultimate ethical principle**.

If there is no ultimate ethical principle, then there is no way of legitimating any other more specific ethical proposition. The suicide bomber believes that he or she should be doing what he or she is doing, that it is the right thing to do. The targets of this bomber would probably not agree. But who is right? If there is no ultimate ethical principle, then there is no answer to this question. And yet the ultimate ethical principle is not something that exists in the world for us to find. It is not an existential proposition modeling how the world is. It is an arbitrary decision that we make, or don't make. We perhaps would like to survive, personally and as a species. And we perhaps would like to have as good a life as possible, with as much joy, appreciation, and contentment as possible and as little pain, suffering, disability, and early death as possible, for each of us and for all of us, now and in the future. But we don't have to do so. In order to do so, **we have to agree to do so**, meaning to do those things that are most likely to bring this about. In order to do so, **we have to know how to do so**. Knowing how to do so means having **accurate beliefs** about the nature of the world and what is likely to happen when we do things. We have to be wise. In order to be wise, we have to do those things that make us wise. We have to have a **lifestyle** that promotes wisdom, that is, knowledge about the world including ourselves. In order to have this lifestyle, we have to **want** to have it. And that wanting to have it is what we mean by the "**ethical sense**."

But let us ask, one more time, whether there are some decisions to which the ultimate ethical principle does not apply. Let us assume that there are some such decisions. If the decisions led to behavior that fostered the ultimate ethical principle, there would be no problem anyway. But suppose the behavior did not do so. Suppose the behavior was less than optimal, using the ultimate ethical principle as the criterion to determine this. Then we would be saying that there are times when we should do that which would **not** promote the survival of and good life for our species. But saying this would be saying that the ultimate ethical principle was not ultimate,

because we would have to have a higher level principle that was the criterion to determine when the ultimate ethical principle applied and when it didn't. If this were correct, then this higher level principle would be the ultimate ethical principle instead. So, we have to decide. Are we going to have an ultimate ethical principle or not? If we don't, we have life as we are living it, with very little hope of seeing significant change other than fluctuations in our amounts of satisfaction and suffering. But if we do have an ultimate ethical principle, then by definition this principle will **always** apply. And **every** decision will be subject to it. In other words, **every decision we make will have an ethical component**. For every decision that we make, the question will be present: "Which option will promote the ultimate ethical principle?" Another way of saying this is that for every decision I make, for everything I do, the question applies as to whether I should be doing it or not. And it means that I want **always** to do the **right** thing and that I will therefore always **try** to do the **right** thing. It does not mean that I will always be successful. It does not mean that I will always be able to figure out what the right thing is to do. It does not mean that it will cease to be true that almost all of my decision-making will still be automatic, or intuitive, or unconscious, etc. But it **does** mean that I am **committed** to trying to avoid doing anything less than optimal, trying to make myself aware of any tendencies to do that which is not optimal so as to work on changing them, and trying to have a lifestyle that promotes increased awareness and knowledge of the world and of what works the best.

Ethical living means always trying to do the right thing, without exception. Rational-ethical living means always trying to do that which will promote the survival of and the good life for everyone, now and in the future. It means trying to make the world a better place within one's sphere of influence and within the limits of one's capabilities. It means taking into consideration, in decision-making, to the extent possible, all of the probable outcomes of one's contemplated acts. It means working on the development of effective rules of conduct, that serve to make one stop and think before doing things that usually have a high risk of having a bad outcome. It means taking care of oneself and treating oneself well, then treating well those closest to one, and then doing as much for others as one can. It means attempting to seek the optimal balance in one's life.

There is a tendency currently, within the culture that I am familiar with, to regard ethics as something that is relevant only in certain situations. I don't know how widespread this idea is. But it stands to reason that authoritarian ethics would promote this kind of thinking. The reason is that in an authoritarian ethical system, there may indeed be some areas of one's activities that are of no interest, one way or the other, to the author of the ethical propositions. Thus, one would be "free to do as he or she wishes," as long as one did not go against the wishes of the author. Of course, one could indeed put forth effort to do something optional that might please the author, but this would tend to be looked at as extra effort for extra credit, rather than a requirement.

Furthermore, I have a number of times asked individuals, "Do you think that what you are doing is wrong?" They have frequently said, "Yes." I have asked, "Does that bother you?" And some have said, "No, not particularly." For some, it appears that they believe that the author will "forgive" them if they are not too awfully bad, and they may point out that everyone does a little bad, that no one is perfect, that one should not always try to be perfect, to be a "goody-goody two shoes," to try to be better than everyone else, etc. One should "live a little." In authoritarian ethics, the concern is for the mental state of the author, and the hope is that, whatever the person

has done, the author can somehow be convinced at a later time to forgive the person. And when the forgiveness occurs, then the problem is gone. "Just don't do it again."

Given the nature of **authoritarian ethics**, it is not difficult to see why it **works so poorly**. There is a tendency for individuals to be primarily concerned that they don't get short-changed in life, that they, if possible, get back more than they put in, since that is the presumed principle involved in making a profit, as in business, or investment. That is what success is. And ethics is just some "outer limit" to such behavior, imposed by some self-interested authority. And if the authority doesn't care, why should we individuals care?

In rational-ethical living, there is indeed some "**latitude**" with regard to what one can do and still be adhering to rational ethics. The latitude comes from the **uncertainty** as to the outcomes of one's behavior. Most of the time, it is rather difficult to know whether one is doing the optimal thing. But in rational-ethical living, one does not disregard the issue. And the orientation to ethics is different. In authoritarian ethics, the individual tends often to see ethics as an unfriendly inhibitor of pleasure, something that one would rather not have to be concerned about. **In rational-ethical living, it is ethics that puts the joy in living.** The joy comes from being aware of how much one is doing to make the world a better place, including making oneself a better person, physically and mentally. The difference will become more apparent when I discuss rational-ethical child rearing. But one can say that in the natural model of child rearing, the authoritarian-ethical model, there seem to be characteristics of advanced civilization that lead the child further away from the rational-ethical ultimate ethical principle and also toward a breakdown of the authoritarian-ethical ultimate ethical principle. The result is an orientation of the child, and subsequent adult, that is much more concerned with self than with others and with society.

We are now ready, in the chapters that follow, to look at specific ways in which the development of rational ethics is resulting in and will result in new ways of doing things, that is, new procedures. We have looked at **what rational ethics is**. Now we are going to look at **what rational-ethical living is**. Our methods and procedures that arise from our basic animal nature do **not** promote the good life for everyone, so the individual must **change** his or her procedures or behavior from what comes naturally to some **alternative** set of procedures or behaviors that are **guided** by **rules of conduct that work better, that promote the ultimate ethical principle**. These rules or procedures **must be taught and learned**. Our species must ultimately develop ways of teaching these new procedures, rules, or behaviors in highly efficient and effective ways. But first, **there must be agreement as to what they are**. And this agreement must come through comparison of ideas among individuals.

Ultimately, change of this sort **must begin with individuals**. And that is where the reader comes in. What follows in this book is a **proposal to the reader** of the new sets of procedures that are different from those that arise from our basic animal nature. **The reader may participate in this process by attempting to understand the ideas, making personal observations relevant to the ideas, discussing the ideas with others, and advocating for the ideas if indeed they seem to the reader to be the right answers.**

This book now will focus on the development of **specific principles** in two areas of living that are extremely important to us all, namely, **prevention of anger,** to reduce that which fosters our most unfortunate, and a times devastating, behavior, and **child rearing**, to foster the

development of happy, productive children who become adults that, even more, engage in rational-ethical living. Then we will proceed to the development of more general principles of "**belief management**," in order to aid in making our beliefs as accurate as possible, doing so being a supreme value of "Homo rationalis," and in order to optimize the activation of belief, to enhance our quality of life and our capacity to do good. Then we will try to predict some principles and features of **government** and **religion** that will be different in that time of "Homo rationalis," when our species, globally, has moved much more completely to rational ethics. Finally, we will focus on **what the reader should do**, in his or her own life, to assist this just-beginning-to-accelerate change toward rational-ethical living, while predictably benefiting enormously personally from doing so.

RATIONAL-ETHICAL ANGER PREVENTION

This book is about optimizing living, that is, fostering decision-making that is least likely to become regarded as a mistake (that therefore reduces quality of life). We must, in order to optimize living, understand the determinants of behavior in a way that allows us to optimize our decision-making.

We have seen that all behavior (decision-making) can be understood (modeled) as being determined by motivational states "channeled through" beliefs, and that beliefs themselves, in addition to all other states of mind (perceptions, memories, fantasies, etc.), can come to be able to produce or intensify motivational states. Anger, to be further defined below, is one of the motivational states.

It is my contention that the motivational state of anger and the behaviors (decisions) that are produced in response to it play the primary role in most of our human-induced hardship and tragedy, from the personal, interpersonal, and family level all the way to the global level. They are operative in most instances of breakdown of marriages, parent-child relationships, employer-employee relationships, and intimate relationships in general; "sibling rivalry"; meanness, teasing, bullying, and scapegoating; destructiveness; "adolescent rebellion"; child abuse and elder abuse (by both children and adults); rape; cruelty to animals; sadism and torture; self-injurious behavior and suicide; harassment (sexual and other); discrimination, "bashing," and persecution; conflict, inefficiency, passive aggression, underachievement, and absenteeism in our schools and in the workplace; lawsuits and protests; theft and vandalism (including production of computer viruses); public and domestic violence, battering, and murder; "wilding," rampaging, and rioting; serial killing, mass murder, and assassination; and revolution and war (including terrorism, purging, and ethnic cleansing).

It is also my contention that anger and related phenomena are an underlying factor in much illness and premature "natural" death. Anger has been shown to have deleterious and potentially fatal effects on the cardiovascular system and the immune system. Anger also produces fear, or anxiety, in others and in self, and this anxiety produces many of the other symptoms and complications seen in some of the psychiatric disorders, which may in turn carry a substantially high mortality rate. And since the status of our primary relationships is one of the most important determinants of our physical and mental health, the appearance of anger in those relationships, heralding potential or actual relationship breakdown, represents a major threat to our physical and mental health.

I believe that the prevention of anger is our most important endeavor, in the service of promoting both the survival of and the good life for our species, meaning all of us, now and in the future. And since we can prevent anger only by understanding it, such understanding is, I advocate, one of our greatest obligations. But we must have an effective way of understanding it, a way of understanding it such that we know what to do when it occurs or is likely to occur. The way of understanding it must be simple, clear, and adequately accurate in order to be useful in day-to-day interactions in our personal lives. It must be easily taught to children and easily applied to any anger-containing situation. It must provide guidance that is effective.

At the time of writing this book, the phrase "**anger management**" has become widely used.

During my practice of psychiatry, and especially in the context of my work with couples, I began to use this phrase to describe my approach. As far as I can remember, at the time that I began using the phrase, I had not heard it used elsewhere. But it indeed was not long before I began hearing the phrase frequently, until it became widely used. I suppose it was a concept that was emerging at that time in our culture, and it simply emerged in me at the same time. However, my approach to this area was my own synthesis from all of my past professional experience and my philosophical orientation, and it has been my observation that what others call anger management is not what I use or advocate. Therefore, although initially I used the phrase, "anger management," I know that others would attribute meanings to the phrase that are different than those which I wish to use, and for that reason I am using a different phrase, namely, **anger prevention**." In other words, I wish for the reader to let me develop a set of concepts regarding this area of thought without contaminating them with meanings and concepts that others have used. This procedure is in keeping with the general procedure in this book of developing a basic set of concepts, utilizing a set of definitions that are for the purposes only of this book.

The reader might think that my use of the term "anger prevention" means that I believe that it is possible to eliminate the experience of anger from our lives, and of course the reader would therefore be highly skeptical that I had something sensible to offer. Since anger and related phenomena are indeed built into our basic animal nature, that which we share with most of the other higher animals, I don't expect that capacity to diminish. But I maintain that anger almost always has negative consequences as far as the good life for our species is concerned, and I therefore believe that **it is to our benefit if we can, to the extent possible, prevent anger from occurring in the first place, prevent anger from escalating, prevent anger from continuing, prevent anger from recurring, and prevent anger from having a deleterious effect, as long as the methods of doing so do not cause some other problems that are even worse**.

More specifically, there will be those that will say, "Under certain circumstances, anger is good and healthy. We just need to manage it properly when we have it." I will be taking a different approach to this whole area of concern. I will be slicing the orange in a different manner. I ask the reader to suspend judgment regarding the value of my approach till he or she fully understands it.

Another reason why I avoid the use of the phrase "anger management" is that this term has become widely used as something to be learned by those individuals who "have a problem with anger." Thus, many would specifically avoid undertaking understanding this area of thought because of a belief that it does not apply to them, since they do not have a "problem with anger." **I wish the reader to understand that what I am writing about in this chapter is of major concern to all of us, no matter how well we might believe we "manage" our own anger.**

Let us consider that there are two different kinds of anger prevention, namely **external anger prevention** and **internal anger prevention**.

Let **external anger prevention** be **the effort to work on solving the problem in the world (self and environment) that is causing the anger**, most usually a problem in an interpersonal relationship.

Let **internal anger prevention** be **the effort to change one's inner perspective such that the problem in the world no longer produces anger (or as much anger)**.

In actuality, there is no clear distinction between these two concepts, since **external anger prevention works best when accompanied by internal anger prevention**. Also, principles of internal anger prevention will be derived from an understanding of external anger prevention. There are some situations, however, in which only internal anger prevention is feasible, there being no way to improve the situation. **It is probably always more desirable to accomplish external anger prevention, if possible.**

Most of this chapter will deal with external anger prevention.

In my practice, the problem of anger would present itself most clearly when a couple would come to me in a state of relationship breakdown, with the hope that I might "salvage the relationship." Under those circumstances, I offered to help not only by **working on the issues** involved in the breakdown of the relationship, but also by **teaching a different set of behaviors in response to the appearance of anger** than those behaviors that were customary for the couple and that had already demonstrated their ineffectiveness.

I would begin my presentation with the clarification that relationship breakdown, such as this couple was having, is a normal and natural phenomenon, though definitely not good.

If we, for example, examine male-female relationships, we find that when a couple get married, each individual has usually had one or more prior relationships that have broken down. We know that, at least at the time of the writing of this book, about one-half of marriages currently end in divorce. Thus, those relationships have also broken down. If we then take a look at those marriages that persist, I believe we will find that many of those relationships have broken down (meaning that the original intimacy and affection are gone), even though for various reasons the individuals prefer to remain together. Thus, it would appear that the likelihood of a relationship lasting and retaining its intimacy and affection is low, and that therefore the breakdown of relationships appears to be the rule rather than the exception, and is therefore normal. Again, to say that relationship breakdown is normal is not to say that it is good.

We may ask two questions. (1) Why do relationships break down so frequently? (2) Is there a way to prevent this process from occurring?

My answers to the two questions are as follows. (1) Relationships usually (not always) break down because of the build-up of anger in those relationships, according to a specific, natural process, which will be described in detail. (2) There is indeed a way, or method, to reduce the likelihood of this process occurring, or to increase the likelihood of reversing it when it begins to occur, but it requires that at least one of the individuals learn how to do something different from that which occurs naturally, as a part of our basic animal nature. (It is important to recognize that no method is going to be one hundred percent effective, and that some relationships will not survive, and perhaps shouldn't survive, even with the most strenuous and conscientious application of the method. But absence of perfection does not imply absence of value.)

Thus, we will be looking at the **process of the build-up of anger in relationships** and at a **set of principles that will help the individual prevent or reverse that process**.

The reader should note that these principles represent **ethical rules of conduct** to be used specifically in anger-containing situations. They are things that one **should** do under such circumstances. As such, they are **ethical beliefs**, that will produce the **ethical sense** that will serve as a **motivational state** that will, **with the appropriate ethical beliefs**, produce behavior that is substantially different than that which would be likely to occur in such circumstances, that is, substantially different from that which our basic animal nature would tend to produce.

To become as general as possible, we may conceptualize relationships as being of two types, **peer** and **hierarchical**.

A **peer relationship** shall mean a relationship in which the society does not assume, and does not assign, a position of dominance of one over the other. A position of dominance means that if one tells the other what to do, the other is expected to do it (to obey), unless to do so would be unethical. An example of a peer relationship would be that of "friends." In some subcultures, husband and wife would be peers. There are other subcultures in which one spouse would be considered to be dominant over the other.

A **hierarchical relationship** shall mean a relationship in which the society assumes, or assigns, a position of dominance of one over the other. This assignment or assumption by the society may be by virtue of an agreement that the two individuals have entered into, or it may be by virtue of the basic nature of the relationship. Hierarchical relationships are exemplified by the parent-child relationship, the employer-employee relationship, the leader-member relationship, etc. It should be noted that in hierarchical relationships there is a generally understood domain of decision-making in which dominance is assumed and expected, but also a domain of decision-making in which domination of one by the other would not be assumed. Thus, even in a hierarchical relationship, the individuals, in certain areas of decision-making, would still be peers. Such decision-making would be considered the "right" of the individual. The individual would be considered to have "the right to autonomy" with regard to certain decision-making, while being expected to adhere to the decisions of the other with regard to certain other decision-making.

There are, therefore, three possible relationship positions, **peer**, **superior**, and **subordinate**.

For a given pair of individuals, each individual might have two (or perhaps even three) different positions with regard to the other. Such a relationship might be referred to as a "dual" relationship. An example might be that of a husband (in a peer relationship marriage) having a business in which his wife works as an employee. (Such relationships, of course, can become complicated and problematic because of lack of clarity as to whether, in a particular domain of decision-making, the relationship is peer or hierarchical.)

Within a peer relationship, the two may decide to make one part of their decision-making be the responsibility of a hierarchical relationship between the two of them. Husband and wife may agree that the wife will make decisions about the kitchen and that the husband will make decisions about the car. Such role taking is not dictated by the forms (expectations) inherent in the culture, as would be true, for instance, of the employer-employee relationship or the relationships among members at "different levels" within organizations.

I intend to present an **anger prevention paradigm** that will be helpful in dealing with the **situation in which anger has arisen in the relationship between two individuals who are peers**. This is the simplest case, and it is the approach that is most useful in considering the problems of a couple. After this model has been developed, I will extend it to other situations of greater complexity.

We need to agree on specific meanings of words for the purpose of this effort.

There are no good words in general usage for discussion of this topic, because any particular word may refer to more than one phenomenon, and the same phenomenon may be referred to by more than one word. The use of words in such a manner leads to confusion and the appearance of disagreement when there really is none, this situation leading in turn to the breakdown of communication and the halting of progress in understanding and agreement.

Examples of problems in using words without prior definition are statements such as: "No, I am not angry, I am just (hurt) ("flustrated") (aggravated) (tired of …) (ill) (puzzled) (etc.)." A man once said to me, "No, I am not angry at you; if I were, you would be lying on the floor."

Our effort will be to derive or design a set of principles to be used in decision-making in anger-containing situations. If we have ten different words for the phenomenon of anger, and other related phenomena, then it will be hard to identify a particular situation as one in which a particular principle applies. If the principle were a rule that stated "If X occurs, I should do Y," but X were labeled by several different names, then there would need to be several different principles to cover X_1, X_2, etc. It would be easy to fail to realize that the same principle applied to each of the specific situations.

In my work with couples, I encourage them to keep terms to a minimum, and to use terms that have been defined in the model, so that understanding will be easier. (By "term" I mean simply a set of one or more words that has a specifically defined meaning within the model or paradigm that is being discussed.) Under other circumstances, such as the writing of poetry, having variety would be more optimal.

Let us assume, then, for our purposes, that **anger shall refer to the feeling inside the individual or animal**, and to all of those neurological (especially brain) and other bodily processes that are associated with that feeling. Now I am not actually making the assumption that the non-human animal has "feelings" in the sense of the subjective feelings that we humans have (though I happen to believe that at least the higher animals do), but if we see the animal having physiological reactions that are similar to ours when we have anger, then we can at least model that animal's behavior with concepts that include the animal having "the feeling of anger" in its "mind."

We know that there are times when an individual may be unaware that he or she has anger active in his or her body. (This can occur with the psychological defense mechanism of "repression," for instance.) In such a case, some of the usual neurological components of that total bodily state would be missing (those that accompany, and are necessary for, the subjective feeling of anger). The remainder, however, would be present, presumably. And almost always, if an individual who is having anger looks inward sufficiently, that is, examines "how he or she is feeling," he or she will be able to conclude that anger is indeed present.

For our purposes, we will assume that the reader knows how anger feels, from personal experience, and we will also assume that the reader is aware of at least some methods of making an animal, including a human, have anger.

It should be noted, however, that anger is often accompanied by other feelings, such as anxiety (fear) or sadness. Because of this, the experience of anger may seem different in different situations or cases. The presence of these other feelings may lead the person to label the emotional state differently, as in referring to it as feeling "hurt." Also, because of the complexity of the emotional state, the person may find the term "anger" to be an inadequate one, and he or she may use a more general term, such as being "upset," "stressed," "disturbed," etc.

There is also a tendency for individuals to use different terms for different degrees of anger. We should recognize that anger, or any motivational state for that matter, may be absent or present in any degree of intensity, and, as I have already pointed out, it will be helpful if we use the same term for anger of any intensity. Thus, "slight irritation" and "rage" will be referred to only as "anger."

So, in all that follows, the reader should remember that we are looking at all of those situations in which anger is present, no matter what other feelings or emotions might also be present, and no matter what the intensity of the anger is.

For our purposes, we will assume that it is possible for anger to be present without any external manifestation that might be recognizable by another individual. This is not the usual case, but the effort here is to make a distinction between anger, as the feeling inside, and any behavior that is caused by that anger.

Let us then define hostile behavior, or hostility, as behavior that is motivated by anger and has as its goal causing pain in, discomfort in, or damage to the target of the anger.

Hostile behavior varies from species to species. In various animals, one might see growling, screeching, hissing, biting, kicking, baring of the teeth, lunging, fluffing up, staring, etc.

In humans, of course, **hostile behavior can be very subtle, sophisticated, and disguised, and even outside conscious awareness**. One human may be hostile to the other through the use of facial expressions, tone of voice, body posture, gestures, ridicule, laughter, mimicking, criticism, ignoring, refusing to speak, withholding information, withholding sex, shaming, making envious, making jealous, destroying the other's belongings, stealing from the other, spreading rumors, threatening, abandoning, etc.

But we humans also have extremely sophisticated ways of being hostile, that don't look like what we usually think of as being hostile. The example I give often is, "No, I'm not angry at you. I am just *h-h-hurt* that you would treat me this way!" Also, there is, "I love you so much— why are you doing this to me?" These are examples of behavior that is designed to make the other person feel guilty or ashamed, while denying that the behavior is hostile.

Becoming aware of one's own hostile behavior when it is occurring, that is, being able to identify it as such, is a crucial skill to be developed in order to be able to use the anger

prevention paradigm effectively. For some individuals, developing this awareness will be the first significant hurdle to overcome in the attempt to learn and use the paradigm.

Now, natural selection has produced a set of phenomena that can be modeled as follows.

There is a basic or natural process that occurs between two animals, including humans, when anger arises in that relationship. (This process is a part of our basic animal nature.) In order to understand the process as clearly as possible, the reader is asked to imagine two animals in a clearing in the forest. Let us assume that, for whatever reason, anger arises in one of the animals toward the other. That anger will usually be manifested by hostile behavior directed toward the other animal. The other animal will respond to the hostility with anger (and perhaps other emotions, such as fear), and will therefore probably engage in hostile behavior back toward the first. This will in turn produce more anger in the first, and an escalation of hostile behavior. This reverberating and escalating process I refer to as a **struggle for dominance**, and its occurrence is determined by the basic animal nature that the higher animals, including humans, share. The most commonly used term for this phenomenon is "**fight**," which may refer to a physical interaction between the two animals or, in humans, to something that remains only verbal (with accompanying nonverbal communication short of the effort to hurt or damage physically), the use of the term "fight" in such a case being metaphorical.

Notice that I am not using "a struggle for dominance" to refer to a characteristic of a relationship in general. I am referring to a time-limited interaction between two (or more) individuals, in which the motivation is to "win," thus ending the struggle for dominance.

There are only four possible outcomes of a struggle for dominance, and for humans, they are all bad:
>   (1) one kills or disables the other;
>   (2) one chases the other away (that is, one runs away from the other);
>   (3) one submits to the other (engages in non-hostile behavior predicted to stop the hostile
>   behavior of the other);
>   (4) they both leave the "battlefield."

The outcome **may occur after a period of time** during which the struggle takes place, or it **may occur immediately**, such that one sees no hostile behavior in one or both of the animals.

Also, the outcome **may become chronic and automatic**, such that one always runs away (avoids the other), one always submits to the other, or both always avoid each other or avoid the situation that might cause the anger to arise.

Now this model applies equally well to both human and other animal behavior.

For humans, the outcome in which one kills or disables the other (outcome #1) is so obviously a bad outcome that I am not going to elaborate on it. It happens relatively rarely, compared to all the times that anger does arise in humans.

For humans, one chasing the other away (outcome #2) may consist of something very obvious, such as someone running to a neighbor's house or an abuse shelter. However, there are other, more subtle forms of this outcome. Suppose someone is watching TV and the other comes in

and says (in a hostile manner), "Are you just going to sit there and let me do all the work?" The first person says, "There you go again, giving me a hard time! I'm leaving!" He or she leaves the room, or even the house. Or perhaps he or she simply does not respond to what the other has just said and changes the subject or "tunes the other person out." The original issue is not worked on between the two or resolved. One "distances" (physically or psychologically) himself or herself from the other, at least with regard to the issue that was producing the anger in the other.

For humans, submission (outcome #3) is going along with the other (doing what the other wants), not because of agreement that what the other wants is indeed the right thing to do, but simply in order to avoid the painful hostility of the other. One says, "No, no! I'll do it! I'll do whatever you say, just to keep the peace!" or "You're right! You're right!" There also may be, of course, a subtle, hostile, "(You're always right!)."

For humans, when both leave the battlefield (outcome #4), they may go to separate parts of the house, or at least may not speak to each other for a period of time, or certainly do not speak to each other regarding the initial issue about which the anger arose.

For humans, none of these four outcomes is good. Anger and hostile behavior have characteristics that promote the survival of a species. But they do not provide for the good life. They involve much pain and suffering. And if they occur frequently enough, they ultimately lead to relationship breakdown.

Each struggle for dominance, even when there is no escalation (that is, even when one of the outcomes occurs right away), leaves an **anger-containing memory** in one or both individuals (not to mention possibly other individuals who know them). An anger-containing memory is one which, if remembered ("relived" in consciousness), will result in a reappearance of anger. ("Every time I think about what happened, I become angry all over again.")

A memory actually is not recorded in the same amount of detail with which the event was actually experienced, but is stored as a **"general model"** (or "skeleton") of the experience (usually indeed along with a few, more specific details). When "remembering" takes place, that is, when the memory of the experience is brought back into consciousness, the general model is activated and then "fleshed in" with details (probably memory fragments of various experiences) that seem likely to have been present originally (but actually may not have been). We know that this fleshing in process is not very accurate, and since two individuals witnessing the same event may later flesh in their general models differently, it is not unusual for them to disagree as to what actually happened.

Similar **kinds** of experiences will tend to be stored using the **same general models**, which thereby become **stronger**. Also, general models, if they are similar, may tend to **merge** with one another, and therefore, again, become **stronger**. (By stronger, I mean more easily activated or brought into consciousness, this increased tendency being due to repetitive use of those neuronal "pathways" in the brain.)

Memories tend to be stimulated or activated by current events that are similar in some respect to those general models. This is what is meant by being "reminded" of something that has happened. As more and more anger-containing memories are stored, the general models of them

get stronger and increasingly prone, if stimulated, to produce anger themselves, even without details of specific past experiences entering consciousness. Now the individual will experience anger in certain **kinds** of situations, corresponding to those general models. In a sense, the anger from the past is added to whatever anger might (or might not) be appropriate for the current situation. Thus, **the individual's responses of anger will be more intense than they would have been if there were no "reminding of the past."**

And in fact, as the anger-containing memories build up, there is even an increasing tendency for the individual to **mistakenly** regard current ambiguous situations as repetitions of the past. Thus, **the individual misperceives current situations in such a way as to produce anger when none would be expected in response to the situations themselves**.

Let us refer to the tendency to react to current situations with this anger from the past as "**chronic anger**."

The presence of chronic anger in an individual thus leads to (1) more intense anger reactions and to (2) misperceptions of situations such as to produce anger responses when none would be expected given the actual nature of the situation.

So we are talking about **struggles for dominance leaving anger-containing memories and thus causing chronic anger**. Remembering the details of a struggle for dominance is not necessary in order to produce the anger. Any situation that begins to evoke an anger-containing general model is likely to produce some degree of anger. Thus, an individual might experience some degree of anger without actually understanding "where the anger is coming from" or "what the anger is about." And it is even possible for an individual to be unaware of the fact that indeed some anger is arising, because of a tendency to be unaware, in general, of anger within himself or herself. Nevertheless, the presence of this motivational state within the individual then can have an effect on decision-making and thus behavior. As these anger-containing memories build up with each new episode of the struggle for dominance, their effect becomes more intense and destructive. Chronic anger within an individual will often lead that individual and/or others to regard that individual as having a "bad temper," or as being "irritable," or as "over-reacting," or as "prone to make mountains out of molehills." Also, the more intense the anger responses are, the more inappropriate the individual's behavior may become. Major aggressive acts may occur, perhaps with much regret later, and at times even tragic results.

These anger-containing memories or general models, referred to in this book as "chronic anger," are the phenomena that ultimately destroy most relationships and produce most of our human-induced misery and suffering.

The build-up of chronic anger results in progressive inhibition of communication (staying off the "battlefield"), which in turn causes reduction in intimacy, consequent diminished gratification in the relationship, and an increased likelihood of ultimate relationship breakdown.

More and more, the individuals find that they **cannot talk to each other** about important matters, and they therefore increasingly become **strangers** to each other, even though they may actually continue to live with each other or be around each other. It is under these circumstances that one, the other, or both may happen to develop a relationship with someone else, in the

relationship with whom there is no such chronic anger, and therefore no such inhibition of communication. The individual may comment to the other how wonderful it is that they have so much to talk about and that they understand each other so well, and he or she may remark that the relationship is so different from his or her primary relationship. With such intimacy usually comes affection, and even perhaps sexual attraction. The relationship feels so "right" that the couple ends the primary relationship, the individual(s) going off with the new person(s) to begin a new relationship. The same process may begin all over again in the new relationship, especially when the chronic anger from the previous relationship causes anger in the new relationship, even by error, as described above (this phenomenon currently being referred to as carrying "baggage" from the previous relationship into the current one).

It is not unusual for one or both of a couple that has just had a struggle for dominance to assume that because the issue that produced the episode is no longer discussed, and, perhaps with some effort on the part of one or both, is "forgotten," the episode has no lasting effect. "I/we just forget about our fights, and don't hold a grudge." This might be somewhat accurate if such episodes are mild and infrequent, and are counterbalanced by much gratifying interaction and affectionate behavior.

However, **anger kills affection**. It is very difficult to experience affection toward someone toward whom one has anger, and as the chronic anger builds up, one may notice mostly just a gradual disappearance of affection. In a couple with a sexual relationship, one may note a growing absence of sexual interest of one in the other, this being especially true the more true it is that, for that individual, sexual interest requires the experiencing of affection.

Although some of what has been discussed above obviously refers to pairs of individuals that have a sexual relationship, the process of the breakdown of the relationship can occur in any pair of individuals who have any kind of relationship. In the place of affection, we can substitute the idea of the wish to cooperate with the other. In a hierarchical relationship, chronic anger in the subordinate toward the superior will produce a wish to refrain from doing what the superior wants (a wish to rebel). Rebellion is, among other things, a hostile act toward the superior. And chronic anger in the superior toward the subordinate will produce a wish for retaliation, often conceptualized as "punishment."

And this same process, the escalating intensity of the struggles for dominance, can be seen operating at the level of groups and even nations. Anger-containing memories produce more anger and new hostile acts, growing ever more intense, such that greater and greater effort is put into devising ingenious methods of being hostile and even deadly.

The overall effect of this process (increasing frequency and intensity of struggles for dominance) is a marked deterioration in the quality of life of all concerned, irrespective of how it might be seen as a process in which individuals and groups are produced who are more able to survive. **But it is we humans that have the capability of understanding what is happening and doing something that does not come naturally, doing something that works better, doing something that improves the quality of our lives while still promoting the survival of our species.** And that is what this book is about.

Let us be clear about what is needed.

We have as a part of our basic animal nature the tendency under certain circumstances to develop the motivational state of anger. This motivational state tends to produce behavior that we have labeled "hostile behavior." We have seen that it is quite likely that such behavior is not consistent with the rational-ethical ultimate ethical principle that we should do that which will promote the survival of and the good life for our species, meaning all of us, now and in the future. So what is needed is a **set of ethical rules of conduct** that motivate behavior that is different from that which is produced by our basic animal nature. In other words, there are anger-containing situations in which what we want to do because of the anger is not optimal, and we therefore need to have ethical rules of conduct that make us want to do something different, something that will work better, something that will lead to a better set of outcomes. What we want to do because of our anger must be countered by what we want to do because we believe we should (this belief producing the motivational state called the "ethical sense"), and what we believe we should must be accurate with regard to the predicted outcomes of so behaving. And of course what we want to do because we believe we should hopefully will be stronger than what we want to do because of our anger.

It should be noted that **rational ethics** is the ethics referred to in the last paragraph. **Authoritarian ethics simply does not work.** It is the ethics that has arisen in the service of our basic animal nature, and it actually fits hand-and-glove with the process of the escalating struggle for dominance, producing such concepts as obedience, loyalty, nationalism, bravery, strength, power, sacrifice, holy war, punishment, retribution, good versus evil, etc., all of which have been with us since the beginning, in one form or another.

So we are talking about **any situation in which anger has arisen, or at least appears to have arisen**. The anger either has arisen in oneself or appears to have arisen in another. The question is, **"What ethical principles should guide the decisions I make in this situation?"**

The situation is entirely analogous to the situation in which a person suddenly develops unresponsiveness. If another person present knows the rules of basic cardiopulmonary resuscitation (CPR), and follows those procedures, the outcome is more likely, though not guaranteed, to produce a better outcome than if someone does not know those procedures but nevertheless does the best he or she can, doing what comes naturally. Notice that what makes the difference is that the person who knows CPR is guided by **principles** that have been **stated as such in words** and has **actually practiced the skills** that are required to follow those verbalized principles. Notice also that those principles also are **ethical rules of conduct**. They are what a person **should** do in such circumstances.

So in the case of a situation in which anger has arisen in self or appears to have arisen in another, that is, an **anger-containing situation**, there should be a set of ethical rules of conduct, or principles to follow, that will optimize the chances for a good outcome. They should be stated in words, and practiced as such as a set of skills.

We do have CPR principles or rules, and they are taught and learned. But do we have anything similar for anger-containing situations? Certainly there are many, many approaches to such situations, written about and taught. But what is the official, basic list? Can a person be tested to see if he or she knows? The answer, I believe, is that there does not exist a list of such principles that is recognized world-wide. And when anger does arise, there are very, very few people that immediately think of a set of verbalized principles that they then try to follow, irrespective of

what they otherwise feel like doing. There is nothing close to universal agreement. What instead usually occurs is some variant of the struggle for dominance, with one of the four bad outcomes, either immediately or after some degree of escalation, leaving more anger-containing memories to make things worse for the future.

What has made CPR so successful? Of course, part of the success is due to the fact that **the rules work**. The existential beliefs upon which the rules are based are **accurate**, meaning that they accurately allow one to predict a more successful outcome if followed. But if no one actually followed them, or was able to follow them, they still would not be successful. And why are people able to follow them? They are **simple, clear, and few**. The more complex and the more numerous the rules were, the more difficult it would be for individuals to follow them.

It is, then, easy to see that if there is to be a successful or useful set of anger prevention (or "anger management") procedures or principles, the set must consist of **just a few such principles**, and they must be **as simple and clear as possible**. Also, of course, they **must work**, meaning that the existential beliefs that they are based upon, having to do with how we humans react, must be accurate. Also, they **must be taught and learned, and practiced**. Optimally, they should be taught and learned during childhood, by parent figures that also model them for the child. No such situation exists today, though I maintain that such is possible, and will probably be actual at some time in the future (in the time of "Homo rationalis").

What I am going to do, then, is propose a set of principles and procedures that I believe can be and ultimately will be agreed upon and put into practice as a part of all of our lives. Why will there be such agreement? There will be such agreement because no one will be able to devise something better, because what is proposed will indeed work better than what comes naturally, and because what is proposed will be easily learned by everyone, not in a day or in a single reading, but over a period of time during which the principles are practiced and observations are made as to whether indeed they appear to lead to a better set of outcomes than not following them does. But just because I happen to believe that these principles are the best that ever will be found does not mean that this is so. If indeed someone can come up with a better set of principles, that actually work, that everyone can learn easily, then that set of principles should replace this one. What would be unfortunate, however, would be that we never even develop such an agreed-upon set of effective principles, if indeed such is possible.

What I am going to present is exactly that which, over the years, I have found extremely helpful in aiding couples to salvage their relationships that have broken down due to escalating, overt angry conflicts or to increasing silent alienation due to increasing anger over repetitious patterns of interaction that leave anger-containing memories.

In my presentation to a couple that I am working with, I ask them to imagine the following metaphorical scene. A couple is going down a road and anger arises in one of those individuals (imagine the person's head turning red). At that point the road forks. Going off to the left is the main road, namely, a struggle for dominance. However, going off to the right is a little path off into the woods, with a lot of fog, so that one can only see a little way down the path. This path is how I represent **the alternative to the struggle for dominance**. My current name for it is "**problem-solving behavior**." Thus, what I am saying is that when anger arises, that which comes naturally is a struggle for dominance, and it is almost always what is done, but that there is an alternative (problem-solving behavior), which has a different (better) set of outcomes,

though it is almost never done. The depiction of problem-solving behavior as a path in the woods, as opposed to the main road, is to represent the fact that it is almost never done.

The reason that problem-solving behavior is almost never done is that hardly anyone knows how to do it. (This fact is depicted by the fog in the metaphor.) The reason for that is that problem-solving behavior does not come naturally, but has to be taught and learned. More specifically, the individual needs to learn certain principles that he or she can recite at any time, and he or she needs to practice the application of those principles, usually best done with the help of a trainer. Yet, these principles (of problem-solving behavior) are not generally known and therefore not generally taught. In fact, our cultures in many ways support that which comes naturally, and therefore support the opposite of problem-solving behavior, as will be described later.

But our cultures also support the opposite kinds of behavior, with goals of affection, cooperation, and harmony. Just as our religions have promoted the most awful treatment of humans, so have they also promoted our most benevolent behavior and what we consider to be our finest aspirations toward peaceful and caring interaction. So we have **both** tendencies as a part of our basic animal nature, and both tendencies are reflected in aspects of our cultures, that, in turn, support those tendencies. In the time of "Homo rationalis," I believe, they will have eliminated to a great extent the support of struggles for dominance, and will be living according to well-understood ethical principles designed to keep anger at a minimum. And it is this set of principles that I am attempting to identify and advocate.

Although there are no such generally recognized and accepted principles to be found in our society, it is my prediction that the principles I am writing about will make complete sense to the reader. I believe that this fact reflects the fact that we have already begun to shift from authoritarian ethics to rational ethics, that is, to engage in rational-ethical living. Although we are just beginning, the fact that we are indeed beginning is what makes the following seem right, even though, for the most part, we do not use it yet.

By principles, of course, I am referring to **ethical** principles, general **rules of conduct**, to be used in anger-containing situations. These principles will be used in order to accomplish something, namely, a **good outcome to an anger-containing situation**, that is, a situation in which anger has arisen in the individual or in which anger has apparently arisen in someone else toward the individual.

Now **the most important ethical principle is that the individual should have a way of conceptualizing such a situation such that he or she can use some more specific principles to guide his or her behavior in the optimal direction**. In other words, the individual should **understand** the situation in such a way that he or she knows what he or she is trying to accomplish (in general) and knows what will optimize his or her chances of accomplishing it.

So first we are going to develop that set of concepts. We have already covered what naturally happens, based upon our basic animal nature, namely, hostile behavior, a struggle for dominance, and one of the four bad outcomes (possibly even occurring immediately), leading to more anger-containing memories, which ultimately lead to relationship breakdown. We have also stated that there is an alternative to this main road (that goes off to the left), namely, problem-solving behavior, represented by a little path going off to the right, into the woods, with lots of fog. We are now going to learn what this path is (dispel the fog), and how to begin taking it, more and

more, until the path perhaps does become the main road, and the previous main road becomes, through disuse, just a path.

Notice that the phrase "problem-solving behavior" has been used for many purposes by many individuals already. My effort is not to restrict the use of this phrase in other settings. But it is important to recognize that I am using this phrase, in this book, to mean something **very specific**, having to do only with the handling of anger-containing situations.

In order to engage in this alternative to a struggle for dominance, one must know **what one is trying to accomplish** and **how to go about accomplishing it**. (Neither aimless skilled behavior or purposeful unskilled behavior is likely to yield optimal results.) The general organization of my presentation will be as follows:

> Problem-solving behavior (the alternative to the struggle for dominance, described above)
>> What one is trying to accomplish
>>> The solving of the problem (identifying the problem-type)
>>> The resolution (depending upon the problem-type)
>>> The outcome (no matter which of the problem-types)
>> How one goes about trying to accomplish it
>>> The most important principle of problem-solving behavior
>>> The next most important principle of problem-solving behavior
>>> Etc.

Let us be very clear about what an anger-containing situation is. We are going to be looking at the **simplest case**, for the time being, namely, the situation in which anger has arisen in the relationship **between two peers**. We are making the assumption that at a specific point in time, anger arises in one of those individuals toward the other. For simplicity, let us name the two individuals "A" and "B." So, at some specific point in time, A develops anger toward B.

Note that there may already be chronic anger in the relationship. But what we are addressing is the situation in which **all of a sudden** there is "**new anger**," or a definite increase in anger, in A toward B. We may say that at that point **something has just happened** that has caused that anger in A toward B. Whatever it is that has **just happened** is the **problem** that has caused the anger to arise in A toward B.

It is very important to recognize that what we are talking about when using the phrase "problem-solving behavior" is the solving of **this problem that has caused A suddenly to develop anger toward B**. The reason that this recognition is so important is that there is a natural tendency to lose track of **the importance of solving this problem** because of a shift of attention away from it. To be more specific, I want to clarify that as soon as this anger arises in A, it is not unusual for A to act in a hostile manner toward B. As we have already covered, B is then likely to respond with anger toward A, and therefore likely to act in a hostile manner toward A, and A then is likely to respond with even more anger toward B. But the anger in B and the increase in anger in A are **not** the situations that we are looking at. We are looking at the situation in which, at a specific point in time, A **first** develops anger toward B (or develops a **sudden increase** in anger toward B).

Whenever anger arises in a relationship, **there is a problem to be solved**, that is, the problem that has produced the anger. I will maintain that what is optimal for a relationship is that **whenever** anger arises, the problem producing the anger **should** be solved. This goal is something to be striven for. We will always fall short of it, probably, but I maintain that the more we strive for it, the closer we will get to an optimal relationship. I am therefore taking a stand that is the **opposite** of that which many would take. Many would say that small anger-producing problems should be overlooked. I believe the reason for the difference in viewpoint is that many conceptualize the only alternative to overlooking the problem as being a struggle for dominance, which of course admittedly is not likely to be beneficial.

So now we need to have a way of **conceptualizing, or understanding, this problem**. In fact, in what is to follow, **this understanding represents what is being called the solving of the problem**. But remember that there are often more than one way to understand something. The metaphor I have used for this fact is that of the slicing of the orange in different ways in order to understand what the inside is like. My way of helping people to understand the cause of the anger has worked well in helping couples solve their anger-producing problems. It certainly is not the only way, but it is the best that I have been able to come up with.

If A suddenly develops anger toward B, there are six possible reasons:
    (1) B has been **mean** to A.
    (2) B has not been **mean** to A, but A thinks so.
    (3) B has failed to live up to A's **appropriate expectation**.
    (4) B has not failed to live up to A's **appropriate expectation**, but A thinks so.
    (5) B has failed to live up to A's **inappropriate expectation**.
    (6) B has not failed to live up to A's **inappropriate expectation**, but A thinks so.

To summarize, if A develops anger toward B, then the possibilities are that B has been **mean** to A or has not lived up to A's **appropriate or inappropriate expectation**, or that A **mistakenly** thinks one of these possibilities is so.

It has been my experience in helping couples that **every experience of anger can be traced to one of these six possible explanations**.

But we must look at the meanings of the words in bold type.

What does it mean for a person to be "**mean**" to another? Let us assume for our purposes that this will refer to a person deliberately (though not necessarily consciously) trying to cause pain, discomfort, or damage to the target (usually a person). Now this is similar to our definition of hostile behavior, where this behavior is motivated by anger. And in fact being mean is indeed motivated by anger. So being mean is, according to our definitions, hostile behavior.

However, anger that **suddenly** arises in a person (or other animal) is generally caused by something that has **just happened** (or was thought to have happened). What is usually meant by being **mean** is engaging in **hostile behavior that is not a response to something that the other has just done**. It generally reflects chronic anger, that is, the existence of anger-containing memories, either involving the target of the mean behavior or of some more general set of individuals of which the target appears to be a specific example (whether accurately perceived as such or not).

Now obviously there is **no clear dividing line** between hostile behavior that is **mean** behavior and hostile behavior that is not. If the hostile behavior is in response to what the other has **just done**, this would be an example of a part of a **struggle for dominance**. But how much of a delay would be necessary in order to call the hostility an act of meanness? There obviously can be no clear answer. Acts of **revenge** may be seen as mean behavior, though there is a tendency not to use the word "mean" to describe an immediate act of revenge; instead, such behavior is often labeled as "**retaliation**." There is, however, a tendency to regard hostile behavior as "mean" if it **does not appear to be "justified."** Nevertheless, when one person acts "mean" toward another, **there is presumably chronic anger present** in the person who so acts.

So for our purposes, let us consider mean behavior to be hostile behavior (probably reflecting chronic anger) that is not a response to something that has just happened that has stimulated anger. We will recognize, however, that the boundaries of this definition are very vague.

Next, we need to consider the word "**expectation**."

We must immediately recognize that there are two common meanings of this word that are very different. These two meanings are exemplified in the sentence, "I **expect** you to do your part, but, knowing you, I **expect** that you won't." The second use of the word has the same meaning as "predict."

But what is the meaning implied in the first use of the word (which is the use that we are considering)?

Now we are saying that if A expects B to do something and B does not do it, there is a tendency for A to experience anger toward B. But why does A expect B to do something in the first place? And what does it mean for A to expect B to do something?

It is here that we may extend our understanding of the difference between authoritarian ethics and rational ethics.

If an animal is trying to do something and is prevented from doing it, the situation is referred to as **"frustration."** The animal's wishes or efforts are frustrated. **There is a natural tendency for frustration to produce anger, and therefore hostile behavior.** (In fact, "frustration" is often used as an euphemism for anger.)

Before the small child becomes partially civilized, any frustration of its wishes will tend to produce anger. Even a state of hunger may produce crying that appears to have a component of anger, as evidenced from the appearance of the child.

Using our modeling with propositions, we may conceptualize the child as having a wish, "I want you to do X (e.g., feed me, give me that, etc.). To reduce this proposition to beliefs and motivational states, we would model with the statements, "I want to do that which will cause you to do X (e.g., feed me)," "If I do Y (e.g., ask, beg, cry, etc.), you will do X," "Therefore, I want to do Y " (and do). The prediction is made that you will do X. When what one wants to happen

(and predicts will happen as an outcome of one's own behavior) does not happen, the situation is one of **frustration**, and **anger** may be produced.

(This anger is seen not just toward members of one's own species; for instance, such anger appears when pets don't obey. Sometimes anger appears when even inanimate objects do not comply with one's wishes. This phenomenon is probably related to "animism," the tendency of the child to regard inanimate objects as having a mind of their own. Animism is a characteristic of thought that probably does not disappear completely with age, even though it is not rational, that is, not consistent with beliefs obtained through use of the rules of logic and rules of evidence.)

So when one acts in response to a motivational state, and the act does not result in the sought-after outcome, the situation is labeled "frustration," and the response is often the appearance of an additional motivational state, namely, anger. This is observable in other animals, and is therefore a part of our basic animal nature.

But there is a set of phenomena that is **superimposed** upon this scenario as we humans become civilized through the process of child rearing and life experience in general. These phenomena may all be subsumed under the concept of "**fairness**."

Fairness is a set of rules of conduct, and therefore modeled by ethical propositions, that have been devised by humans in order to have a better quality of life than that which is produced by repetitive struggles for dominance. As such, the development of it was perhaps the beginning, or one of the beginnings, of what ultimately may become rational-ethical living on the part of our species.

The basic situation to which fairness applies is the one in which two (or more) individuals have conflicting wishes (wants), such that if one individual's wish is fulfilled, the other individual's wish cannot be. In this situation, the individual whose wish is not fulfilled is likely to experience anger toward the other individual, who is seen as frustrating the first. And prior to the outcome, both see each other as being in the process of frustrating the self, and therefore both are likely to be experiencing anger toward the other. It is natural for such anger to produce hostile behavior and thus a struggle for dominance. **Fairness is the method devised to prevent anger due to frustration**.

So what are the characteristics of fairness, and how do they lead to anger prevention?

In order to gain as full an understanding as possible, we need to take a look in a very basic manner at group decision-making. Actually, for our purposes, we need only to look at the two-person group. In other words, a decision has to be made by this group of two (or more) individuals. There has to be agreement as to what is to be done (and by whom). If the two (or more) individuals want to do the same thing, or want the same decision, there is generally no problem that might produce anger. But the simplest problematic situation is as follows:
    A wants to do X.
    B wants to do Y.
    Either X or Y must be done; if X is done, Y cannot be, and if Y is done, X cannot be.

Now there are **two basic ways** in which this situation is dealt with, **prior to the consideration of fairness**, depending on the nature of the relationship. That is, there are **two kinds of relationships to consider**, namely, the relationship **characterized by affection and intimacy** and the relationship **not so characterized**. Decision-making is entirely different in these two cases. (These two cases, of course, are idealized extremes. It is not unusual for a specific relationship to fall somewhere between these two extremes, and to move back and forth on this continuum. But temporarily conceptualizing the matter in this idealized, dichotomized way will help us to understand the processes involved.)

First, there is the relationship that is characterized by affection and intimacy. Examples of this are certain family relationships and relationships that have just begun (as in "courtship"). In these relationships, there is a wish on the part of both A and B to please the other.

Now, A wants to do X and B wants to do Y. A knows how important it is to A to do X. B knows how important it is to B to do Y. But initially neither A nor B know how important it is to the other that what the other wants to do is done (how strong the other's wish, motivational state, is). Therefore, A and B engage in behaviors, such as asking of questions, designed to acquire this information. Finally, both understand how important each individual's wish is to that individual. Now, having this knowledge, both agree that the optimal decision is **to do that which is wished by the one to whom it is most important**. If it is more important to A that X be done than it is to B that Y be done, then they both agree that X should be done. The principle is that both benefit if there is the most satisfaction in the relationship, and to make the decision in this manner is the way to have the most satisfaction. This satisfaction also arises partly because of the additional satisfaction that comes from seeing the other pleased (the same pleasure that arises from the giving of a gift) and from the knowledge on the part of the individual whose wish is not chosen that he or she is making the world a better place for this other person that he or she cares about.

Obviously, this is a very simple and "pure" case. There are times when both X and Y can be done, but the order in which they are done may be the important decision. And there are times when there is a third option that will provide even more satisfaction, or more equal satisfaction (as in "compromise"). But what I am referring to is the basic attitude that the individuals have toward the decision-making process. Both wish for the maximum gratification of both as a group, even if this means one will not be gratified, except for the gratification involved in pleasing the other.

We might label this **first method** of decision-making **"generosity."**

Second, there is the relationship that is not characterized by affection and intimacy. Perhaps this kind of relationship is the one that predominates. In fact, most relationships that were originally of the first kind ultimately become this kind, especially with repeated struggles for dominance and the build-up of anger-containing memories ("chronic anger") in the relationship, as already described.

In these relationships, the decision-making process is entirely different. It can be modeled best by the "**tug-of-war**," in which the primary concern of the individuals is not the gratification of both, with the wish to please the other, but instead the concern that oneself not be "taken advantage of," that one not "lose out" to the other, that one "stand up for" himself or herself, that

one at least come out equally well as, if not better off than, the other. Under these circumstances, it is not at all unusual for one to view the other as attempting to frustrate the wishes of oneself, and anger is produced, with accompanying hostile behavior designed to produce submission in the other. And the problem with this scenario is that the ensuing struggle for dominance, even if it leads to a particular decision, has the bad outcome of leaving anger-containing memories and an increase in chronic anger in the relationship. **So this second way of making such decisions produces chronic anger and fosters ultimate breakdown in relationships.**

Let us refer to this **second method** of decision-making as **"conflict."**

It is because of this second scenario that humans have devised a **third method**, using a particular tool, called "**fairness**."

The basic ingredient of fairness is that, by agreement, the decision is taken out of the hands, so to speak, of the concerned individuals.

In other words, the two individuals do not have to tug on the rope, because it won't do any good. The decision will be made independently of the efforts of each to overcome the efforts of the other.

The method of accomplishing the removal of the decision-making from the individuals is to devise a rule, or set of rules, of conduct for the individuals that is independent of knowledge as to the results for the specific individuals.

For instance, the rule could be that the choice of the individual whose wish will be granted will be made by connection to a random event, such as the flipping of a coin. The individuals simply have to wait and see what the result will be. They cannot influence the result.

In the same way, individuals "taking turns" are presented with a decision made for them by the circumstances (at least beyond the first event, which itself can be determined by the tossing of the coin, if wished).

Having the decision made by **group vote** (of course not possible in a two-person group) still leaves the possibility of anger, hostile behavior, and various kinds of "unfairness" prior to the vote. This fact is dealt with by the limiting of the behaviors allowed by the individuals prior to the vote. If all individuals are allowed the same opportunity to influence the vote, even though skill might help an individual to do so, then the procedure is regarded as fair, because it involves acceptable limits of the influencing behavior, stopping the behavior from escalating indefinitely into the struggle for dominance. And ultimately **the decision is not made by one of the participants**; it is made by a **procedure**, agreed upon in advance by all.

Another example of the effort to be fair is that of **turning the decision over to another individual or other individuals**. Examples of this are the turning of a decision over to a judge, a jury, a mediator, a parent, a leader, etc. Of course there still is the possibility of unfairness, as for instance, when an individual has undue (unfair) influence over the one(s) making the decision. So again there usually needs to be a set of additional procedures designed to reduce the likelihood of this unfairness.

Another example of fairness is that individuals might agree that decisions within a certain domain of decision-making should be made by that individual or those individuals who had demonstrated the greatest amount of knowledge and skill within the relevant domain of knowledge and skills, because the decisions would be likely to have the most beneficial effect on everyone to the extent that the decisions were most wisely made.

And finally there are all of the examples of two (or more) individuals **deciding in advance** how a decision will be made, prior to knowing exactly how important the outcome will be to the individuals if and when the decision has to be acted on. The basic idea is that of the **contract**. In the simplest case, two individuals agree that in the future, if a decision has to be made, it will be made in a particular way. The agreed-upon method of making the decision takes it out of the hands of the individuals at the later point in time. The decision is in a sense pre-determined. An example might be the marriage contract, which specifies how possessions will be divided up should the marriage be dissolved. (Needless to say, the marriage contract as currently done is not a very good contract, because there is often the necessity, at the time of separation and divorce, to turn the decision-making over to attorneys and the court. But still the principle is the same, namely, that the making of the potential decision in advance, at the time of the initiation of the contract, takes the decision out of the hands of the individuals at the time the decision is actually implemented.)

The general effect of agreement on procedures according to principles of fairness is that anger produced by frustration of wishes is reduced and perhaps even essentially eliminated. In a sense, this absence of anger toward the other is due to the belief that the decision is not being made by the other, that what is happening is not by virtue of the behavior of the other, but, instead, by virtue of an earlier decision that was not made (exclusively) by this other.

The decision-making is usually considered "fair" when the agreed-upon procedure is carried out. When an individual deviates from this agreed-upon procedure, his or her behavior is often labeled "**cheating**." Anger is produced when someone is regarded as cheating, because regarding the person as cheating means believing that the person is frustrating one's own wishes in the context of there being nothing that makes this frustration okay. Decision-making that is frustrating is indeed now being engaged in by the other.

In summary, in the situation in which there are incompatible wishes, decisions may be made by generosity, conflict, or fairness.

It should also be noted that even though it is easy to think of fairness as a rational-ethical phenomenon, one that is developed and maintained by everyone's agreement that it fosters the good life for everyone, etc., the phenomenon actually undoubtedly arose in the context of authoritarian ethics, that is, arose as a method devised by the leader or group and imposed on the individuals or members of the group, because of the wish of the leader or group to have less conflict to deal with. The parent may, if for no other reason than to obtain a little peace and quiet, instruct and command his or her children to take turns, and the children are likely to do so out of obedience rather than an agreement that doing so fosters the good life for everyone. And to a great extent, currently most individuals would probably be fair more out of obedience than out of wisdom. At the current time in the development of our species, fairness, including adherence to agreed-upon laws and rules, often requires threat of punishment for its maintenance, this being a manifestation of authoritarian ethics rather than rational ethics, as the

terms are used in this book. I am maintaining that at some time in the future, rational ethics will be followed and taught in the process of child rearing, such that it will become the basis for life for our species, and that threat of punishment will become far less of a factor in decision-making. We are far, far from this state currently, however. (And that is what this book is about.)

Now we can get back to the **original problem**, namely, **what it means for A to expect something of B**.

Throughout life, individuals are always making agreements with each other to do things in certain ways that are considered fair. There are some **agreements that are already generally held**, as **an understanding within the society or culture**, such as that one will do what one has said one will do, unless there is a good reason not to. There are also **more specific agreements that are worked out between individuals**, such as who will do what (e.g., in a household). But in all cases **the adherence to these agreements results in an increase in the ability of individuals to predict the behavior of others**. Also, **the prediction is that the behavior of the other will be "okay," that is, consistent with what has been agreed upon, and therefore fair**. As long as that is true, the behavior is seen as already determined by the procedure of following, or adhering to, the agreement, and there is the belief that one does not have to engage in a struggle for dominance in order to bring the behavior about. When someone deviates from the procedure (does not live up to the overt or implied agreement), then the situation changes to one that is best modeled by the tug-of-war, with its propensity toward the production of anger and another episode of struggle for dominance.

Expectation, then, is **belief** that the other **should** behave according to an overt or implied **agreement**. Doing so is regarded as being "**fair**." The belief, as noted, generates motivational states in certain situations, such as when the other does not do as expected, in which case the motivational state most likely to occur is anger. Thus, A will probably develop anger toward B if B fails to live up to A's expectation.

The reader may recall from what has been written above that if A develops anger toward B, then the possibilities are that B has been mean to A or has not lived up to A's **appropriate or inappropriate expectation**, or that A mistakenly thinks one of these possibilities is so.

So now we must discuss **what is meant by an "appropriate" and an "inappropriate" expectation**.

We said that an expectation (in our current context) was an ethical belief about what another should do. (Of course, we can have expectations of ourselves, also, and they, too, may be appropriate or inappropriate.) In the chapter on "Basic Concepts: Ethics," we talked about how an ethical belief was essentially the same as an existential belief, in that, assuming agreement as to the ultimate ethical principle according to which ethical beliefs would be legitimated, an ethical belief could be correct or incorrect, or accurate or inaccurate, depending on whether it was consistent with the ultimate ethical principle (or with other principles and rules derivable from that principle). This being true, we should be able to ask whether A's expectation of B is accurate or not. This means whether or not it is indeed fair that B do what A expects B to do. And if it is fair, then the expectation is appropriate.

Now of course just because, in principle, an ethical belief may be accurate or not does not mean that it will always be easy to determine this. But consider, instead of ethical beliefs, existential beliefs. There are many times when determining the accuracy of existential beliefs is also difficult or impossible. Nevertheless, this does not mean that doing so for **all** existential beliefs is impossible, nor does it mean that there is no value in **attempting** to do so. The same is true for ethical beliefs, and for expectations in particular. In other words, if A expects B to do something (or not to do something), it may be very worthwhile to attempt to see whether this expectation is appropriate, that is, whether indeed B should do (or not do) this something.

Now what would be the methods of doing so? The usual, simplest method would be to demonstrate that for B to do so would be an example of following an ethical rule that B (or whoever needed convincing) agreed applied to the situation and was an appropriate rule.

But we also remember that an ethical rule of conduct is really just an "alarm" that goes off if a person is contemplating doing something that may have a bad outcome. The circumstances may actually be such that the best outcome will occur if the person does not follow the rule of conduct. The rule of conduct is designed only to make sure the **appropriate thinking** occurs, such as to optimize the chances for a good outcome. So in the case of individuals attempting to determine whether an expectation is appropriate or not, the ultimate test is the effort to predict the **outcomes** of adhering to the expectation versus some alternative.

For instance, after A and B have discussed what B has done and B's reasons for doing so, A may say something such as, "Well, now I understand why you didn't do it. If you had done as I expected, something very undesirable would have happened. In this case, my expectation really was not appropriate."

But it is important to remember that by "outcome" we are talking about the **total set** of outcomes. This set will even include how each individual ends up feeling about the other and about himself or herself. It will also include what tendencies will be fostered in himself or herself, that is, what kind of person he or she is becoming by virtue of engaging in a particular behavior. (The more times we do something that is not optimal, the easier it becomes to do it, and the harder it becomes not to do it.) So in coming to a conclusion as to whether a person should have adhered to a particular ethical rule of conduct, factors such as these may be included in the thinking (and possibly the discussion).

Let us look at what might be some examples of appropriate expectations:
> A expects B to do what B has said he or she would do, unless there was a good reason not to.
> A expects B to do his or her share of the work.
> A expects B to tell the truth.
> A expects B to care what happens to A.

Now let us look at what might be some examples of inappropriate expectations:
> A expects B to know what A wants without A telling B.
> A expects B to do as B said he or she would, despite terrible consequences.
> A expects B to disregard B's needs totally and to consider A's needs only.
> A expects B to have no emotional reaction to being mistreated.
> A expects B not to have a normal sexual drive.

Now let us review where we are in this overall paradigm.

In the simplest case of a two-person, peer relationship, if anger arises in one toward the other, there is some **cause** for this. **We are calling the cause the "problem."**

When anger arises, **the natural tendency is not the solving of the problem, but instead a struggle for dominance**, with one of the four bad outcomes, bad because of the residual anger-containing memory that adds to the store of such memories and increases the likelihood of even more intense anger in subsequent situations that are reminiscent of the store of anger-containing memories, and also increases the likelihood of mistakenly thinking that a current situation is a replay of the past, thus causing anger when none would be expected in response to the actual situation. This increasing tendency toward chronic anger and struggles for dominance leads to increasing alienation and ultimate breakdown of the relationship.

But **there is an alternative to the struggle for dominance**, one that is not natural and requires being taught principles to follow that guide the person to do that which is optimal, that is, that which will be most likely to produce the best outcome. **That alternative is problem-solving behavior**, the solving of the problem that caused the original anger (as opposed to the additional anger that may be caused by the hostile behavior involved in the struggle for dominance). We have not yet covered **how** to engage in problem-solving behavior, but we have looked at **what solving the problem consists of**, namely, **the two individuals coming to an agreement as to which of six problem types the problem falls under**. If A has developed anger toward B, then B has been mean to A, or B has not lived up to A's appropriate expectation, or B has not lived up to A's inappropriate expectation, or it is not one of the above but A thinks so (has made a mistake).

Remember, the solving of the problem consists of the **agreement** of the two as to the problem type, but **problem-solving behavior is only what oneself does; it is not what the other does or what the two do together**. (This admonition will become clearer when we talk about the principles of problem-solving behavior.) Of course, the odds of a good outcome are indeed improved if each of the two individuals knows and utilizes the principles of problem-solving behavior.

But before we come to how one engages in problem-solving behavior, we need to look at **what constitutes the optimal resolution**. We are assuming that both have come to an agreement as to which of the six problem types the problem was. Then, something should be done to resolve the situation. By resolve, I mean bring it to rest, to a conclusion that both feel satisfied with. But what needs to be done depends upon the problem type. Therefore, we need to look at the optimal resolution for each of the six problem types.

If B has been mean to A, then B will say to A (not necessarily in these words, but in such a way as to convey the following content), "I understand your anger. I should not have done what I did. And if I have a tendency to do this sort of thing, I want to stop doing it, so if it seems to you like I am doing this again, please call it to my attention so that I can work more effectively on stopping doing it."

If B has not been mean to A but A (mistakenly) has thought so, then A will say to B, "I no longer have any anger toward you. I realize that I made a mistake. And if I have a tendency to make this kind of mistake, I want to stop doing so. So if it seems like I am making this kind of mistake in the future, please call it to my attention so that I can work more effectively on stopping doing so."

If B has failed to live up to A's appropriate expectation, then B will say to A, "I understand your anger. I should have done what you expected. And I am going to try to live up to that expectation from now on, so if it seems like I'm not doing so, please call it to my attention so that I can work more effectively on doing so."

If B has failed to live up to A's inappropriate expectation, then A will say to B, "I no longer have any anger toward you. I realize now that what I was expecting of you was not really appropriate. And if I have a tendency to have that expectation of you, I want to stop doing so. So if it seems like I am expecting that of you in the future, please call it to my attention so I can work more effectively on stopping doing so."

If B has lived up to A's appropriate expectation but A (mistakenly) has thought not, then A will say to B, "I no longer have any anger toward you. I realize now that I made a mistake, and that you did do as I expected. And if I have a tendency to make this kind of mistake, I want to stop doing so. So if it seems like I'm making this mistake in the future, please call it to my attention so that I can work more effectively on stopping doing so."

If B has lived up to A's inappropriate expectation but A (mistakenly) has thought not, then A will say to B, "I no longer have any anger toward you. I realize that I made a mistake. And if I have a tendency to make this kind of mistake, I want to stop doing so. So if it seems like I am making this kind of mistake in the future, please call it to my attention so that I can work more effectively on stopping doing so. But also, I realize my expectation was inappropriate. I am going to try to avoid expecting that of you in the future, so if it seems like I am doing so, please call it to my attention so that I can work more effectively on stopping doing so."

Note that there are four basic ingredients. There is the declaration of no remaining anger in the self toward the other ("I no longer have any anger toward you" or "I understand your anger toward me"). There is the acknowledgment that the one made a mistake ("I should not have done what I did," or "I should have done what you expected," or "I should not have expected that of you," or "I mistakenly thought something that was not so," etc.). There is the intention to try not to make the mistake again. And there is the request for feedback to help bring about any necessary change to eliminate the tendency to make the mistake again.

The reader might note how rare it is for a complete resolution to take place. That is one reason why I designate problem-solving behavior as a path leading off into the woods with a lot of fog. Very few take that path, or even know how.

But with this successful **solving** of the problem, and then with the appropriate **resolution**, there is **a set of outcomes that are expectable:**
      (1) Each individual will understand the other better.
      (2) Each individual will feel better understood by the other.

(3) They will devise **new procedure** within the relationship designed to reduce the likelihood of the problem occurring again.

(4) And they will both feel good about the procedure. (In other words, neither will feel that he or she is submitting, even if he or she is making a sacrifice.)

(5) Because they have built something together (the new procedure), they will experience increased affection for each other (this generally happening when individuals work together on a positive project).

(6) And because they both feel that they are doing the right thing, they will feel better about themselves, even if one believes that he or she is making a "sacrifice." (The most important source of self-esteem is the belief that one is doing what one believes to be the right thing to do.)

The reader should note the above reference to "**procedure**."

Such procedure may be quite complex, such as that it will be one's responsibility to do something on certain days of the week, unless certain unusual circumstances arise that would either lead to the something not being done or to it being done by the other, etc. Or such procedure may simply be, for instance, that if the individual feels that way again, he or she will let the other know (by perhaps using certain words or gestures).

The development of a relationship might be said to be primarily the development of procedure. Procedure refers to the **rules** that guide behavior (decision-making), depending upon the situation. These rules may never have been stated in words, but there is at least the possibility of doing so. The rules allow one to **predict** what will be done, if one knows the **situation**. So, when two (or more) individuals develop new procedure in the relationship, their behavior becomes predictable to each other, and they have entered into an **agreement** that the predicted behavior is the **right** thing to do (at least as understood between or among those individuals. So, if someone deviates from (agreed-upon) procedure, that individual will be likely to fail to live up to the expectation of the other(s), with resulting anger. But the existence of the agreed-upon procedure acts to prevent anger from occurring, and usually (but not always) such procedure makes for greater efficiency and a better quality of life within the relationship.

Of course, procedure may be faulty, or have "bugs" in it that need to be worked on as time goes on. **This ongoing refinement of agreed-upon procedure is the very heart of the building of a relationship.**

And when **new procedure** is developed, it will represent **new behavior that has yet to be practiced**. There will be the likelihood that **mistakes** will be made and doing things the old way will occur at times. It can be an inappropriate expectation of the other to expect the other to be perfectly adherent to new procedure from then on, so the recognition on the part of both that one may at times, especially at first, forget and do things the old way, combined with the agreement that reminding each other when such forgetting occurs is appropriate, will be the maintenance of and adherence to **appropriate** expectations of each other and therefore the enhancement of the quality of life in that relationship, an example of optimal living.

Much procedure within relationships develops in a very **informal** manner (not explicitly stated in words). As the relationship develops, it comes to pass that one of the individuals (A) always does certain things while the other (B) always does certain other things. But then it sometimes

happens that anger develops in A by virtue of A coming to expect B to do one of these things simply because it is there to be done and because B presumably has time to do it. B doesn't do it because he or she predicts automatically that A will do it (according to usual procedure). This anger would result, then, from A's inappropriate expectation that B do it without receiving a request to do so. Under these circumstances, after problem-solving behavior had taken place and the problem was determined to be A's inappropriate expectation, the two of them might indeed revise the procedure such that they would take turns doing the something, or such that B would indeed do the something in certain situations, etc. This new procedure would, then, reduce the likelihood of anger arising again in the future. The relationship would now be enhanced, or more optimal.

Notice that the outcomes of repetitive struggles for dominance and of repetitive successful use of problem solving-behavior are opposite. Repetitive struggles for dominance lead to increasing **anger** and **alienation** (defined as decreasing understanding of each other due to reduced communication) within the relationship. Repetitive successful use of problem-solving behavior leads to increasing **affection** and **intimacy** (defined as increasing understanding of each other through self-disclosure).

I want to return to the above description of complete resolution (following agreement regarding the nature of the problem). The reader might be tempted to put a shorthand label on the concept of resolution, namely, "apology." The term "apology" is not used within the paradigm I am offering, for two reasons.

In the first place, the meaning of "apology" is very **ambiguous**. For instance, each of the following examples might be labeled an "apology," but they are quite different responses.
       (1) "I'm sorry that I did what I did."
       (2) "I'm sorry that I upset you."
       (3) "I'm sorry if I upset you."
       (4) "I'm sorry if I did something wrong."
       (5) "I'm sorry if you are upset."
       (6) "I'm sorry that all this had to happen."
       (7) "I apologize."
       (8) "I'm SOR-ry!" (said hostilely)
       (9) "I'm sorry that you feel that way."

In the second place, apology tends to **substitute** for the actual solving of the problem. It tends to be **ritual submission**, to reduce the anger in the other person. It is presumed somewhat "unfair" to continue to be hostile to someone who has already apologized (submitted), since this would be like kicking someone when he or she is down.

Apology is sometimes used as evidence for "regret." Whether or not a person truly regrets having made the mistake involved in one of the six problem types can certainly be conveyed by the sincerity of tone and even an overt statement to that effect. However, it is important, insofar as possible, to have a complete resolution, and the simple communication of regret, especially when what the regret is about is ambiguous, is far from a complete resolution.

So now we have seen **what one is trying to accomplish** with problem-solving behavior.

Now it is time to review **the principles of problem-solving behavior**, that is, **how to do it**.

Let us recall our metaphor of two individuals going down a road, when all of a sudden one of the individuals develops anger toward the other. We might visualize the head of one of them turning red. At that point, the natural tendency is for that individual to initiate a struggle for dominance by engaging in hostile behavior toward the other, thus taking the main road off to the left with one of its four bad outcomes, leaving an anger-containing memory and bringing them closer to the breakdown of the relationship. But it is possible for either one of the two individuals, and even possibly both, to do something that **does not come naturally**, taking the little path off into the woods, the path that leads to **solving the problem** that caused the anger, the **resolution** of the problem, the development of **new procedure**, and thereby a strengthening of the relationship. This behavior is fostered not by the anger, but by the **ethical sense** that accompanies the **ethical beliefs** that constitute the **principles of problem-solving behavior**, the rules of conduct that are more likely to lead to the **better outcome** and thus are more **optimal**.

These principles (of problem-solving behavior) must be few, simple, and clear.

I will present these principles to the reader for his or her consideration. They are arranged in the order of importance, as I have come to see them in my work with couples, families, etc. Although they are few, simple, and clear, they do not come naturally and they have to be **practiced** and **developed as a set of skills**. They should be taught by the culture through child rearing, education, and general modeling for identification, but although they are not missing from what we do, they are lost in a mixture with what comes naturally in such a way that they are not immediately obvious. And because they are mixed in with what comes naturally, they seldom are able to make the difference and lead to the positive kind of outcome described above.

I remind the reader that these principles are what the reader follows, not what the reader requires the other person to follow. They are not what a couple does; **they are what the self does**.

The first principle, the most important one, by itself does not accomplish anything and probably would constitute only submission, one of the four bad outcomes of the struggle for dominance. But it makes it possible to carry out the rest of the principles. To ignore it is to drastically reduce the odds of having a successful outcome. This principle is that **one should not be hostile, even if one is experiencing anger**.

We humans have elaborated upon our basic animal nature, creatively learning an almost infinite repertoire of hostile behaviors, often so subtle that we are not aware that we are engaging in them while doing so. They include subtle facial expressions and body postures, sophisticated speech and language patterns, and complicated behaviors out of the sight of the person toward whom the anger is directed. But they also include obvious, overt acts of cruelty and destructiveness, and at times even violence.

To refrain from being hostile when experiencing anger is **a skill that must be practiced**. But in order to do so, one must be **aware** that anger is present and also have the **ethical belief** that engaging in hostile behavior is not optimal. The **ethical sense** associated with this ethical belief must be stronger than the anger motivating the hostile behavior. Unfortunately, **our culture has not yet accomplished acquiring such unambivalent ethical beliefs**. Instead, our culture to some extent fosters admiration of hostile behavior and applauds skillful examples of it.

It is apparent that we are fascinated by, and even thrilled by, the struggle for dominance. We flock to movies that depict violence. We love sports that present thinly veiled fighting or that are simply overt, primitive fights. This kind of entertainment was present in the ancient Roman Coliseum and is present today in recreational fighting events that go all the way to "extreme combat sports." As adults we shout and cheer when overt fighting occurs in games, just as children come running and cheering when two or more get in a fight on the playground. We look for hostile behavior in our reality shows and primitive talk shows that are set up for the purpose of eliciting anger and hostility, and we look with admiration upon unusually skilled examples of hostile speech in comedy shows, sitcoms, and dramas in general. We advise each other to "get back" and "get even," and we are eager to see people "get what is coming to them." Punishment, retaliation, and revenge feel "right" to us. We look down upon "wimps," and we do not have much belief that we can be effective without being hostile. Many of us not only feel good about being hostile, but also actually consciously practice doing so. Some of us actually crave getting into fights, and arrange to do so. For some of us, the absence of hostility would make life boring. And all of this tends to promote pain, suffering, disability, and early death. Yet we accept it as "a part of life."

Now, in no way am I advocating not taking up for oneself to avoid victimization. There may always be occasions when it is best to fight. But what I am saying is that doing so is acting against one of the most important ethical principles we can have, and therefore will best be preceded by whatever thought can be engaged in as to the probable consequences of doing so. One is far better off preventing the escalation of a struggle for dominance insofar as is possible.

We now come to the second most important principle of problem-solving behavior. This principle, when combined with the first, will drastically improve the chances of a good outcome.

The **second principle** of problem-solving behavior is that **one should maintain, and reassure the other that one has, the appropriate attitude**. Note that maintaining it is not enough; one should reassure the other that one has it.

But what is the appropriate attitude? It is the attitude that follows logically from one's lifetime of experience, and yet it is the opposite of the attitude that comes naturally.

First, let us be clear what an attitude is supposed to mean, for our purposes. Remember that behavior is determined by beliefs and motivational states. An attitude, for our purposes, will be a cluster of related beliefs. There is essentially no difference between an attitude and a belief, for our purposes, but I am using the word because, as we shall see, the appropriate belief (attitude) is one that must be practiced, since it does not come naturally. My point is that although one generally thinks of belief as involuntary, there is the possibility of changing some belief upon becoming aware of its inaccuracy and undesirability, and people speak frequently of the changing of attitude as a possible, voluntary act, even though it may require effort and practice. Much of this will become clearer when we get to the chapter on "Rational-Ethical Belief Management."

Now, I have said that the appropriate attitude (belief) is one that follows logically from one's own lifetime of experience. I demonstrate this (in my work with couples, for instance) by asking the following two questions:

(1) Have you not observed, many times in your life, two individuals having a **difference of opinion**, such that if one is right the other **can't** be, since the opinions are **opposite** from one another? (So far, everyone has agreed that they have seen this. True, they could **both** be wrong, but at least one of them **has** to be.)

(2) **AND**, both of them are **certain** they are **right**?

What is the logical conclusion to be drawn from this observation? Is it not apparent that the **feeling of certainty that one is right is no good evidence that one is**? In the set of these individuals who are convinced they are right and are in disagreement with another person who is also certain that he or she is right, **at least half of them are wrong**. In fact, although they can't both be right, they could both be wrong. So in such a situation, **the odds are probably slightly more that one is wrong**. This then is a large number of people who are certain they are right who are nonetheless wrong.

So the first part of the **appropriate** attitude is:
> **Even though I believe I am right, I REALIZE that I could be wrong.**

Now, contrast that with the **natural attitude**, the one that is much more likely to be observed, namely, "**I KNOW I'm right, so YOU are either lying, dumb, or crazy, or just plain bad**." Let us look at various responses that follow from the natural attitude:

(1) You're lying!
(2) You know better than that!
(3) Are you trying to tell me that you believe…?
(4) You can't really believe such a thing!
(5) Just listen to me! (I'll straighten you out.)
(6) Let me explain something to you.
(7) How dumb can you be?
(8) That's stupid!
(9) You've got a lot to learn!
(10) I feel sorry for you!
(11) That's crazy!
(12) How can you believe such a thing?
(13) You ought to have your head examined!
(14) If you believe that, I don't want to have anything to do with you.
(15) Well, you just believe what you want to!
(16) Get out of here!

Let us now **rename** the appropriate attitude as the "**open attitude**," referring to being open to the possibility that one could be wrong (no matter how certain one is that one is right).

The open attitude is a higher level of functioning within the brain. It is the development of a belief about the feeling of certainty that accompanies a belief. It is a belief about a belief. It is usually not until adolescence that an individual can actually think about his or her own thinking, but if the open attitude were taught and modeled as a part of child rearing, as will be talked about in the next chapter, we would probably, I believe, see this capability in children prior to adolescence. (This remains to be seen, of course.)

So, the second principle of problem-solving behavior is that one should recognize that, if someone is disagreeing with oneself, even if one feels certain that one is right, one could still be wrong. Not only that, however, one should reassure the other that one has this open attitude. The reason for the need for reassurance is that the other person will assume, in the absence of evidence to the contrary, that one has the natural attitude (described above).

But there is a second part to the appropriate attitude. Again, this second part is also a logical attitude to have, even though it is the opposite of the natural attitude. In order to demonstrate the logical nature of it, I generally ask two questions:

> (1) If you are wrong about something, would you want to find out you were wrong so that you could become correct? (Most individuals answer yes to this question. However, a few will answer negatively, saying that it is just too painful to learn that they are wrong. My impression is that these individuals have a greater set of problems in living, related to being more out of touch with reality.)

> (2) If you are wrong about something, are you more likely to find out that you are wrong, and thus become correct, if you listen to someone who agrees with you, or someone who disagrees with you? (When the person fully understands this question, he or she generally states that listening to the person who disagrees with oneself is more likely to clarify that one is wrong. The value in hearing critiques from others of one's own ideas is what is being talked about here.)

So the appropriate attitude may now be called the **open, listening attitude**.

But we must clarify the **particular kind of listening** that we are referring to. Most will claim that they are indeed listening to the other person. That is how they "know" the other person is wrong, and it is also how they "know" how best to "refute" the other person. In other words, the usual way of listening to the other person is to figure out how to show the other person that he or she is wrong. But the kind of listening we are referring to in the open, listening attitude is that which has a different goal than the one just mentioned. One knows why, in one's own mind, one believes as one does. What one does not know is why, in the other person's mind, the other person believes as he or she does. So, the kind of listening that is optimal is that in which the goal is to see why, in the other person's mind, one's own belief does not seem correct to the other. In other words, the listening attitude that we are talking about here consists of the kind of listening that fosters the other person presenting the beliefs and reasoning that exist in the other person's mind. This kind of listening manifests itself in different kinds of behavior. Instead of refuting, rebutting, explaining, contradicting, etc., it manifests itself in the asking of questions and in requests for information. It is only when one sees why, in the other person's mind, it seems clear to the other that one is not correct that one really has a clear picture of what is producing the difference of opinion.

Now there is a reason for having, and reassuring the other that one has, the open, listening attitude, and that reason is that **it works**, that is, that **it optimizes the chances for agreement to occur and for anger to subside**.

There are two possible outcomes to successfully maintaining and reassuring the other that one has the open, listening attitude:

> (1) One may indeed acquire additional knowledge or insight that results in one realizing that one has been wrong, so that one does benefit by becoming correct. One can then

say to the other that the other has indeed changed one's mind, on the basis of this new information or line of reasoning. One clearly benefits from this outcome, if it is indeed a good thing to be correct. And there is the added benefit that now there can be agreement.

(2) On the other hand, when one has listened to the other to the extent that one now sees why the other believes the way he or she does, one can see what the other was missing or not seeing that resulted in the mistake. Then one can say, "You know, I think I have an idea about what the reason for our disagreement has been. May I share that with you?" It is usual that the other will listen. Then, one can clarify what information the other was lacking, or what mistaken assumption the other was making, that led to the other's belief. Once again, there is now the possibility of agreement.

So, reassuring the other that one has the open, listening attitude would consist of statements similar to the following:

"It does seem apparent that we disagree. However, I realize that I could be wrong, and if I am, I certainly want to know. Help me to understand why you think I am wrong. I really appreciate the feedback."

And this would indeed be **felt** (would be an accurate description of one's own internal way of thinking) and therefore would be said **sincerely**. Note that one cannot say it sincerely unless one does indeed **have** the open, listening attitude, so one needs to **practice** having this attitude in order to make it **strong** enough to be **functional**.

In situations in which anger has arisen in the other person toward oneself, the belief of the other person is either that one has been mean to the other person or that one has not lived up to the other person's appropriate expectation. Of course, there are four other possibilities. (The reader is referred back to the six problem types, under one of which the problem producing the anger will fall.) We can combine the two possibilities (that one has been mean to the other or that one has not lived up to the appropriate expectation of the other) into a general statement that one has "done something wrong." Thus, another rendition of the open, listening attitude would be:

"I can see that you believe that I have done something wrong. Perhaps I have. I don't see it yet, but if I have done something wrong, I certainly want to understand what I have done and try to make it right to you. So can you help me to see what it is that you believe I did wrong? I really appreciate the feedback."

The above words, of course, do not have to be used. But the thoughts that those words model are what need to be conveyed to the other. And the other may need lots of reassurance that one really does believe what one is saying, because the other will, as we have said, assume that one has the natural attitude unless one gives much evidence to the contrary.

So now we have covered **the top two principles of problem-solving behavior**:

(1) One should not be hostile, even though one may be experiencing anger.

(2) One should maintain, and reassure the other that one has, the open, listening attitude.

Skillful adherence to these two principles (ethical rules of conduct) will drastically improve one's chances of having a good outcome.

The next two principles are actually "two sides of the same coin," so to speak.

The **third principle** is that **one should not interrupt the other when the other is speaking**.

We are talking about anger-containing situations, in which the other has anger toward the self. (Interrupting the other is far less hazardous if there is no anger.) If I have a point to make, and it will require three sentences to make the point, as for instance in the statement of a syllogism, it will be important for me to convey this understanding to the other. But perhaps I start out on these three sentences, and after getting the first half of the first sentence out, the other person interrupts with some rebuttal or disagreement. I then attempt to deal with that statement by focusing on it, only to have the same thing happen once again. Long gone is the opportunity to make my syllogism clear to the other person. This inability to be heard, then, produces more anger in the self, and pushes the interaction toward a struggle for dominance.

Not interrupting is what the self should do. It would be nice if the other did not interrupt, either, but one cannot and should not count on the other to follow the principles of problem-solving behavior, as has been mentioned already. So if one is talking and the other interrupts, one should become silent and let the other finish. Then one can say to the other something like:
> "I understand that you have some concerns that need to be addressed. However, I am worried that you will not understand what I am trying to get across unless I can say the whole thing at one time. Would it be okay if I try again to give this whole point? We could then get back to the point that you have just raised. Or, if you prefer, we could discuss what you just raised and then get back later to what I was trying to convey."

Remember that the words used may vary. It is the thought that counts. And the thought should, of course, be shared in a non-hostile manner.

The **fourth principle** is that **one should not talk too long**.

If A is listening to B and is accumulating a set of rebuttals to what B is saying, or a set of clarifications or explanations that offer a different viewpoint, when A has accumulated about seven or so, A will start believing that clearing up B's misconceptions or inaccuracies is going to be impossible, in that A probably won't even remember all of the points to be made, much less be able to do a thorough job of explaining. When one person talks too long, the other becomes demoralized, and therefore much more prone to become hostile and thus promote the struggle for dominance.

There are times that one person may wish to try to demonstrate to the other a complicated conclusion that he or she has drawn, and that may require presenting a fair amount of data that needs to be heard without interruption in order for the presentation to be effective. Under these circumstances, it is best to ask permission of the other person to make such a presentation. This may be done as follows:
> "I believe I can convey to you why I believe as I do, but it will take my speaking without interruption for awhile, probably about five minutes. Would it be okay if I did that? After I have done that, we can go back over any parts of what I have said that don't seem right to you."

The other will usually allow this, but may suggest or decide that it would be good to take notes so that points of disagreement will not be forgotten and ignored. Another arrangement that the two might make, that is often helpful, is to have the understanding that if the listener is in disagreement with something that the speaker has just said, he or she will raise a finger to signal

this. Doing so will not be an interruption of the speaker, but it will alert the speaker that something is probably going wrong with the communication. The speaker then may choose to give more detail by virtue of a guess as to what the listener is having trouble with, stop and get clarification before proceeding further, or proceed further but with perhaps the recognition that it will be beneficial to stop earlier than planned due to something going wrong.

So now we have covered **the top four principles of problem-solving behavior**:
>   (1) One should not be hostile, even though one may be experiencing anger.
>   (2) One should maintain, and reassure the other that one has, the open, listening attitude.
>   (3) One should not interrupt the other.
>   (4) One should not talk too long.

The **fifth principle** of problem-solving behavior is that **one should not change the subject**.

There are **three very common ways in which the subject is changed** in efforts to discuss anger-containing situations.

The first common way in which the subject is changed is the **discounting of anger**.

Remember that if one person has anger toward the other, the one person believes that the other has done something wrong (has either been mean to the other or has failed to live up to the other's appropriate expectation). The way that anger is usually discounted is to explain it according to some hypothesis that does not involve the other. The other might say:
>   (1) You aren't really angry at me; you are just tired.
>   (2) You aren't really angry at me; it's just your cold that is making you irritable.
>   (3) You aren't really angry at me; you just had a bad day at work and are taking it out on me.
>   (4) You aren't really angry at me; you are just PMS-ing.
>   (5) You aren't really angry at me; you just had a bad childhood.

It is of course true that the intensity of anger may be increased by psychological, neurological, or metabolic factors that do not have to do with the person toward whom the anger is directed, but if anger is directed toward the person, then the cause of the appearance of the anger in the first place is one of the six types of problems described above, and it is this problem that must be solved in order to have a satisfactory resolution and outcome. If one makes a statement to the other similar to those above, one can usually expect an escalation of anger based upon the expectation that one will try to understand the other and "take the other seriously." Discounting anger tends to lead to demoralization, a feeling of hopelessness based upon the belief that adequate discussion and clarification of the problem is impossible.

The second common way in which the subject is changed is the **focusing on the other's manner of presentation**.

The most common example of this is complaining about the other's hostile behavior, as in the following examples:
>   (1) Don't talk to me that way!
>   (2) I don't like your tone of voice!
>   (3) Can't you be nice?

(4) You know, I would be much more receptive to what you are saying if you wouldn't yell at me!
(5) Calm down!

Praising the other's behavior can have the same effect, as in, "Gosh, you really are getting so you can express yourself well!"

Changing the subject in this manner will almost always, again, escalate the struggle for dominance. Each example is an obvious or subtle criticism of the other. The other feels that his or her communication about what he or she feels strongly about is being ignored, and this is inconsistent with what the other expects, or considers fair or appropriate.

The other's way of behaving or communicating may indeed be suboptimal and a problem to the relationship, and it then should, of course, be discussed at some time. However, it should be discussed as a subject in its own right, in a separate conversation, at an optimal time for such a discussion. (Timing of discussion will be discussed below.)

The third common way in which the subject is changed is by referring to other topics, usually complaints about the other, as in:
(1) Well what about what YOU did YESTERDAY?! (And twenty years ago?!)
(2) What I did is no worse than what you are always doing!
(3) Well that's no worse than the way your mother treats me!
(4) Well, you deserve what I did, because of all the times you have mistreated me.

Again, the topic may be important to discuss, but it should be discussed in its own right, at a separate time. The effort in problem-solving behavior should be to understand the events that produced the sudden appearance of anger, meaning to identify which of the six problem types the problem was an example of, so that the appropriate resolution and development of new procedure can take place.

So now we have covered **the top five principles of problem-solving behavior**:
(1) One should not be hostile, even though one may be experiencing anger.
(2) One should maintain, and reassure the other that one has, the open, listening attitude.
(3) One should not interrupt the other.
(4) One should not talk too long.
(5) One should not change the subject.
      (a) One should not discount anger.
      (b) One should not comment on the other's communicative behavior.
      (c) One should not comment on what the other has done.

The **sixth principle** of problem-solving behavior is that **one should initiate discussion properly**.

This principle is somewhat more complex. It becomes slightly different depending upon who is using it. There are two possible circumstances in which problem-solving behavior may become appropriate:
(1) Anger first arises in the self toward the other.

(2) Something leads the self to believe that anger may have (first) arisen in the other.

If anger first arises in the self toward the other, one should first choose a good time to talk to the other about it and then ask the other's permission to use the time for this purpose. An example of doing this might be:

> "There is something that I want to talk with you about. I have some feelings about something that I may be overreacting to or drawing some wrong conclusions about, and maybe you can help me with those feelings. (The reader should note the open, listening attitude.) I figure that it might take about fifteen minutes. Is now a good time for us to discuss it?"

The goal in this kind of initiation is that of having a satisfactory discussion **without premature termination** of the discussion, perhaps leaving another anger-containing memory. The other might say, "Sure, now is a good time." But he or she might also say, "Let me go to the bathroom first, and then it will be okay," or "Gosh, my favorite TV program is just starting; can we wait till it's over?" or "I want to talk about it too, but I think its going to take longer, so what about talking about it during supper?"

Not only is this initiation best to avoid premature termination of the discussion, but it also aids in preventing a change in subject. If the other does change the subject, one can more easily say, "Well I understand that what you have brought up needs to be discussed. Do you feel so strongly about it that we should shift to discussing it? We can do that and then get back to the topic I am trying to discuss, or we could finish my topic and then discuss yours. What do you think we should do?" Since the person has already agreed to discuss one's subject, he or she will probably agree to stick with it when it is apparent that his or her topic is a different one.

If something leads the self to believe that anger may have (first) arisen in the other, one should attempt to get this confirmed as soon as an appropriate time to have the discussion occurs. There are social situations in which it is not appropriate to discuss personal issues. The next best time might be in the car on the way home. It may not be necessary to have the full discussion right away, but it will help the other to know that one is aware that something has gone wrong and is willing to discuss it. The open, listening attitude must be maintained and conveyed. An example might be:

> "I have the feeling that you may be upset with me. Do you feel that I have done something I should not have? I may have made a mistake, and if so, I would like to hear about it so that I can make it right. Please help me to understand why you are upset."

And if there appears to be insufficient time to discuss it adequately, one might add:

> "I know we can't discuss it adequately now, but I do want to discuss it, and if I have made a mistake, I want to make it right."

It should be noted that this principle having to do with initiation of discussion is seldom followed. Instead, discussion is often initiated by the person who develops the anger at the time that it develops, without regard to the appropriateness of the situation, and often with unsatisfactory completion of discussion because of this.

It is important to use appropriate wording when initiating discussion. Some individuals do not easily admit to anger, so reference to it may not be wise. Instead, asking whether the other believes that one has done something wrong, without any reference even to the other being

"upset," may be the wisest thing to do. Reference to the feeling of anger may be experienced by the other as a criticism, in that he or she may think that one is saying, "You shouldn't be angry." Knowledge of the other's ways of thinking and talking will help one to avoid the appearance of criticism and will make reassuring the other that one has the open, listening attitude easier.

So now we have covered the top six principles of problem-solving behavior:
　　　　(1) One should not be hostile, even though one may be experiencing anger.
　　　　(2) One should maintain, and reassure the other that one has, the open, listening attitude.
　　　　(3) One should not interrupt the other.
　　　　(4) One should not talk too long.
　　　　(5) One should not change the subject.
　　　　　　　(a) One should not discount anger.
　　　　　　　(b) One should not comment on the other's communicative behavior.
　　　　　　　(c) One should not comment on what the other has done.
　　　　(6) One should initiate discussion properly, by choosing what seems to be the best time (for uninterrupted discussion), and:
　　　　　　　(a) if anger has first arisen in self, get the other's agreement for the discussion at that time or later.
　　　　　　　(b) if anger first seems to have arisen in the other, confirm that the other does believe a problem exists.

All of the above principles apply actually to hierarchical relationships as well as peer relationships, but hierarchical relationships require an additional principle. Again, by hierarchical relationships we mean essentially relationships in which the society assumes, or assigns, a position of dominance of one individual over the other. In such relationships, the expectation would be that the subordinate will "obey" the superior within a domain of decision-making that depends upon the specific nature of the relationship (parent-child, employer-employee, leader-member, etc.).

The fact that there is this societal expectation of obedience means that the superior will also expect it. If the subordinate does not do as the superior has directed, the superior experiences this as the subordinate being "insubordinate," that is, failing to live up to the appropriate expectation of the superior, and the superior experiences anger, with the natural tendency to become hostile to the subordinate and to engage in behavior usually labeled as "punishment" or some equivalent term, such as "discipline."

But the subordinate has certain expectations of the superior, also. The subordinate usually has the expectation that he or she will be listened to if he or she has concern about how he or she is being treated or if he or she is making a request of the superior.

So the **seventh principle** of problem-solving behavior is that, **in a hierarchical relationship, the appropriate reassurance is given as to the concern of the one to do right by the other**.

If one is the subordinate, then one would reassure the superior that one is going to be obedient to the superior (assuming that the situation is not one in which the subordinate believes he is being asked to do something unethical). The reassurance might be something like:

> "I certainly intend to do what you request me to do, and to do my best in doing so, but I would like to express my concern about certain aspects of what you are asking me to do. Is it okay with you if I tell you what my concerns are?"

If one is the superior, then one would reassure the subordinate that he will be listened to, perhaps as in:

> "I welcome your bringing this matter to my attention. I know that you would like me to decide in the manner you have suggested. Of course, I have to do what I believe is right, but I realize that I could be in error. So, if you still believe that I should decide this matter differently, then let's plan to discuss this some more. We can both think about it and meet again to see if either of us have any new ideas. For the time being, I must stick to my decision for the reasons I have given you, but the door is not closed."

Now the above examples are meant only to give a flavor of the kind of interaction that would be optimal. There may be aspects of the situation that would make some of the comments given above inappropriate.

Also, different kinds of hierarchical relationships may require some modifications appropriate to those relationships. But the general idea of each reassuring the other that he or she intends to do right by the other is, I believe, always applicable.

So now we have covered the top seven principles of problem-solving behavior:

(1) One should not be hostile, even though one may be experiencing anger.
(2) One should maintain, and reassure the other that one has, the open, listening attitude.
(3) One should not interrupt the other.
(4) One should not talk too long.
(5) One should not change the subject.
>   (a) One should not discount anger.
>   (b) One should not comment on the other's communicative behavior.
>   (c) One should not comment on what the other has done.
(6) One should initiate discussion properly, by choosing what seems to be the best time (for uninterrupted discussion), and:
>   (a) if anger has first arisen in self, get the other's agreement for the discussion at that time or later.
>   (b) if anger first seems to have arisen in the other, confirm that the other does believe a problem exists.
(7) In a hierarchical relationship, one should reassure the other of one's concern to do right by the other.
>   (a) The superior should reassure the subordinate that the subordinate will be listened to.
>   (b) The subordinate should reassure the superior that the subordinate will do as the superior says (if ethical).

The reader is free to develop his or her own principles and to advocate them to others. The above is my list, in order of importance as I have seen them in my practice and in my personal life. My prediction, which of course can be incorrect, is that a better list cannot be constructed, though I know that the list can be added to and the items in the list can be elaborated upon.

These principles, ethical rules of conduct, are guides to optimize the chances of a good outcome. They do not guarantee it. They are not always what one should do, but if one sees that one is about to do something that is contrary to what one of the principles would recommend that one do, one should think very carefully about whether the situation really warrants deviating from the principle.

It should be noted that none of the above principles is likely to seem incorrect. I believe that the majority of people would say that they make good sense. However, it should also be noted that one seldom sees individuals following these principles in actual situations. Again, they do not come naturally. They have to be taught and learned. Our culture does not agree that following these principles is correct. My belief is that it is quite likely that, in the time of "Homo rationalis," when and if that time comes, these principles will be known to everyone, and will be taught to and modeled for children from infancy onward. But we, ourselves, can, in our own individual lives, and within our own families, and with our own children, follow these principles and thereby foster good relationships within our spheres of influence and within the limits of our capabilities. Doing so will be promoting the survival of and the good life for our species, meaning for all of us, now and in the future.

But what we have now covered is what I have referred to as **external anger prevention**. It is the effort to change the situation that has produced, or is likely to produce, anger.

Internal anger prevention is the effort to reduce or eliminate the anger that one experiences in response to the situation.

There certainly can be **debate as to whether one should attempt to reduce or eliminate anger**.

There is a general awareness that chronic anger has a detrimental effect on one's physical and mental health, as well as on the quality of one's relationships with others. Some individuals are regarded by others as living under the domination of feelings of anger over past traumatic situations such that their current decision-making is suboptimal and their quality of life is degraded. They are advised to try to "get over it and move on," to "be forgiving," to "forget about it," to "let bygones be bygones," etc. And there are cultural recommendations to "love one's enemies."

On the other hand, **in our current society, there is also a set of values that promote anger**.

Much of the appeal of the media comes from its display of evidence of anger and even its display of hostility, especially that which is skillfully engaged in. As noted already, many of us are thrilled as we see hostile conflict, usually between "the forces of good and evil." (Of course some point to what seems to be an increase in the tendency toward violence on the part of children who have much exposure to such portrayal of hostile models for identification.)

Individuals may be looked down upon if they do not demonstrate that they have anger about certain situations. Not having anger may be regarded as not being a good citizen. If something mean is done to someone and that individual does not display evidence of anger, he or she may be considered defective in some manner. If something mean is done to someone, and that person's acquaintance does not display evidence of anger, the acquaintance is not regarded as a good friend. A person not displaying evidence of anger may be regarded as "not having any

feelings," and thus as inferior. And some individuals take pride in their anger, nurse it, and make a point of displaying the evidence of it to others, this presumably showing that the individual "has values" and is superior in some way to those toward whom the anger is directed. (On the other hand, there is also the general knowledge that emotion tends to distort reason, that there are "always two sides" in any conflict, and that anger in no way increases the likelihood that the individual who has it is correct. For this reason, as arbiters of conflicts, individuals are sought who are "impartial" and not likely to be swayed by emotions as they examine the issues.)

And there is an even greater reason given for valuing anger, namely, that it serves as the motivational state that produces behavior designed to correct the problem that has produced the anger. For instance, if there is some injustice that continues to occur, anger about it may lead to behavior that brings about the end of the injustice, so the idea goes. In fact, many would believe that all the major advances in overcoming injustice have been accomplished by behavior motivated by anger. (However, it is possible that such progress has actually taken place **in spite of** the usual reaction of anger, by virtue of something new that has been added that has allowed us to transcend, or improve on, our basic animal nature. That something new is what this book is about.)

And finally, there are approaches to "anger management" that utilize the concept of "getting the anger out," so that it will not "fester inside," and cause physical or mental illness, or at least some excessive, inappropriate hostile behavior. Getting the anger "out" usually, but not always, refers to some sort of hostile behavior, sometimes directed at a substitute for the original target. Once having been "gotten out," the anger "inside" the person is presumably less intense or perhaps even gone. He or she has "gotten it out of his or her system." This way of conceptualizing "emotions," "drive states," etc., has been referred to as the "hydraulic" model. Anger would be regarded as something like a substance, which is in a container, the mind, and obeys to some extent the laws of physics, such that if some of it is "gotten out," it is no longer in the vessel, and pressure inside the vessel is relieved. (The problem is that this metaphor or model does not fit observations very well. There is, to be sure, a tendency for a feeling to be less intense after it has motivated a large amount of effort, somewhat following a "satiation" model. However, there are also examples where the anger seems to grow in intensity over time, when the person keeps being hostile. Also, the hostile behavior often elicits anger and consequent hostile behavior from others (struggles for dominance), a situation that tends to escalate, as has been covered earlier. In contrast to the hydraulic model, I believe there is a more adequate model, which essentially is an extension of the concepts given in the chapter, "Basic Concepts: Determinants of Behavior," and will now be elaborated upon.)

In the model being used in this book, anger generally arises in response to a **situation**, involving the perception of, the memory of, or the prediction of some event(s). But in fact, **when anger arises** in response to such events, it is not the events themselves that produce the anger but the person's **beliefs** about those events. The person would need to believe that the events had occurred or might occur, for one thing. Also, the person would need to interpret the events in a particular way for the anger to arise. To interpret the events means, in the language of this book, to come to a **belief** about the events. This might include a belief as to the motives of others or a belief as to what is expectable from others. To carry this idea further, and to be consistent with the earlier part of this chapter, these beliefs would have to be either that the person(s) toward whom the anger is being directed was/were being mean to oneself or was/were not living up to one's own appropriate expectations.

When we develop anger toward person or group X for doing something that has an impact on others, but not ourselves, it is because X is not living up to our expectation that X not do so. We say that X should not have done that. This is an ethical belief, of course. It will relate to other ethical beliefs that we have about what is fair or proper, that is, what should or should not be done. We also are able to "imagine what it would be like" to be the victim of X's action or to be someone who cares about the victim, and by this act of empathy develop the equivalent of the belief that we are indeed impacted in the same manner, and we therefore to some extent react as if we ourselves have been victimized. This will be clearer after reading the chapter on "Rational-Ethical Belief Management."

Thus, **the motivational state of anger is primarily produced by BELIEF, existential and/or ethical.**

So for a person to reduce or eliminate anger in response to something that has occurred, it will be necessary to CHANGE his or her BELIEFS about what has happened.

We have seen how in external anger prevention the solving of the problem leads to a disappearance of the anger. If the problem is that B has not lived up to A's inappropriate expectation, when A realizes **(comes to believe)** that his or her expectation is not appropriate, the anger goes away, and A can reassure B that he or she no longer has anger toward B. The change that allowed the anger to go away was a **change in belief**. The change in belief was from believing that the expectation was appropriate to believing that it was not. Thus, A no longer has the expectation, which had been a **belief** that B should not have done whatever it was that caused the anger.

Now there is an important distinction to make when we talk about whether B should or should not have engaged in the act (or failed to do so). Let us take an extreme example. A person sees a victim of an accident pinned down by something weighing 300 pounds. The victim may be saved if the something can be lifted off the victim. Obviously, the person should do so, **if he or she can**. But suppose he or she can't? Then we would not say that he or she should do so. This is a way of saying that we should not expect the person to do the impossible. Now sometimes whether or not a person can do something is not clear. In other words, how difficult (or painful, or harmful) for the person should something be in order for us not to expect it of the person? Because of our imperfect empathy, what may seem easy or possible to one of us might seem extremely difficult or even impossible to another of us. And in the absence of having much information, we essentially have the option of believing that the desirable behavior is or is not, or was or was not at the time, possible for the person. If we consider that the behavior, though it would have been desirable, was not possible for the person, then we would not expect that behavior of the person, and therefore would not have anger toward the person because of not doing it. We would "understand," or "be understanding."

I believe the reader will be able to see that this way of reducing or eliminating anger is quite common and well-recognized. It is referred to in many different ways. The essential ingredient is that of coming to believe that, given the characteristics of the person toward whom the anger would otherwise be directed, the person cannot or could not be expected to live up to the expectation in question. The following is a list of examples of statements made to someone to help him or her get rid of his or her anger toward X:

X didn't know any better.
X simply didn't understand.
That is simply X's nature.
X simply made a mistake, that's all.
X was just being human.
X was just overwhelmed by his feelings and couldn't think straight.
X was under the influence of Y and simply could not do otherwise.

So we see that changing one's belief such that the other is seen as **not being able** to live up to one's own expectation changes the problem type from the other person having failed to live up to one's own **appropriate** expectation to the other person having failed to live up to one's own **inappropriate** expectation. With the cessation of the expectation comes the cessation of the anger.

And we now can recognize that there is indeed a difference among people with regard to how "understanding" or "judgmental" they are. Those who are "judgmental" have many expectations of others that others fail to live up to, and therefore much anger is generated. Such individuals are frequently observed making statements about how awful certain other persons or groups are and how they should be punished or retaliated against, and they frequently experience anger. Individuals who are more "understanding" generally give others "the benefit of the doubt," and acknowledge that they have not been "in the other person's shoes." The judgmental individual is similar to the individual considered to have the "type A personality," being very "impatient" and prone to anger. The understanding individual is closer to the "type B personality," who takes a "more relaxed" view of life and is not easily angered. We know that the more "judgmental" an individual is, the more distress that individual produces in others and the more prone the individual is to physical illness.

Now I am aware that the **natural response** to what I have written will be something like, "You apparently think no one should ever be expected to do right, and that we should, for the sake of getting rid of our own anger, accept all sorts of atrocities on the basis that the perpetrators just couldn't help doing them. So according to you, no one should ever be held responsible for anything,   The world will become chaos if we do that!"

I wish the reader to know that **in no way do I believe that suboptimal, harmful behavior should be overlooked or not responded to**. The issue is not **whether** there should be a response, but **what** the response should be. I would maintain that the response that comes naturally, as a part of our basic animal nature, has not demonstrated itself to be particularly helpful, assuming that the goal is to eliminate such behavior. The evidence for this statement is that, over the past thousands of years, we still are doing all the same bad things.

And what is the natural response to suboptimal, harmful behavior? Whatever else is done, there seems to be a basic response of **retaliation, motivated by anger**. This retaliation is usually labeled **"revenge"** when referring either to peer relationships or hierarchical relationships from the viewpoint of the subordinate, and **"punishment"** when referring to hierarchical relationships from the viewpoint of the superior. The retaliation is justified by the questionable belief that the only way the same behavior can be prevented in the future is by causing submission through the induction of fear. It can readily be seen that we are again referring to the "struggle for dominance" phenomenon, and we have seen that there are no good

outcomes to the struggle for dominance. Of course, this statement depends on what the meaning of "good" is in this context. Certainly, after an episode of struggle for dominance in which one's self is seen as having won, or in which those with whom one sides are seen to have won, one is likely to refer to the outcome as a good one. But if we take a look at the **overall effect** of the episode, considering all of the consequences to everyone for all time, one is likely to see a fair amount of suffering having been added to the totality of the suffering of our species.

If, for example, a serial killer is put to death, there is some feeling that the need for revenge (through punishment) has been satisfied. But we have to ask if the likelihood of other serial killers making their appearance is any less. Also, we have to ask whether we will have learned more how to stop serial killers from coming into existence if we put this one to death, as opposed to studying him or her in depth, thereby learning that which might prevent untold numbers of such tragedies in the future. We have to ask whether we, ourselves, become better people when we kill the individual, or when we refrain from optional killing. We have to ask whether we will be more likely or less likely to continue studying the problem after we have killed this individual, rather than keeping the individual alive and having to deal with the fact that such an individual exists. We have to ask whether it is at all possible that, given enough time and enough effort to understand the individual and to attempt to change him or her, he or she might have something positive to contribute (perhaps from a supervised environment), to offset what he or she has already done, and that our effort to acquire this understanding may have made us more skilled in certain ways and thus more able to do additional things to make the world a better place.

Is it even possible that one of the factors that goes into serial killing is the very same attitude, within the culture, that punishment, revenge, and killing are appropriate responses to suboptimal behavior? How does an individual develop within the culture such that he or she can live with the idea of serial killing, or killing in general? Does this say something about the culture?

I maintain that "**Homo rationalis" will have concluded that retaliation, revenge, and punishment will have been one of the more defining characteristics of "Homo sapiens**," and will be seen as both cause and effect of our nonrational approach to suboptimal behavior. They will look at our child rearing practices and conclude that our species at this time fills our children with chronic anger, which serves as the motivational state for much of the mean and destructive behavior that we manifest every day. I maintain that they will have found a better way. That way will be based upon knowledge as to what really does work, as determined by much study, only some of which has so far been done, of course.

So let the reader be reassured that I do not advocate that we "overlook" or "ignore" or "accept" or "condone" suboptimal, harmful behavior. What I do advocate is that we take a conscientious look at how we respond to suboptimal behavior and ask ourselves whether how we respond really does work. If not, then we should do what we can to find ways that do work.

Meanwhile, however, we still have to ask whether the anger that we experience in response to certain suboptimal, harmful behavior of others contributes anything positive toward the solution of these difficult problems. What about the question as to whether the anger is what is necessary to motivate behavior to correct the problem? I believe that the anger, if anything, detracts from the efforts to correct the problem, because, given our basic animal nature, anger primarily motivates hostile behavior, which in turn generally escalates struggles for dominance and

generates even more anger. The more intense any emotion is, the more difficult it will be to do the right thing, if the right thing is different than what the emotion (motivational state) tends to produce. Anger promotes the opposite of cooperation with the target of the anger.

And what, then, does indeed motivate doing the right thing? As we have seen before, we are talking about doing what we **should do**, among all the options existing at the time of the decision. There is one motivational state that always, by definition, motivates one to do what one believes one should do, and that is the **"ethical sense"** that accompanies the **ethical belief** as to what one should do. Unfortunately, since our species still primarily utilizes authoritarian ethics rather than rational ethics, and since we have seen that authoritarian ethics fails badly to accomplish the good life for us, there is little effective authoritarian-ethical motivation to do the right thing, compared to the strong motivational states that push us do other things. **Compared to the (predicted) rational-ethical sense of "Homo rationalis," the primarily authoritarian-ethical sense of Homo sapiens is very weak and ineffective in many of us.**

Nevertheless, it is doubtful that anger is the needed motivation to make things right; the ethical sense, especially associated with rational ethics, should, and often does, provide this motivation. And achieving a more optimal way of living is what this book is about.

One can currently find many recommendations as to how to get rid of anger (internal anger prevention). I offer just one, based upon the anger prevention paradigm, and that is what has been stated above, namely, to come to an acceptance that, to a varying (from person to person) degree, by virtue of how we do things as Homo sapiens, we cannot expect each other to be free of the tendency to engage in suboptimal behavior. Instead, we can attempt to **understand** others as much as possible, while doing what we can to promote the handling of suboptimal behavior in the most effective ways known to us. By "effective" I mean tending to reduce the frequency of such behaviors.

So, how might this effort to use internal anger prevention look during an effort at external anger prevention? Imagine the following statements by A, who had developed anger toward B:
> "I realize that, given how you were feeling at the time, you really could not help doing what you did. So I no longer have anger toward you. But what you did caused me much pain, and I really cannot, at least yet, see what you have done as having been the right thing to do. If you agree, let's work on finding some way for us to avoid that happening in the future. If you don't agree, then let's talk about it some more to see if we can indeed come to agree upon what would have been the right thing to do."

In other words, the changing of one's expectation of the other regarding something that has happened in no way reduces the necessity to work on preventing the situation from occurring again, nor does it prevent doing such work.

It should be noted that **the original anger did indeed serve a purpose**. It served as the "smoke alarm" indicating that **there was a problem to be solved**. The continuation of the motivational state of anger, however, is not what will help bring about the improvement for the future. What will help most is the development of the ethical sense in association with the ethical belief that a problem does definitely exist and **should therefore be solved**, in order to promote affection and intimacy, or at least stress-free interaction, in the relationship. Such ethical belief will motivate problem-solving behavior, that has the greatest chance of improving the relationship.

So now let us summarize the whole topic of rational-ethical anger prevention, as I predict "Homo rationalis" will view it.

When anger arises in a person in a relationship, his or her basic animal nature tends to engage in hostile behavior, which fosters a struggle for dominance, which in turn leads to one of four bad outcomes, bad because they nevertheless leave an anger-containing memory. It is the buildup of these anger-containing memories that intensifies future anger reactions and causes mistakes in interpreting situations such that some situations will be seen and therefore reacted to as replays of the past even though they are not. This development of chronic anger in the relationship leads to ever-increasing painfulness of interaction, driving the individuals apart, with ultimate relationship breakdown. But the individual can, instead of engaging in hostile behavior, engage in problem-solving behavior, designed to establish which of the six problem-types was responsible for the appearance of the anger. Doing so allows for appropriate resolution (depending on problem-type) and the development of new procedure in the relationship, designed to reduce the likelihood of that problem recurring. The quality and stability of the relationship is thereby enhanced.

In order to engage in problem-solving behavior, the individual must know, in words, the principles of problem-solving behavior (which are ethical propositions that promote the person doing differently from what the person's basic animal nature would have the person do), and the individual must have become proficient, through practice, in translating these principles into actual, optimal behavior, just as is true in the development of competence in the use of the principles of CPR. The principles must be few, simple, and clear. The principles of problem-solving behavior are adaptable to the peer relationship and to the superior and subordinate positions in the hierarchical relationship.

This effort at external anger prevention is aided by internal anger prevention that consists of taking a more "understanding" (less "judgmental") approach to the other person, while maintaining the effort to solve the problem (rather than just letting the matter drop, leaving an anger-containing memory).

When one is victimized by another who does something destructive to oneself, one can secondarily become also a victim of one's own anger, which will reduce one's quality of life, foster suboptimal behavior, and promote physical and mental illness. If one instead takes an "understanding" approach to the other, making the assumption that the other's past history, life circumstances, inaccurate beliefs, and/or excessively strong motivational states have dictated such behavior, the anger may subside, whereupon one may find that efforts to figure out what will most likely reduce the likelihood of such victimization in the future become easier.

It should be apparent that our species has a long way to go to get to the goal of having the above-summarized way of dealing with anger-containing situations. However, even though no one person can make a noticeable dent in the current picture, as far as our species is concerned, that one such person can indeed drastically change his or her own life for the better by conscientious study, practice, and application of the principles and concepts outlined in this chapter, and doing so will have a substantial benefit on the lives of the people within that person's sphere of influence. And it is by virtue of individuals demonstrating the value of doing so through

modeling for identification, and by exploring with others the validity of these principles and concepts, that multiple, tiny spheres of influence can ultimately begin to coalesce and increase in volume, so to speak, thus promoting this third exponential change that I believe the reader can increasingly come to conceptualize and value.

If the reader leaves this change up to others, he or she cannot expect the change to occur. It is only by virtue of individuals doing their part to make the world a better place that such an expectation (prediction) can be reasonable. Such change must be from the bottom up, so to speak. The change will not be brought about by "government." Government is a reflection of our values. We must, as individuals, have the ethical motivation to bring about these changes within ourselves. We must wish to make the world a better place within our own spheres of influence. Does the reader wish to do so?

RATIONAL-ETHICAL CHILD REARING

Let **child rearing** mean, for our purposes, all the behaviors that those in the parental role engage in to foster the development in the child of skills, wisdom, and ethical values that will optimize the child's current and future quality of life and the child's ultimate value to his or her society.

The reader should note that this definition of child rearing does not limit the responsibility of child rearing to biological or even psychological parents. Also included are grandparents and other extended family members, and any other adults (or even older siblings) that play a significant role in the child's life, thus also including teachers, coaches, big brothers, etc.

Our species engages in no activity of greater potential influence upon its survival and its effort to promote the good life than the area of child rearing. Each of us, at birth, has an enormous potential for becoming someone who makes good decisions or bad decisions. We know much, much more about ourselves and about what has beneficial and harmful effects on ourselves than we did a few hundred or a few thousand years ago. Our childhood experiences have a major effect on who we become later in life and on what kind of impact we will have within our spheres of influence.

Yet there is no set of generally agreed-upon principles of child rearing.

I will be contrasting **two models of child rearing**. The two models are idealized extremes; in actuality, current child rearing involves a mixture of elements from both models. However, it is my contention that **current child rearing is still almost entirely according to the first of these models**, and that there is only **just beginning** (primarily in this century) to be **a change toward the second model**.

The **first model**, therefore, I refer to as the "**standard model**." It is the one that **comes naturally**, arising from our **basic animal nature**. It is essentially our **human version** of what comes naturally to all higher animals, more or less. Of course, it is much more complex because of our use of symbols (language). The reader should remember that when our species underwent the first exponential change, namely, the acquisition of the ability to use symbols essentially to an infinite extent, this use of symbols was still in the service of our basic animal nature. Other higher species also rear their offspring. They engage in behavior toward the offspring that fosters the acquisition of behaviors that to some extent (but very imperfectly) promote the survival of those offspring. But remember that we are also attempting to foster, not just our survival, but also the good life for all of us, now and in the future. The standard model does not work all that well, and it is perhaps a matter of luck as to whether parents will get a good result by virtue of even conscientious application of the standard model. And sometimes the results are awful, even tragic.

The **second model**, in contrast, involves **the purposeful effort to utilize certain principles in a consistent and integrated manner**, and **requires education and training in the area of child rearing**. There is, however, almost no such training provided in any formal manner by our society. If asked, a parent should be able to state and elaborate on the principles of child rearing and describe the implementation of these principles in the milieu provided for the child(ren) in the family. This situation currently does not exist for our species. Instead, there is the assumption that child rearing comes naturally, that no specific training is needed, and that one

easily learns the details by watching others (including one's own parents) and by asking some questions of them. This would imply either that everyone pretty much agrees on what to do (obviously not correct!) or that there are no such principles of child rearing, that is, that there are no better and worse ways to rear children (obviously not correct!).

For reasons that will become evident, I am labeling the first, or standard, model the "**authoritarian-ethical model**," and the second, or emerging, model the "**rational-ethical model**."

The differences between these two models will only **gradually** become apparent in what follows. However, a few orienting comments will be helpful.

In the **authoritarian-ethical model**, the primary goal of the parent tends to be **obedience**. There are other goals, of course, but obedience definitely takes precedence in the moment-to-moment interaction with the child, and for many parents, other goals are difficult to identify in this moment-to-moment interaction.

In the **rational-ethical model**, the primary goal of the parent is the development in the child of:
> **(1)** **wisdom** (knowledge of how the world works and consequently the ability to predict outcomes of decisions, or, to use our basic terminology, accuracy of existential beliefs), combined with
> **(2)** **ethics** (a set of accurate ethical beliefs that have a strong motivational state, the ethical sense, associated with them) that is at varying levels of awareness a **strong component of the child's moment-by-moment decision-making**.

The reader may at this point think that any parent would affirm the goals of the rational-ethical model, and indeed, if any parent were asked, he or she most likely would. However, what I am referring to is not what the parent would **say**, but what the parent would actually **do**, and **why**. So I ask the reader to suspend judgment of my assertions until he or she has finished reading my descriptions and contrasts of the models.

My plan is to make the **contrast between the two models** more and more evident by describing first the **"levels" of child rearing** (and how the models differ in the implementation of those levels), then the **basic ethical philosophy** that underlies the rational-ethical model and is the important set of concepts that will be referred to in talking with the child, and then a fairly specific **set of procedures** that represent examples of the application of the principles to certain family settings and situations.

I will not be asking the reader to accept any of what follows on the basis of my stating it; instead, if I am correct, the reader should find himself or herself agreeing on the basis of his or her own experience. If there is not such agreement, then I am probably wrong in what I am writing. Of course, any of what I say stands to be corrected by experimental evidence to the contrary, no matter how "obvious" it might seem.

There are four levels of child rearing. (This is my own proposed conceptualization, but I am maintaining that this is an enormously useful one in helping to understand and optimize the child rearing process.) All the levels are used to some extent in all child rearing, although the **purposeful** emphasis on the use of the **higher** levels generally requires more in the way of

training, intelligence, education, and relative freedom from emotional problems. The reason that I speak of levels of child rearing is that the purposeful use of the higher levels is progressively not only **more difficult**, but also **potentially more beneficial**. The standard, or authoritarian-ethical, model of child rearing, the model that comes naturally, tends to make much use of the lowest level of child rearing, whereas the rational-ethical model, which has to be taught and learned and is much more difficult, tends to avoid the lowest level and to aim for **the deliberate and informed use of the highest three levels**.

The four levels of child rearing, from lowest to highest, are **punishment, reward, teaching, and modeling for identification.**

The lowest level of child rearing is punishment. It is the one that has the worst side effects. Let punishment mean **anything** the parent does to make the child **feel bad** (physically and/or emotionally) because the child has done what the parent does not want or has not done what the parent does want. **Formal punishments** are (let us agree) ones such as spanking, standing in the corner, taking something away, grounding, etc. Because of ambivalence about the use of punishment, certain euphemisms are sometimes used, such as "disciplining," or "consequencing." "Time out" usually has the effect of punishment, even though it is an effort to avoid it. **Informal punishments** are generally those painful verbal and nonverbal acts (subtle and overt) that parents engage in, such as scolding, shaming, ridiculing, raising the voice at, shouting at, threatening, ignoring, making envious, making jealous, startling, frowning at, widening the eyes at, staring at, pointing at, making feel guilty (e.g., "Why do you treat me this way, after all I have done for you"), etc. **The informal punishments are always much more frequent**.

Impromptu formal punishment is probably the worst kind. By impromptu formal punishment I mean punishment that is thought up for the occasion, after the act being punished has occurred. ("You did what?! Well, just for that I am going to…!") I will later advocate that a child should never receive a formal punishment for an act unless the child knew at the time of engaging in the act that this particular punishment would follow. And there will be other limitations, also. Yet, impromptu formal punishment is presumed to be an obvious necessity in the standard model of child rearing.

Punishment does indeed inhibit behavior while the threat of punishment persists, although there is a tendency for the behavior to reemerge when the threat of punishment no longer exists. The main problem with punishment, however, is that it has such **negative side effects**. I believe that when it is relied upon almost exclusively, terrible problems develop, even intrafamilial murder.

The negative side effects of punishment are **lowered self-esteem, demoralization, fear, and anger,** and all of the phenomena secondary to these.

Every time a child is punished, the punishment produces **lowered self-esteem**. Let self-esteem mean how one feels (the feelings being motivational states) when one entertains the image of one's self in one's mind. The motivational states are associated with beliefs about the self, manifested actively as predictions as to how the self will fare in the world, either right now or in general. (The predictions may consist of receipt of affection, praise, admiration, etc., or of punishment, rejection, abandonment, failure, etc.) These beliefs about the self are taught, in early life, by the important persons in the child's life, primarily the parents. When the parents or

others disapprove of the child, the child concludes (develops the belief) that he or she is in some sense bad. The repeated disapproval of the child, which is inherent in punishment, takes its toll on the child's capacity to believe good things about the self and thus feel good about the self. (It is well recognized that, even in adulthood, physically or psychologically abusive relationships can leave individuals with damaged self-esteem, that is, inaccurate and painful beliefs about the self.) For many individuals, the negative self-esteem becomes a permanent background to their daily mood, and, as a motivational state, produces excessive efforts to counteract it through continually obtaining praise or reassurance from others, or perhaps through efforts to denigrate others to the point that these individuals can at least feel superior to others around them. Under the impact of certain unfavorable life experiences, and perhaps in the absence of sufficient reassuring support from the environment, some will come to the conclusion that they are not even worthy to live.

Every time a child is punished, the punishment produces **demoralization.** Let demoralization mean a state in which beliefs become active as predictions that one is going to fail and that bad things are going to happen to one. Thus, the state is characterized by depressed or **sad affect** and a **diminution in hope** (prediction of success, reward, satisfaction, etc.) and consequently in enthusiasm (the good feeling accompanying such predictions and therefore serving as a motivational state pushing for continued effort). In the young child, demoralization is frequently accompanied by crying. Basically, the child believes, at that point in time, that whatever the child does, the outcome probably will not be pleasant. Frequent demoralization, with the build-up of sadness-containing memories, can result in **chronic sadness**. There is a reduction of motivation and initiative, and therefore effort. In an adult, one would not be surprised to find a thought such as, "If that's the way they look at me (or treat me), or if I will fail anyway, then why bother trying?" This demoralization, also, can become a life-long characteristic of an individual, manifested by a pessimistic outlook and an inability to become convinced that effort toward difficult-to-obtain goals will be rewarded with success. Low achievement and lack of realization of potential are likely to result. For some, this phenomenon may also increase risk-taking behavior in the service of short-term, unwise, immediate-gratification goals, manifested by thoughts such as, "What have I got to lose, anyway?" Thus, not only self-destructive behavior but also antisocial or criminal behavior may become more likely.

Every time a child is punished, the punishment produces **fear**. The intensity of the fear during the receipt of punishment will vary with the genetic temperament of the child, the past frequency and severity of (formal and informal) punishment, and the ability of the child to predict how extreme the current punishment will become, this in turn being based upon the child's judgment as to how predictable and "in control" the punishing individual appears and has appeared in the past. Each act of punishment leaves a fear-containing memory, and the build-up of these memories produces **chronic fear**. The fear may also become increasingly generalized and therefore irrational, now referred to as "**anxiety**," occurring in situations that perhaps even only accidentally become associated in the child's mind with punishment. Punishment, then, may cause and/or intensify separation anxiety, phobias, social anxiety, and/or a tendency toward panic attacks, and secondarily may cause and/or intensify anxiety-driven "habits" and symptoms. (There are, of course, also other causes of anxiety.) Some individuals become quite anxious whenever there is the likelihood of anger in an authority figure or in someone perceived, for whatever reason, as powerful, and they may become extremely submissive and thereby may easily fall into controlling and possibly abusive relationships. The child may become a very tense, inhibited person, unaware of his or her own anger, and fearful of displeasing anyone.

Normal assertiveness may be absent. And chronic fear, or anxiety, can become a component of psychosomatic illness.

Every time a child is punished, the punishment produces **anger**. Usually, this anger is very evident, especially in the younger child, since it is manifested by immediate hostile behavior, such as a hostile facial expression, balled up fists, criticizing, name-calling, screaming, hitting, kicking, biting, throwing something, destroying something, or "throwing a temper tantrum." There are, of course, some children whose hostile behavior has been so punished that one no longer sees outward, obvious manifestations of the anger, producing the inhibited child, or person, described above.

Because each act of punishment produces anger, it leaves behind an **anger-containing memory**. The build-up of these anger-containing memories leads to **chronic anger**, meaning a tendency to have unusually intense reactions of anger in situations that remind the individual of the anger-containing memories, and a tendency to misinterpret situations as being like anger-producing situations in the past, thus causing anger when none would seem warranted. Manifestations of chronic anger can, of course, increasingly become a way of life, and some individuals even manifest a facial expression, body posture, and general manner that convey an impression of underlying anger, or an opposite manner that has been developed as an effort to keep the anger unrecognized and under control, but that can be intuitively sensed by others as being "saccharine" (referring to the bitterness perceived to be underlying the apparent sweetness). Chronic anger, producing misinterpretations of situations, is probably often involved in the tendency toward "paranoia," the tendency to misinterpret the intentions of others as being malignant. And chronic anger has been implicated as a cardiovascular risk factor, and I believe it is a factor in much psychosomatic illness and illness fostered by a frequently suppressed (by anger) immune system.

There are three very common and specific **ways in which chronic anger is manifested in children**, namely, as **cruelty** toward living things, **destructiveness** toward nonliving things, and **rebellion**. (Again, some children do not manifest these behaviors in any obvious way, because of extensive inhibition of expressions of anger, but a close look at the underlying nature of much problematic behavior of such children may nevertheless reveal some of these tendencies operating "beneath the surface.")

Cruelty is manifested in children as a need to hurt, torment, or kill. It is being mean. It is engaging in hostile behavior, not in response to some specific behavior on the part of another that has produced anger, but in response to the presence of chronic anger. Some children develop cruelty toward animals. Teasing is a common manifestation of cruelty, and is often directed toward younger siblings or other children that are found easy to scapegoat. (Other children chronically exposed to this teasing or scapegoating may themselves develop some of the problems and characteristics of the excessively punished child. There is growing concern about the destructive effects of bullying.) Children may be cruel to their parents; they may persistently behave in ways that they know will produce distress in their parents. Some children (angry at themselves) can become cruel toward themselves and manifest self-destructive or self-injurious behavior. And since this self-destructiveness generally has a very distressing effect on parents and others, it can also be hostility directed toward them. Any of these manifestations can become a way of life. There are adults who have a strong tendency to be cruel to children, other adults, or the elderly. Some of these adults drift into occupations that allow for and even foster

such cruelty. I believe that this cruelty is a prominent factor in conning, sexual sadism, serial raping, serial killing, mass murder, and other sadistic predatory behavior. And some adults may have a strong tendency to torture themselves and can even think up especially cruel ways to murder themselves, usually also causing guilt in others as a last hostile act.

Destructiveness is manifested in breaking things, ruining things, ruining experiences for people, vandalism, fire setting, or even the damaging or destruction of one's own possessions. Destructiveness is actually a form of cruelty. Insofar as the child (or adult) has the fantasy (through animism) that the nonliving thing actually has consciousness, the cruelty is directed toward that nonliving thing, which is perceived as deserving the abuse. Insofar as the person sees the nonliving thing as belonging to a person, the cruelty is directed toward the owner of the thing. When the cruelty (destructiveness) is directed toward something that is not considered to be the property of a specific individual or group of individuals, but instead "public property," I believe that it generally reflects anger "toward the world," or "toward society," and that it reflects an attitude of having been "abused" or "cheated in life." Again, some individuals become destructive as a way of life, attempting to tear down what others have built, acquired, or accomplished (examples being the construction of computer viruses and other forms of vandalism), or even, because of self-hatred (chronic anger toward the self), become self-destructive as a way of life, undoing or denying their own successes, ruining their health, being self-derogatory, etc. Upon becoming adults, they have taken over the parental task of punishing themselves.

Rebellion, which may also be a form of cruelty, is the act of attempting to defeat the wish of the authority figure toward whom the rebellion is directed. The alternative is seen as submitting to the wish of, and thus pleasing, the authority figure. If affection rather than anger were the feeling directed toward the authority figure, submission would be the more likely behavior. Rebellion is manifested as **overt defiance, sneakiness,** and **passive-aggression**.

Overt defiance is the communicative act that essentially conveys, "I won't do it and you can't make me!" It may be a hostile (e.g., screaming) verbal refusal to do something, a walking out of the room when expected to remain, a persistence in an activity that the individual has just been told to stop, a persisting refusal to respond to questions, etc. When overt defiance becomes a way of life, the individual will almost always have difficulty working for others. A potentially pro-social outgrowth may be an unusual preoccupation with "freedom" and the elimination of coercion. This tendency can become extreme, however, with the development of a paranoid reaction to all authority, including a tendency toward imagining the existence of conspiracies that justify antisocial behavior. In addition, some individuals even feel cooperation with a peer as somehow "giving in" and being controlled by the other, and can therefore settle for nothing less than being in control of the other. Cruel control is the basic process in some predatory behavior, as in the extremes of serial rape, torture, and murder.

Sneakiness is doing what the authority figure doesn't want, but behind his or her back, and then lying to cover up. (The need to rebel may actually manifest itself in what would appear to be needless lying for its own sake, probably best thought of as overt defiance of the instruction always to tell the truth.) There is gratification in "putting one over on" the authority figure, and probably there is some anticipation that ultimately the authority figure will find out and therefore suffer. The individual feels a sense of glee in "getting away with" something, and thus "winning," and this sense of having won is an indicator of the fact that the individual sees

himself or herself in a struggle with the authority figure. Obviously, sneakiness can become a way of life, the individual taking pride in antisocial behavior, usually of a non-aggressive sort, such as burglary, embezzlement, unauthorized use of others' property, cheating, infidelity, conning, etc.

Passive-aggression is covert, subtle, or sophisticated frustration of the wishes of the authority figure. It usually is manifested by doing a sloppy job, doing a job incompletely, completing a task late, "forgetting" to do what one has been told to do, dragging one's heels, having to be reminded, etc. It can also be over-doing a job or task, or doing something presumably "nice" for the authority figure that the authority figure really doesn't want. Although the behavior is of a hostile nature, being motivated by chronic anger and having as its goal causing the authority figure to feel defeated, the nature of the behavior is such that it cannot easily be shown to be hostile, because the usual direct manifestation of anger is not present and anger may specifically be denied. Passive-aggressive behavior is rebellion for which it is more difficult to justify punishment, and yet it can be productive of much anger in the authority figure. Passive-aggression, too, can become a way of life. In fact, when an individual becomes an adult and has to take over parental functions toward the self, he or she may find it impossible to make himself or herself do those things that he or she knows are important to his or her own self interest. Such an individual will be noticed to have great difficulty figuring out what he or she wants to do in life. Any option involves some commitment to attempting to put forth effort in behalf of the goal, and putting forth effort to do that which is approved of is what is unacceptable to the individual. In the person's important peer relationships, he or she may again have a tendency to see the other, either accurately or inaccurately, as attempting dominance, and may therefore become very passive-aggressive in such relationships, being a continual source of frustration, disappointment, and distress for the other.

There are several **malignant developments** associated with the emphasis upon punishment.

One malignant development is the **escalating struggle** between parent and child that is based upon the need to rebel as a response to punishment. The more the child rebels, the more the parent experiences anger and therefore punishes. The more the parent punishes, the more the child experiences anger and therefore rebels. It is this process that probably accounts for much of the cross-generation family violence. At the very least, the more that the escalation has taken place, the more difficult will be de-escalation and the restoration of family harmony and appropriate behavior. Much of the "teenage rebellion" that is considered "normal" in a society that emphasizes punishment is of this nature, and the eventual elimination of the struggle generally does not occur until the parent accepts the "adulthood" of the child and gives up the struggle. It may take quite a while for the reconciliation to take place, and sometimes it never does.

Another malignant development is that of **punishment-seeking**. The child finds that doing that which will evoke punishment not only satisfies the need to rebel and the need for cruel revenge, but also brings rewarding attention that may not otherwise be forthcoming from an already exhausted, depressed, and angry parent. The punishment also may relieve mounting guilt, producing the transient illusion of having "paid for" past "crimes," and may gratify a need to take revenge against the self (a need that exists due to the low self-esteem that is brought about by punishment, as noted above). When punishment-seeking develops, one may see paradoxical, inappropriate behavior in response to reward, as well as in response to any efforts on the part of

the parent to do right by the child. And of course punishment-seeking can also become a way of life. This probably is a prominent mechanism in the development of sexual and other masochism.

And another, especially malignant, development is that of the chronic **persecutor-rescuer-victim interaction**. One parent becomes the most prone to punish, and the other becomes the most prone to criticize that punishment while at the same time refraining from taking action that would help stop the behavior that causes the punishment. The child becomes involved in a drama in which he or she is the subject of a battle between the "forces of good and evil." The child becomes allied with the good rescuer, and this alignment heightens the anger of the persecutor toward the child (and rescuer), as well as the anger of the child toward the persecutor (since the child obtains confirmation from the rescuer that the child is indeed being victimized). The increased tendency toward punishment and rebellion (due to the increased anger between persecutor and victim) drives the acts of punishment toward the extreme, thus making the confirmation of the victimization easier. The reward inherent in the alliance with the good rescuer then can reinforce the very behavior (hostility toward the persecutor, manifested by rebellion, etc.) that is being punished, and thus make that behavior more likely. The derogation of the "bad" parent by the "good" parent also can interfere with the child admiring and identifying with the valuable aspects of the "bad" parent. This particular pattern can become a way of life, with the individual dividing up people into the good and the bad, making alliances by turning people against each other, maintaining self-esteem by becoming a victim and therefore obtaining the sympathy of even more rescuers, and, in general, feeling that he or she is owed retribution and compensation from the world ("I have been ruined").

I do wish to reassure the reader that I do not believe that the emphasis on punishment is the **only** cause of the various kinds of difficulties that I have described. However, I **do** maintain that it is the **most important** cause, especially among those factors that, at least theoretically, we can do something about. And I believe that the development of an increased general awareness of these and other issues involved in child rearing will be the most important factor in the achievement of an optimal quality of life for our species, and perhaps even ultimately in the survival of our species.

Many individuals seem to do fairly well in life despite having been reared in a family that had no ambivalence about using both formal and informal punishment. I believe that the crucial factor is the **amount** of punishment the child receives. This is partly dependent upon the ability of the child to live up to the **expectations** of the parents. In turn, this ability to live up to parental expectations is dependent partly upon the genetic and congenital makeup of the child (e.g., learning disabilities, developmental delays in impulse control and maintenance of attention, temperamental extremes such as aggressiveness, various hypersensitivities, hypoarousal and excessive need for stimulation, fearfulness, and behavioral inhibition). It is also dependent partly upon the clarity and consistency of the parental expectations, partly upon the parents' awareness of the developmental levels and capabilities of the child, partly upon the cooperative capability of the parents, and partly upon motivational states induced in the child by environmental events, traumata, and conditions, inside and outside the home, many of which the parents may have no awareness of or ability to control. If by luck such factors are at a minimum, the occasional punishments may be more than counterbalanced by other, more beneficial family processes, and the individual may look back on the few punishments that stand out in his or her memory and evaluate them positively ("my parents cared").

However, once the **vicious circle** of punishment and anger (with its rebellion) begins, the process **tends to drive the development of problems to the extreme**. In this way, initial minor and easily discounted and forgotten problems can be important in the initiation and development of major patterns of dysfunction in the child, and later the adult, leading to a retrospective conclusion that the problems must have been entirely genetic or external to the family. The current punishment of the child is seen only as the necessary response to the development of the problems, not as an important ongoing causal factor. And often the parent and child end up seeing each other as having been respectively rebellious and abusive.

Many parents honestly believe that they almost never punish their children, because they do not use formal punishments, and many individuals honestly believe that they were seldom punished in childhood, for the same reason. However, the frequent (and sometimes almost continual) barrage of negative verbal and nonverbal messages (informal punishments), some of them quite covert and sophisticated, that perhaps many parents give their children has the same set of negative side effects that continual formal punishments would have had. It is actually impossible to administer formal punishments with the frequency that informal punishments can be engaged in, and it is for this reason that perhaps informal punishments may actually have a greater role in the negative consequences of punishment than do formal punishments. The **effort to avoid formal punishment** in the absence of effective higher level child rearing methods actually **may promote exceedingly frequent informal punishment**, and may produce the picture of a child that does indeed appear to "run wild," almost begging for limits so that the informal punishment will cease. Thus, the well-intentioned effort to avoid formal punishment, but in the absence of the needed improvements in the higher levels of child rearing, can indeed be pointed to by some as evidence that the reduction in those punishments leads to worsening of children's behavior and to worsening of ultimate outcomes. Reduction or elimination of formal punishment, alone, is insufficient to bring about improvement of results, and can actually be associated with worse outcomes. Much more is needed.

There is a very strong commitment to punishment among our species. Those who advocate eliminating punishment are viewed with incredulity and even anger. The need to punish is a part of our basic animal nature, and to avoid doing so requires substantial competing motivation, such as a set of ethical beliefs accompanied by a strong ethical sense. Such a set of ethical beliefs does not exist at this point among our species, but in the time of "Homo rationalis," if I am correct, it will. Currently, there is a strong need to believe that punishment is needed, and therefore there is a strong need to believe that punishment does not have the negative side effects that I have outlined above. This is despite the fact that I could give the reader two identical twin puppies with the instruction to raise one of them to be very affectionate, social, and apparently happy and to raise the other to be vicious, paranoid, and obviously unhappy, and the reader would know precisely how to go about doing so.

I believe that it is only after the reader really understands the concepts being presented here that he or she will appreciate the extent to which punishment does occur within many of our societies, and the extent to which **much of our human misery is secondary to this punishment**.

What has just been covered is an overview of the **lowest** level of child rearing. As can be seen, it tends to have quite unfortunate side effects. However, it is the **easiest** level to resort to because

it generally occurs in response to behaviors of the child that draw immediate attention, and because it is consistent with the internal emotional or motivational state of the parent, namely, anger. In fact, refraining from punishment when feeling anger is generally quite difficult. Again, I maintain that optimal child rearing for humans does not come naturally; it has to be taught and learned, and it requires enormous understanding, effort, and self control, brought about by accurate, strongly held rational-ethical beliefs.

It should be evident that **punishment should be used as little as possible**. I do not believe that punishment can be avoided completely, but I believe that it should occur far, far less frequently than it does, and only under certain circumstances.

One circumstance in which punishment may possibly seem to be the most appropriate intervention would be **dangerous behavior** in the extremely young child, for whom words have yet to have a specific enough meaning to be of help in delineating behavior and for whom there has been an insufficient level of development of concepts for the words to have any organizing influence. (Of course, the far, far better alternative, if possible, is that of "child-proofing" the environment until the child can learn in other ways how to live safely.)

Another circumstance would be the situation in which, **despite maximal help** having been given to the child (through the higher levels of child rearing) to master a particular inappropriate tendency, the child has been unable to achieve success. (The optimal use of such punishment, however, would be as a **collaborative** process with the child, within a complex set of procedures to be described later.)

The standard model gives very little guidance to the parent as to **what to do instead of punishment** in order to give the above-mentioned help. The usual response of the parent operating within the standard model to the idea of drastically reducing punishment is to imagine that this involves letting the child "run wild," the implication being that what is being advocated is that inappropriate behavior should be ignored. However, **it is actually the responsibility of the parent never to overlook or be unconcerned about the development of suboptimal tendencies in the child.** The parent must always be in charge, and must especially exercise appropriate **control** to protect the child from engaging in dangerous behavior. And even non-optimal behavior that is not dangerous may ultimately lead to much unhappiness in the child's life during childhood and adulthood, as well as much suffering of others in that individual's life. Rather than either punishing or doing nothing at all about inappropriate behavior, one should look to the **higher levels of child rearing** for devising an approach to the problem. But as we shall see, the standard model does not give much guidance as to how to so use these higher levels of child rearing in an effective manner.

The second highest level of child rearing is reward. Let reward mean **anything** the parent does to make the child **feel good** because the child has done what the parent wants or has not done what the parent does not want. **Formal rewards** are ones such as money, tokens, taking the child somewhere, candy, giving an extra privilege, etc. **Informal rewards** are ones such as a smile, a hug, praise, an expression of gratitude, demonstration of interest, responding with delight or humor, etc., and generally consist of affectionate behavior.

Formal rewards, in general, should be confined to part of a well thought out overall set of procedures within the family, to be discussed later. Impromptu formal rewards can be quite

problematic and should be, I believe, avoided.

Informal rewards (almost always impromptu) are, however, **extremely important and beneficial**, and it is to these that most of what follows pertains.

Reward tends to increase the likelihood or frequency of the behavior. **Reward has the opposite side effects of those of punishment**. Every time the child is rewarded, there is an enhancement of **self-esteem**. Every time the child is rewarded, there is an increase in **enthusiasm and optimism**, the opposite of demoralization. Every time the child is rewarded, there is an increase in **security**, the opposite of fear and anxiety. And every time the child is rewarded, there is an increase in **affection** (as opposed to anger), with an increase in the tendency to engage in **affectionate and cooperative behavior**, as opposed to hostility, cruelty, destructiveness, and rebellion. Rewards leave pleasure-containing memories, which influence future responses to situations far differently than anger-containing memories.

It should be obvious that the child should always receive much more reward than punishment. However, for two main reasons, **reward is more difficult than punishment**.

First, behaviors that result in punishment are generally **much more evident** to the parent than are those which should be responded to with reward. Inappropriate behavior usually produces an immediate emotional response on the part of the parent. If the behavior is dangerous, **fear** is elicited. If the behavior is seen as disobedience, **anger** is produced. Whatever emotion is produced, it is a motivational state pushing for **immediate action**. Appropriate behavior, on the other hand, is most often experienced by the parent as a period of time when "nothing is happening," and if the parent is unclear about the desirability of rewarding the ongoing behavior, and especially if the parent is preoccupied or fatigued, opportunities for reward may be overlooked. (This problem in child rearing has been alluded to by speaking of the desirability of "catching the child being good.")

Second, reward is difficult to carry out when the parent is lacking a feeling of affection for the child. The most effective rewards are affectionate behaviors. When the parent already has some anger toward the child, **the anger makes it very difficult or impossible to feel affection** and therefore to respond to the child in an affectionate manner. Also, when the parent feels anger toward the child, the parent often believes that punishment is warranted, and that reward, or affectionate behavior, will **undermine the effectiveness of the punishment**. In actuality, punishment tends to undermine efforts to reward.

It should be noted that the extreme of rewarding everything that is not inappropriate behavior would neither be feasible nor desirable. Continuous indiscriminate reward would undermine the effectiveness of the reward for those certain accomplishments that are significant and should be emphasized. Some of this rewarding may be rather automatic, based upon an intuitive understanding of where the child is in his or her development, but some of it may need to be well thought out in advance of the appearance of the behavior. The judgment as to what to reward may be very difficult.

The problem of **identifying what to reward** is tied to one of the differences between rational-ethical child rearing and authoritarian-ethical child rearing, namely, the **manner in which suboptimal behavior on the part of the child is regarded**. In authoritarian-ethical child

rearing, the child's suboptimal behavior is often regarded as **disobedience**, a challenge to the parent's dominance, and is responded to with anger and hostility (punishment). In rational-ethical child rearing, the suboptimal behavior is looked at as probably a manifestation of **deficiency in one or more skills**. When the parent has identified the deficient skills, then the task becomes one of working out a set of procedures to help the child acquire and practice these skills, and the rewarding of the successes of the child will be an important part of these procedures. (Needless to say, there is also always the possibility that the parent's belief that the behavior is suboptimal is a mistake, so the parent should always look at this possibility carefully.)

I will give an **oversimplified example** of the above difference, risking sounding silly.

A child had ten temper tantrums yesterday, and has had four today. The parent responds, "Just look at you! When are you going to act your age? You had ten tantrums yesterday, and you're already on your fourth today. Grow up!" This was an act of punishment, making the child feel bad because of his suboptimal behavior. Another parent responds, "You know, you had ten tantrums yesterday, but only four so far today. Also, this time you didn't kick anything. I think you're getting some increased control over your anger. All kids have trouble controlling themselves when they are angry, but you are learning, and when the anger gets back down to a level which allows you to talk with me in a way that I can understand, we'll talk about why you're so angry, and what I can do to help." First, this parent is being **sympathetic** with the child's distress, **rather than punitive** toward the suboptimal behavior, recognizing that punishment undermines reward. In addition, the parent is **rewarding** the possible reduction in frequency of the tantrums, reduction in the length of them, and reduction of destructive behavior as a response to anger. And if indeed the tantrum turns out to last a shorter time than usual, this would be rewarded by being mentioned with some pleasure, as an improvement in skill. (The actual words used, of course, would depend upon the age of the child and the idiosyncratic language patterns of the parent and child. What is being demonstrated here is only a principle, not necessarily an optimal intervention.)

A difficult skill that the parent needs in order to engage in effective reward is that of understanding **how to reward**. For instance, it would be possible for the parent to think that he or she was engaging in reward when actually what was occurring was punishment. It could turn out that a parent who was saying, "Now **that's** a good boy! You've stopped your tantrum," could actually be painfully rubbing in the fact that the child had submitted to the parent. And the parent's behavior could indeed actually be hostile, perhaps unconsciously, in response to anger toward the child. Children are very sensitive to the underlying meanings of interactions, even if they can't verbalize those meanings. The parent may be aided in understanding the actual meaning of his or her communication to the child, not only by self-examination, but also by examining the response of the child.

It should be noted that **refraining from punishing** the tantrum **is not the equivalent of doing nothing** about it. In fact, in addition to the interventions described above, there also might well be, for example, some **later** discussion with the child, at the child's level of understanding, about the nature of anger and tantrums, and what the better alternatives to tantrums might be. One of the very important judgments that the parent would make has to do with determining the proper **time** to talk with the child about suboptimal behavior, in addition to the proper **manner** of doing so. Each of these issues would influence whether such a discussion would really turn out to be a

kind of informal punishment that would undermine any efforts at reward. (The previous chapter, "Rational-Ethical Anger Prevention," speaks to these issues in the principles of problem-solving behavior.)

Thus, **reward is more difficult than the simple use of punishment**. It requires an awareness of the responsibility to help the child with a problem, rather than just a response to one's own discomfort produced by the child's behavior, and it requires understanding what the child needs to work on in order to overcome the problem. Also, figuring out what to reward when faced with ongoing behavior that contains both positive and negative components requires some sophistication of understanding and often some prior preparation, as well as the above-implied self control. And although rewarding a child for pleasing behavior when one is feeling good toward the child and feeling good in general is of course quite easy, doing so under other circumstances may be very difficult. The parent needs to understand his or her own emotional reactions as well as those of the child in order to do a good job of rewarding. Much thought and reviewing of the outcomes of interactions is necessary in order to improve on the child rearing that comes naturally.

Earlier, I said that **formal rewards**, and **especially impromptu formal rewards**, were problematic. One problem is that since formal rewards often tend to have some monetary value, the child can tend to develop the expectation of "being paid to be good." Hopefully, approval and affection are more important to the child than the acquisition of material things, anyway. And it is more optimal to have **material goods (and "services")** be tied up in a **formal set of procedures** that fosters learning about interdependency, as will be described later.

Reward and punishment primarily foster **obedience** (at least temporarily). But in the rational-ethical model, the goal is not to create an obedient child (or, later, person). An obedient child has to have someone to obey, whether this is a parent, a teacher, a policeman, or an older or more powerful peer. In the rational-ethical model, you will recall, the primary goal of the parent is the development in the child of **wisdom** (knowledge of how the world works and consequently the ability to predict outcomes of decisions), combined with **ethics** (a set of ethical beliefs that is a strong influence in the child's day-to-day decision-making). **Accurate existential and ethical beliefs and a strong ethical sense are the goals.** One would hope that the child would be obedient when it was the right thing to do, rather than do the right thing only because it was the obedient thing to do. Given certain adverse circumstances, an obedient child can end up in jail, on a milk carton, or dead from an accidental overdose. The **highest two levels of child rearing**, carried out properly, do indeed **promote wisdom and ethics**. The basic ethical sense, however, derives strongly from reward and punishment, and hopefully much, much more from reward than punishment.

The third highest level of child rearing is teaching. By teaching, I mean engaging in deliberate behavior designed to produce in the child **increasing wisdom and ethics**, namely, an **increasing understanding of (accurate beliefs about) the world** and an **increasing ability to make good decisions** based upon that knowledge, even in the face of strong motivations toward less optimal decisions. Now almost any parent will think that this is an easy level to understand and one that the parent is doing all the time. However, there are some rather marked differences between what a parent operating in the standard model would regard as teaching and what a parent operating in the rational-ethical model would regard as teaching. To clarify this difference adequately, I will have to exaggerate to some extent.

In the **standard model**, the parent knows what is best for the child, and the parent simply has to impart this to the child, primarily through words spoken to the child. The parent **talks to** the child, who therefore receives "**a good talking to**," during which the child is **told** "the difference between right and wrong." The implied, if not spoken, prologue is something like, "I have lived many years longer than you and have acquired, obviously, much more wisdom than you could have acquired by this time in your life. Therefore, listen carefully to what I say, remember it, and act according to it. If there are parts of it that you do not understand, despite my explanations, simply accept what is most likely, namely, that you just have not lived long enough to acquire the necessary wisdom to understand fully. Be grateful for this help I am giving you." The prologue may also contain some material that includes the phrase, "when I was your age." Of course, the parent also knows, through the accumulation of wisdom in this area, that, ideally, a stopper should be placed in one of the child's ears. What follows the prologue is almost always something that is painful to the child, and probably is an example of **informal punishment**. Observation of the child during this process will help to clarify the nature of it (the reactions to punishment having been described above).

In the **rational-ethical model**, the parent wishes the child to develop a set of skills. One of the most important skills that a child needs to develop is that of **rational thinking**. By thinking, I mean here engaging in a **mental dialogue**. This dialogue consists of speaking in one's imagination, and it generally consists of sentences. The dialogue may or may not be with a specific imagined individual who is responding or at least listening. Very frequently, the dialogue is of the nature of (friendly) **debate**, in which both sides of an issue are being expressed. And the reason I refer to "**rational**" thinking is that we hope that the child is thinking **more or less according to the rules of logic and the rules of evidence**, in other words, "making sense."

Now how does the child learn to do this? Well, how does anyone learn how to do anything? The crucial element is **practice**. The child needs to practice this dialogue behavior in such a way that there is feedback regarding his performance. How is this done? Obviously by **talking**. Not by listening, but by talking. And how does one foster in the child the practicing of this skill? By **rewarding** the practicing. And how is the practicing of talking rewarded? By asking the child **questions**, by **listening** to the child, and by **responding** to the child's expressed ideas in a manner that makes the child **feel good**. One of the most important ways to make the child feel good about having spoken is to demonstrate an **interest** in what the child has said. And perhaps the most usual way in which to demonstrate that interest is to ask the child to elaborate on what he or she has just said. Please note that what is being rewarded is the **expression** of the ideas, not necessarily the ideas themselves. One wants the child to **talk**.

But do we want the child to talk? The standard model is replete with indicators that communication is expected to be **one way** (unless the child is being asked for evidence that can be used against the child, or unless the child is being asked for an indication that the child is duly accepting what the parent is saying to the child). "Children should be seen and not heard." "Don't talk back!" "Did you hear what I said?" "Don't interrupt!" "Listen to me!" "Be quiet!" "Shut up!" "You better watch what you say!" "Watch that tongue!" "Go to your room until you are ready to listen." "You think you know so much!"

In addition, there is a great emphasis, not upon **what** the child has to say, but upon **how** the child

says it and whether what the child is saying is indicative of "respect" for the parent, meaning **submission** on the part of the child toward the parent. "Wipe that smile off your face!" "Lower your voice!" "Stop being ugly." "Listen to how you are speaking to me!" "I expect you to show me some respect!" The content of what the child has said is ignored and forgotten in the process of shifting the attention to his or her nonverbal hostility or challenging of the authority of the parent. (This shifting of attention, of course, violates one of the principles of problem-solving behavior described in the chapter on "Rational-Ethical Anger Prevention," namely, that one should not change the subject.) In fact, in the standard model, an interaction with the parent is felt to have concluded satisfactorily if and when the child has submitted to the parent (by ceasing or markedly reducing hostile behavior and by indicating agreement with the parent, even grudgingly).

It is very frequent that one hears, "My child won't listen," but very seldom that one hears, "My child won't talk." It is actually fairly frequent, however, that children **don't talk**. One can often see a child with a "sheepish grin," frozen with fear, able only to say the relatively safe "**I don't know**" that seems to be the one acceptable answer to all **dangerous questions**. Why are the questions dangerous? Because the truthful answers to those questions would more than likely be **punished** (informally, at least).

I wish to make clear that I don't think that hostile behavior or the challenging of authority or the use of suboptimal modes of communication by the child should be overlooked. Remember that it is the responsibility of the parent to help the child overcome any suboptimal tendencies. But it is also the responsibility of the parent, within his or her capabilities, to use **optimal methods**, ones that will work the best and will not produce unacceptable side effects. The time to work on suboptimal communication is not when the child is angry about what is happening.

So what does teaching in the rational-ethical model look like? Well, look at the behavior of those who have made a profession of it, teachers, primarily good ones. **What are good teachers?** They are ones who use methods that result in the students learning a lot, learning how to learn, and learning to love learning (wanting to learn).

One of the most obvious characteristics of a good teacher is the teacher's ability to produce in the student **pleasure in the learning process**. A good teacher arouses the curiosity about and interest in the subject. A good teacher often makes the learning an exciting challenge. A good teacher displays an interest in the student's ideas and successes. A good teacher **rewards rather than punishes**, and the student thereby experiences **good feelings rather than bad ones**. Of course, rather than science and language arts, we are thinking here about child rearing, in which the material to be studied has to do with suboptimal behavior in the child. The question is whether this topic, too, can be a pleasurable one to talk about.

Think of the response that a good friend of the reader might make to the reader if he or she went to that friend and revealed what a terrible mistake he or she had made. The friend would first of all try to help the reader **feel better**. He or she would point out that everyone makes mistakes, would share a similar mistake, and/or would try to reduce the reader's overestimation of the magnitude of the mistake. He or she would let the reader know the reader wasn't alone.

Is the parent likely to do this? In the standard model, there is the tendency to think that the worse the child feels, the more the child might benefit. For instance, a child "sent to the office"

at school may then receive a spanking at home. Only if the child really, really feels bad about the mistake might the parent decide to provide comfort rather than additional bad feeling through informal, if not formal, punishment. In the authoritarian-ethical model, any halfway serious mistake must be punished. The worse the impact of the mistake on others, the more intense the punishment should be. ("The punishment should fit the crime.") The parent says, "Well, you see now what I've been trying to tell you?" or "Let this be a lesson!" or "What punishment do you think you deserve?" or "I'm really disappointed in you!" or "You have to take responsibility for your actions!" or "What am I going to tell Grandma?" or "You just wait until your father gets home!" or "What in the world were you thinking?"

In the rational-ethical model, the first consideration, in order to foster an atmosphere that will promote learning, is the effort to **comfort** the child and let the child know that, even though the plan is to talk about the mistake, the primary consideration is for the comfort and welfare of the child. In other words, **the parent is aligned with the child against the problem, not against the child-with-the-problem**. The parent, with his or her arm around the child (literally or figuratively), faces the problem with the child. The child should feel relieved by the discussion with the parent, rather than feeling worse.

The reader may notice that, consistent with the chapter on "Basic Concepts: Determinants of Behavior," I have made several references to the suboptimal behavior of the child as a "**mistake**." Indeed, in the rational-ethical model, suboptimal behavior is regarded as a mistake that occurred because of the insufficient mastery of one or more **skills** (such as the ability to inhibit the direct expression of some motivational state, the ability to ask for something in a manner likely to result in obtaining it, the ability to predict consequences in a particular area of living, the ability to soothe the self during a period of deprivation, the ability to recognize a situation as belonging to a particular set of situations in which a particular rule usually applies, etc.). In the **standard model**, as we have said before, suboptimal behavior is seen as **disobedience** and therefore as a challenge to the dominance or authority of the parent, to which the natural response of the parent is anger and the need to reestablish dominance (generally through punishment). I believe that the rather extreme difficulty that many adults have in **admitting a mistake** is derived in part from the strong tendency, in the standard model, to **punish mistakes**. Many an adult will experience an intensely painful motivational state when he or she starts believing he or she has made a mistake, and will punish himself or herself for the mistake by, for instance, calling himself or herself a derogatory name or even striking his or her head. And many individuals respond to someone calling mistakes to their attention in the same manner as children who are being "called on the carpet." This painful reaction lies behind many parents' refusal to learn more optimal child rearing methods, instead preferring to see their child's problems due solely to a "chemical imbalance" or a genetic disorder correctable only by the taking of a pill. This punishment of mistakes on the part of children leads to the development of adults who are highly intolerant and critical also of others' mistakes, and who are prone to litigate and to advocate for severe punishment of misdemeanor and crime. The culture I am familiar with is highly punitive, and I understand there are others even more so.

So, we might say that the first consideration in making teaching a positive experience for the child is the provision, if necessary, of **sympathetic comforting**.

It might also be instructive to look at the **very widespread ambivalence that is expressed toward "sympathy."** We feel on safer ground if we consider that we are experiencing or

expressing "empathy." The danger, of course, is that we might "feel sorry for" someone, or worse still, that someone might feel sorry for us! "I don't want to be pitied!" Where does this terrible, isolating fear come from? I think that it arises from the punishment, in the standard model, of crying (or otherwise "acting pitiful"). The parent fears that feeling sorry for the child will undermine the punishment, and anyone crying tends to elicit a sympathetic response from others, unless the response is fought against. And it can be fought against either internally or externally. One way to fight against it externally is to punish, and thus stop, the crying of the child. One can sometimes see a parent specifically refuse to stop a punishment until the child stops crying. Males, of course, are especially taught that crying is bad. But females, also, know to apologize for crying.

What I have been talking about above is the establishment of an **atmosphere** in which learning can take place.

Next, we need to consider **what** it is that basically **needs to be taught and learned**, to promote the development of **wisdom and ethics**. In order to develop **wisdom** (accuracy of existential belief), we have to learn about "how the world works." We have to learn to **label** the parts of it, learn how the parts are **related**, and learn as much as possible how to **predict what will probably happen**. And in order to develop **ethics** (accuracy of ethical belief), we have to develop **rules of behavior** (ethical rules of conduct) that serve as **simplifying guidelines** that tend to **foster desirable outcomes**, and to develop a way of thinking that helps to determine **when the rules are applicable**, and how they can be **extended or revised** to cover new kinds of situations. Furthermore, we need to develop ways of thinking about a hierarchy of values, such that we can **choose among different sets of desirable outcomes**. This hierarchy is what follows from a **basic ethical philosophy**, to be discussed later.

In the young child, the emphasis first has to be on learning the proper **labels** (symbols) for things, especially such things as **feelings or motivational states** and **behaviors**. There will then be instruction on what behavior to engage in when one is having a particular feeling or motivational state. "If you feel hungry, you should …." "If you feel angry, you should …." And obviously these rules get more and more complicated as the child also learns labels for **situations**. "If we are in a restaurant and you feel angry at your brother, you should …." "If you are frightened because you think you are lost in a store, you should …." "If I am on the phone and you have an important question, you should …." "If the teacher asks a question and you are excited because you know the answer, you should …." "If you get stung by a bee and no one is around, you should …."

This early use of language to label feelings, behaviors, and situations is very important in helping the child to gain **self-control**. In many families, words have almost no meaning other than their emotional effect. A parent may say, "Stop that!" when the child is in the middle of doing several things, some of which may be appropriate and others of which may not. Words may be used primarily for punishment, such as, "Don't be ugly!" or "Grow up!" or "You're asking for it!" or "Johnny!" or "This time I really mean it!" or "Hey!" The effect is to produce a heightened tension in the child based upon an awareness that he or she may at any moment be punished again, but without the ability to control his or her behavior such as to prevent it. The heightened tension increases the child's activity level, impulsivity, limit testing, and likelihood of making mistakes, and a vicious circle is thus created (augmented also by increasing anger). On the other hand, just describing (in a non-punitive manner) the child's behavior as the child is engaging in it

often helps the child to gain control.

As soon as the child has the capability of labeling behaviors and situations, it will be important to help the child learn the **predictable situations that will arise upon engaging in particular behaviors**. This relationship between behaviors and predictable outcomes becomes the set of answers to the recurring and very important question "**Why?**" (The child asks why he or she should do as the parent is instructing. The answer optimally would be, "Because if you do such-and-such, then so-and-so will probably happen, and that will be desirable/undesirable.") Again, it should be noted that in the authoritarian, or standard, model, the importance of wisdom is very secondary to the issue of obedience. The child asks, "Why?" and the parent answers, "Because I say so!" This is called "teaching obedience." It certainly is depriving the child of an opportunity for increasing wisdom. I have known of situations in which the parent would deny the child permission to do something, admittedly for no other reason than to demonstrate to the child that the parent could do it, that is, was in a position of dominance over the child. Such behavior of course produces rage in the child.

Now I am not saying that a discussion of the reasons for telling a child to do something that needs to be done right away should take the place of doing it, or that a child's question always has to be answered at the time that it is asked. However, in the standard model, the parent generally considers the parenting task accomplished when the child does what the parent wants, and both parent and child easily forget about the unanswered question after the child has obeyed. In the rational-ethical model, the parent has the responsibility to make sure that the question is eventually answered to the child's satisfaction; otherwise, a problem still exists. The child may still be disappointed, but **if anger remains, implying that the child believes the parent is in the wrong, then more work needs to be done**.

Much of this ability to think about such issues accurately comes about through the **analysis of mistakes**. In other words, the parent must help the child to learn from mistakes by learning how to talk about them. This is in stark contrast to the punishing of mistakes, which is so prevalent in the standard model of child rearing. The effort, in this analysis, is to identify as clearly and precisely as possible the specific point at which a non-optimal decision was made, and what factors led to that decision, such as lack of knowledge about something, avoiding looking at something because of the discomfort in doing so, misunderstanding due to communication breakdown, lack of the development of a particular procedure (for example, designed to remind oneself of something), failing to acquire a particular person's viewpoint, etc. Such analysis leads to an increased awareness of optimal behavioral routines and an increased awareness of danger signs of potential mistakes.

I believe that the two most useful "techniques" to foster thinking are the **asking of questions** and the engaging in "**friendly debate**."

To ask a question is to request an answer, which must be formulated. The formulating of the answer is the act of thinking, so asking questions fosters practicing **thinking**.

Friendly debate fosters practicing **rational thinking**. The reader will recall that in friendly debate, opposing opinions are given with their reasons, and the "reasoning" is evaluated according to the rules of logic and the rules of evidence. (I realize that this is usually not done in a formal sense, but it is the basic process whereby each opinion is looked at according to certain

implied standards of thinking to see whether it "makes sense." Most often, the opinion is examined to see if it is logically consistent with or contradictory to other beliefs considered to have been adequately legitimated by repeated personal experience, by acceptance by almost everyone, or by scientific study.) Friendly debate is debate in which the goal is that of arriving closer to the truth, through listening to the efforts of the other to demonstrate the presence of evidence of nonrational thinking in one's own presentations of one's opinions. "**Unfriendly debate**" refers to debate in which the goal is to win, through whatever means that may work, such as intimidating, interrupting, shouting the other down, deliberately changing the subject, etc., and it is the process that individuals are most often referring to when they say that they "don't want to **argue**." In fact, most people have probably had very little experience with friendly debate, and when offered the opportunity, turn it down, thus rejecting that which might offer them the greatest opportunity for growth. I would also suspect that much of the reluctance to engage in friendly debate comes from the experience of growing up in the standard model, in which the child's effort to debate with the parent is seen as disobedience or "disrespect," and dealt with accordingly.

Thus, one wishes to have many, many friendly debates with one's children, in which the child is asked many questions.

What are some of the **questions** that the parent asks the child? Here are some possible **examples**. "Do you think that what you have done is right or wrong? Why?" "Do you think everyone would agree with you? Who might not? Why would they not agree with you when others would?" "If you were a parent and your child did this, what would you think, and what would you do?" "Yes, I agree with you, but could we both be wrong? How could we find out?" "Okay, you think that you did not do the right thing. But do you think there was any part of what you did that actually was good? Why?" "What do we need to find out in order to make a good decision in this case? Should we call someone? Check something out in the library?" "What do you think is the basic thing that we disagree about? What do you think is the reason we disagree?"

(Now of course questions having to do with thinking about thinking require adequate intellectual development of the child, but well before the child can do such a thing, the parent doing it serves a model for the child such that the child can learn to do it as early as possible. Even if the child cannot understand what the parent is talking about, the child can sense that the parent believes he or she is doing the right thing, and the child will certainly watch the process in an effort to learn how to do it, assuming that the child does not feel alienated from the parent by the parent's punitive behavior.)

Of course, the parent will not just be asking questions. The parent will also be asking for feedback on his or her own opinions, and thus will be offering them. "I would be interested in what you think about my idea about this." "I have always assumed…. Do you think I have been making a mistake? Why?"

The point of the discussion, however, is the **cooperative effort to approximate the truth, optimize decision-making, and achieve the good life**.

Those who are most imbued with the standard model will tend to regard the above as a ridiculous abandonment of parental authority. Lest the reader worry that I think children should not see the

parents as being in a position of authority, I assure you that I believe **leadership and authority are essential**. However, there are varying kinds of leadership and different ways of using one's position of authority, and the differences in this regard between the standard, or authoritarian-ethical, model and the rational-ethical model will become even more apparent as we proceed.

As I have previously said, the **higher** the level of child rearing, the **more difficult** it is. Why is this level (teaching) more difficult than the first two (reward and punishment)?

It should be fairly evident that teaching **takes much more time** than rewarding or punishing, or at least it could. It is so easy to say, "Because I said so, and that's the end of it!" In the standard model, there is no need to discuss the rationale for one's decisions, because the most important goal is the obedience of the child. But in the rational-ethical model, **there remains a problem if the child thinks the parent is wrong, whether the child obeys or not**. And some issues may be quite complex, such that the discussion may take a very long time. In our society, where the tendency is to think that child rearing comes naturally, the parent often assumes that having discussions with the child is a luxury to be indulged in after other, more important or satisfying matters are attended to. This is a little like the surgeon saying that he or she doesn't have time to do a good job.

But even more difficult than the expenditure of time is the difficulty parents will at times have **making sense** to themselves and the child about the rationales for their own decisions. Even with adequate time for discussion, a parent might sometimes find it nearly impossible to justify his or her viewpoint to the child. It is even possible that the child might have a better set of arguments for his or her position than the parent does. In that case, the parent should of course acknowledge this to the child. In the authoritarian-ethical model, however, this would tend to feel like submission, and would tend to be intolerable. The parent often feels a strong need to demonstrate that he or she is superior to the child.

And to do a good job at teaching, it is very beneficial to have had a **good education**. For one reason or another, a parent may be lacking in education, and have a difficult time comprehending the issues that are involved in a discussion. It certainly can be expected that the skilled teaching of the child will be an education for the parent, no matter what the educational level of the parent is to begin with. Once again, the standard model assumes that the education of the parent is not very important, because the primary goal is to bring about the submission of the child, and this can (presumably) be done without the use of education.

In addition to the third level of child rearing being more difficult than the lower two levels, the **potential benefit** of the third level is substantially greater than that of the lower two levels. Teaching enables the child to become independent of the parents and other authority figures and to evaluate for himself or herself what the appropriate decision should be, even in a rather novel situation. As opposed to being obedient to external guidance, the child acquires a very much needed **internal** guidance system, which adds stability to his or her life, even during times of environmental confusion. And the child becomes a person more valuable to his or her society, more able to arrive at good decisions in more and more complex situations, and therefore more able to take a position of leadership and perhaps even rear children.

The fourth (or highest) level of child rearing is modeling for identification. Basically, whatever the parent wants the child to do, the parent should do also, or at least the equivalent of

it, adjusted for age difference and differences in circumstances.

Imitation and identification are extremely important factors in personality development. Even in the first year of life, the child watches the behavior of others (especially parents), and soon begins, sometimes consciously, to imitate the observed behaviors. Some of these behaviors begin to be the child's "way of doing things," and ultimately they contribute to the child's collection of traits that is referred to as the personality, or the child's "way of being," or identity.

The child not only learns **how to do things** by watching and imitating, but also learns **what things are valued**. Children are acutely aware of the implications, with regard to values, of the behavior of their parent(s). This fact is what is referred to when the (bad) instruction is given, "Do as I say, not as I do!" The parent is, in such a case, recognizing that his or her own example would lead the child to do that which is against the parent's values (for the child), because the parent is behaving in a way inconsistent with those values.

If the parent wants the child to be generous, the parent should be generous. If the parent wants the child to be kind, the parent should be kind. If the parent wants the child to be violent, the parent should be violent (hitting the child will help). If the parent wants the child to sit quietly and talk reasonably and rationally, the parent should do so. If the parent wants the child to interrupt the parent, the parent should interrupt the child and the other parent. If the parent wants the child to scream and shout, the parent should scream and shout. If the parent wants the child to be able to accept criticism, the parent should show the child how it is done. If the parent wants the child to help the parent, the parent should help the child. If the parent wants the child to be honest, the parent should be honest.

In fact, the parent will not just **do** things optimally, but will additionally **be** a certain way. This is indeed the reason that this is the most difficult level of child rearing. It goes to the very heart of the parent's own identity or personality (that collection of traits and tendencies that are characteristic of the parent). In other words, since the parent is not likely to be "perfect," the optimal approach to child rearing will involve, among other things, efforts to change the self in a positive direction, not only in order to be able to model more desirable behavior, but also to be able to model the valuing of self-improvement itself. This requires having a continuous awareness of areas of the self that need working on. (If this sounds like an excessive expectation of the parent, we must ask whether we are expecting something of the child that the parent considers excessive for an adult!)

Consider the following questions to be asked of a parent. Does the parent have an orderly household? Does the parent ever speed? Does the parent ever have the child say that the parent isn't home? Does the parent use alcohol? Tobacco? Caffeine? With what explanation to the child? Does the parent ever make fun of anyone? Does the parent like his or her job? Does the parent continue to have curiosity about all things? Does the parent continue to learn? Does the parent read? Does the parent have irrational fears? Prejudices? Does the parent return money when given too much change? Does the parent work to perfect his or her anger prevention skills? Does the parent eat healthily? Exercise? Avoid watching unhealthy things on TV? Does the parent believe in emotional and social growth? Does the parent really want to learn about his or her mistakes, so as to be able to improve? Does the parent ask for criticism? Does the parent live his or her life such that he or she would be proud of it should it become visible to the public?

Remember that the **goals of child rearing** are **to foster the development in the child of skills, wisdom, and values that will optimize the child's current and future quality of life and the child's ultimate value to his or her society**. Are there any parts of this set of goals that should not be retained by the child, as his or her own goals for himself or herself, once the child is 18 years old (or 28, or 58, or 78)? If the parent, as an adult, does not value for himself or herself these same goals, then the parent cannot **model** the behavior that **demonstrates** these values. No matter how old the adult is, assuming the adult is not significantly disabled, there arise opportunities for the acquisition of new skills, new wisdom, and more optimal values. Thus, ideally, the adult carries on the work begun in childhood, and this is what allows the adult to model such work for the child and to work collaboratively with the child toward these goals.

Let's take an **example**. The child says to the parent that the parent is being unfair (with regard to some decision). In the authoritarian-ethical model, the parent may easily say to the child, "Don't talk back. Just do as I say." In the rational-ethical model, the parent might reassure the child that he or she has the open, listening attitude (as described in the chapter on "Rational-Ethical Anger Prevention") and say, "Help me to understand why you believe I am being unfair. It may indeed be that I am making a mistake, and if I am, I want to know. I want to be a good parent for you. It is important to me that I do the right thing." If it is important to the parent that the parent does the right thing, the child will identify with the parent in this regard, and the child will also value doing the right thing. If it is important to the parent to get feedback, it will become important to the child to get feedback. If it is important to the parent to be a good parent for the child, it will become important for the child to become a good child for the parent (to become good in one's role).

And here are **some more examples** of things a parent might say to a child, this time **at the end of a discussion**. "You know, I think you have raised some very important points. I will give what you have said much thought, and we will talk about this some more. Meanwhile, I do have to stick by my original decision, because I believe it is the right thing to do. You have raised some doubt in me, so I will continue to think about this and to hear your thoughts about it." "You know, you have indeed convinced me that I was wrong. I am glad that you have pointed this out to me. In the future, I will probably make better decisions about something like this." "You know, I am trying to understand why you are disagreeing with me. I cannot follow your reasoning. However, I want to hear your thoughts about this as long as you believe that I am wrong. Meanwhile, I must stick to my original decision, because I still believe that it is the right one. I hope that I am doing the right thing. (It's hard being a parent!)"

Needless to say, these examples will not represent the exact words that a parent might use. It is not the words that count, but the implied attitude, expressed in the idiosyncratic language of the parent and child. Also, the examples given are obviously for the older child, who has some increasing ability to think abstractly. However, one can, in the child's earliest years, convey the attitude and philosophy implied in the examples, and doing so early will make the attitude and philosophy a basic part of the child's identity. One can say, even to the smallest child, "No, don't do that! That's not right, because it can hurt someone. We don't want anyone to get hurt." This is far better than just, "Cut it out!" There is a perceivable difference between affectionate concern and angry domination.

Parents operating primarily in the standard model will find approaches like "**behavior modification**" appealing, while those operating in the rational-ethical model will not. Behavior

modification emphasizes analyzing the behaviors that need modifying and the kinds of rewards and punishments that can be used to mold the child's responses. In doing so, **the two lowest levels of child rearing are being used**. In addition, however, one has to look at how the parent is relating to the child, and what that behavior is modeling for the child. The parent is looking for ingenious ways to trick or force the child into complying with the parent's wishes. The parent may even go to a specialist to learn more sophisticated ways in which to win out over the child. No matter how good the parent is at using words to describe what he or she is doing to the child, the parent is not modeling collaboration with the child in an effort to achieve conjointly an optimal quality of life. The relationship is basically manipulative or coercive, not intimate. The differences will become more apparent later.

In order for a parent to operate **optimally** at the **highest level** of child rearing, the parent must have a **strong commitment** to self-improvement, to reason and rationality, to doing the right thing (being ethical), and to doing what he or she can to make the world a better place. Especially because much of this is not only not promoted, but actually often undermined, by the standard model, and because we were all raised primarily in the standard model, operating optimally at the highest level of child rearing is **extremely difficult** for most of us. **Yet the rewards can be tremendous, for children, parents, and our species in general**.

Several or even all the levels of child rearing may be operating in any specific interaction with a child, in the standard model and in the rational-ethical model of child rearing, not only when carrying out well thought out procedures but also during the more automatic, intuitive, moment-by-moment interactions of the parent with the child. However, the **conscious and deliberate use** of these principles will allow them to serve as a set of guidelines and reminders to the parent, to help in **optimizing** the parent's approaches to the child. Just as the child will obtain better self-control and make better decisions, the more the child can label his or her own behavior and can think in terms of rules and guidelines for conduct, so too will the parent be able to do a better job of child rearing with such labels and principles as tools. In this way, we can rise above our otherwise basic animal nature and use a model of child rearing that is markedly different from that which comes naturally, and thereby implement a "basic ethical philosophy" that can greatly enhance our quality of life and our chances of survival.

This "basic ethical philosophy" is **the most fundamental set of explanatory concepts** that the parent will be referring to when the parent is explaining to the child how the parent is arriving at his or her **beliefs about what the right thing to do is**. It will be the guiding set of principles for all decisions of the parent.

Much of this basic ethical philosophy has been covered in the chapter on "Basic Concepts: Ethics." We need to review what we have so far.

The rational-ethical ultimate ethical principle is that we should do that which will promote the survival of and the good life for our species, meaning all of us, now and in the future. We are a group animal, and there is hardly anything that we can have and hardly anything that we can do that does not involve others having done their part. I should therefore do my part to make the world a better place within my sphere of influence and within the limits of my capabilities. My sphere of influence has my self at its center and consists of all of those individuals upon whom any of my decision-making has some impact. The boundaries of the sphere are indistinct, in that there is no way of knowing how far the influence of my behavior will spread among others, but it

is clear that there are some individuals who are obviously affected by my behavior and others who are almost certainly not affected in any discernible way.

The people that are closest to me in my sphere of influence are the ones that are impacted most strongly by my behavior. In usual terminology, those closest to the center of my sphere of influence are my immediate "family" members, primarily the ones with whom I live, and who thus occupy the same household. These individuals and myself I will refer to as "the family." Needless to say, there are many ways that we humans live, such that there is not just one scenario that can be referred to as "the family." Since I will need to use examples, my examples will necessarily refer to family structures that I am most familiar with. I believe the reader will, however, be able to apply the same principles to other family structures. I am going to refer to the family as a household of one or two parents and one or more children. It will be the task of the reader to apply what is said here to other "family" scenarios.

So, within the family, the basic ethical philosophy extends to the idea that each of us in this family should do **what he or she can** to make life better for all in the family, and the family should, as individuals and as a group, do **what it can** to make life better for those outside the family, including neighbors, extended family, and society in general. **What I can do is what is within the limits of my capabilities**.

My **capabilities** consist of those built into my **physical makeup** and those acquired through **learning and practice**. These latter capabilities are what we should mean by "**skills**." Increasing my skills is increasing my capabilities, making me better able to make the world a better place. In the rational-ethical model of child rearing, the guiding orientation of the parent is that of promoting the acquisition of skills on the part of the child.

It should be remembered that, as the terms are used in this book, **all behavior is determined by beliefs and motivational states, within the limits of the environment and the physical (primarily neurological) makeup of the animal, in this case the child. Therefore, as the child's existential and (rational-)ethical beliefs become more accurate, his or her behavior becomes more optimal, that is, less likely to be mistaken, non-optimal, and regretted. So the task of the parent is to do that which will promote the accuracy of the child's beliefs, both existential and ethical, and to promote the development of the ethical sense accompanying those ethical beliefs. These capabilities (to make the world a better place) that the parent is promoting are the child's skills.**

We have talked about the **time of "Homo rationalis,"** when **life will be drastically different** (in good ways) from the way it is now. At that time, by definition, our species will live by rational ethics, not authoritarian ethics. What will seem idealistic and improbable to us will seem normal to them. They will have a basic ethical philosophy, globally held, that is a background to all of their decision-making. **For us**, since all of us have been reared in the standard model, more or less, and since our culture in which we are embedded is nowhere near being like the culture that "Homo rationalis" infants and children will be reared in, we can only struggle to attain something close to this state of affairs in our own lives and within our own families. But we can indeed engage somewhat in this improved way of living if we are aware of how to do it and if we are motivated to do it. The motivational state that will promote doing it will be the ethical sense associated with the ethical belief that doing so is the right thing to do.

Even though some of what appears in the rational-ethical model of child rearing is indeed used by some families today, such that what follows should not really seem totally foreign, I want to emphasize the drastic difference in the overall approach to child rearing that will be maintained by "Homo rationalis" and that is the basis for rational-ethical child rearing. Therefore, in order to be clear, I will tend to focus on the worst of our current child rearing tendencies, as seen, however, in many families.

In most current households in my subculture, I believe, there is usually little going on that can be associated with the idea of making the world a better place for everyone, etc. Instead, there is often a preoccupation with how to get the most for oneself, while keeping out of trouble. There is a certain amount of time devoted to having fun. There is a certain amount of time devoted to doing that which will elicit praise and perhaps even material reward. Sometimes individuals will do things for each other, and hope for getting some things in return. What seldom occupies the minds of most children in many households is the idea of doing the right thing. Avoiding doing the wrong thing is more frequently thought about, as a way of staying out of trouble.

But in rational-ethical child rearing, the basis for everything that is done is rational ethics. It is by virtue of the fact that what the child is doing is believed by the child to be the right thing to do that the child is doing it. **Ethics**, instead of being an unpleasant, limiting influence on pleasure, **is the source of the joy of living**. Why is this? Because doing one's part to make the world a better place is what life is all about, and it includes the rationale for all of the fun that the child is experiencing in life. Remember, the world includes the self, and the self is at the center of one's sphere of influence, so one wants to make the world a better place for oneself as well as others. In addition, one wants to make oneself better able to make the world a better place, so taking care of one's equipment (body, brain, mind, and possessions) is of topmost priority, and this includes making sure that one has a fun-filled life. But the reason for doing so is in order to go beyond oneself to making the world a better place for one's family, friends, acquaintances, community, and species.

And why will the child have this unusual (in our minds) orientation? Because the child's parents will have it and everything they do will reflect it. They will talk about it, and they will make decisions that reflect it. They will model it for identification, they will teach it in their dialogues with their children, and they will reward it when they see it operating in their children. **The child will be born into a world drastically different, socially, than is true today.**

We can attempt to predict **some of the basic differences** between their lives and ours.

In the first place, obviously if doing one's part to make the world a better place is to be rewarded, the question will arise as to what to do about the child who, through genetic makeup and constitution, does not have the same level of capabilities as his or her siblings. Much of our current effort to produce capable children is centered around **competition**. One child tries to be better than another, and is urged on by parents and others to become better than other children. Inevitably, this produces failure for at least some. This threat of failure is often fought by the parents by having the child devote extra time to whatever the task is. For instance, the child has to work longer on his or her math homework, and because this is the area that most produces a sense of failure, it is the most unpleasant way the child may have of spending his or her time. Currently, when insufficient time is spent by some children on such areas, punishment, formal or

informal, may follow. There is obviously something wrong with the scenario described in this paragraph. So what will "Homo rationalis" do about this problem?

I believe that "Homo rationalis" will look at **competition** as an optional activity for those for whom the activity is pleasurable, and that children will participate only if that is what they find enjoyable. But there will not be some universal scale of worth, on which every child is compared with others, that has to do with the child's ability to excel in at least one area of activity. Instead, what will be valued basically is the sincerity of effort on the part of the child to do his or her part, within the limits of his or her capabilities, in behalf of his or her family and those around him or her. If the child finds that entering competition in some area makes it more enjoyable for him or her, and perhaps helps him or her to accomplish more, and the child therefore requests to do so, then such competition would be made available to the child. There is currently a great tendency in our society to value successful competition, even when the competitors have somewhat antisocial attitudes toward society and a very self-oriented approach to life. Other individuals who quietly work hard to make the world a better place for others, perhaps in quite important ways, do not seem to be valued as much. They may get an occasional article on a back page of a medium, more as a curiosity than as a focus of admiration. The relative incomes of the two groups of individuals also reflect their value in our current society. The attitude of the child's parents regarding this will be crucial. The parents will have to see and value the child's efforts in the context of understanding what the child is capable of and what the child's intentions are.

Certainly an **educational assessment** will need to be carried out routinely and periodically for every child, to see where the child is in his or her learning and skill development, and a curriculum will need to be provided for that child that allows the child to be successful, not in terms of competition but in terms of development of the child's potential. And whether a child has a more limited curriculum than another, due to less capability, should be irrelevant to other children because it will be irrelevant to their parents.

Another drastic difference between rational-ethical child rearing and the current, standard model, has to do with a particular value that will be modeled by the parents at all times, and that is that **if anyone in the family is unhappy, it is a problem for everyone in the family**. By being a problem, I mean that **it will be a topic of conversation and a focus of efforts to solve the problem until the problem does go away**. Notice how different an orientation this is from that in which sibling rivalry and teasing is considered a "normal" phenomenon. Currently, one child's difficulty may be the source of glee for another. In many families, there is a continuing struggle to see who can make whom feel worse. In rational-ethical child rearing, one of the important functions of the parents is **to foster the children empathizing and sympathizing with each other, and even helping each other**. This same set of skills will be extremely important for doing one's part to make society a better place for all.

We may look at a list of some **general sets of skills** that the procedures of child rearing should be designed to foster:
      (1) The ability to communicate accurately (symbol and syntax usage)
      (2) The ability to recall useful, relevant information (education)
      (3) The ability to utilize anger prevention principles (empathy and absence of hostility)
      (4) The ability to inhibit non-optimal behavior (ethical sense and rules of conduct)
      (5) The ability to negotiate (interpersonal and group interaction)

(6) The ability to think rationally (rules of logic and rules of evidence)

So all of the above has been an elaboration of the basic rational-ethical philosophy underlying all interactions with, and specific procedures involving, the child or children.

I will now offer some **specific procedures** in child rearing that are most likely to foster the above sets of skills.

These procedures may be of use to the reader or others who might wish to attempt a transition toward rational-ethical child rearing. But first, I want very strongly to clarify what such a transition involves. Consider the following four scenarios:
(1) A child is reared currently in the standard model, from birth till adulthood.
(2) A child is reared currently in the standard model until middle childhood, with then transition to the rational-ethical model.
(3) A child is reared currently from infancy till adulthood in the rational-ethical model.
(4) A child is reared in the time of "Homo rationalis" from infancy till adulthood in the rational-ethical model.

The reader can surely see that each of these scenarios is entirely different, and that different expectations are warranted from each of the scenarios. I mention this so that the reader will not have inappropriate expectations regarding what I am proposing. Some of my comments will have to do with trying to solve problems that would not have arisen in the third, or especially fourth, scenarios. But my effort is not just to describe what the time of "Homo rationalis" will be like, in my opinion, but also to offer some help to those that would like to make use of such ideas within their current living. And **this book is for the reader**, at the time the book is being written, not for some future culture.

Some of the procedures below may indeed be unnecessary in the time of "Homo rationalis" while nevertheless being quite helpful in our current efforts to foster rational-ethical living through our child rearing procedures, given the starting conditions for such a transition.

The **first set of procedures,** I believe one of the most important, will be that of the **family meeting**.

The family meeting is a time when the members of the family get together for the **specific purpose of working together to make life better**. The main functions of the meeting are working on problems currently or previously identified, development of new procedures to improve life, arriving at decisions about what is okay to do without specific approval, and planning for future events. The meeting should, as much as possible, include everyone in the family.

It is important to recognize that the ability to negotiate (communicate, listen, explain, advocate, engage in friendly debate, etc.) in a group setting, using behavior that fosters the success of the efforts of the group, is an extremely important set of skills that adults need in order to engage in those meetings of adults that determine current and future societal outcomes, and ultimately the fate of our species, so the family meeting should indeed be the first training place for all children to help them become good citizens of the world.

Efforts to establish family meetings in **current** families often face **resistance** on the part of the children. This resistance disappears if the meeting is really used for the above functions, and if the way of relating to the children is consistent with the above material on the four levels of child rearing. Thus, if the children see the meeting as a place where they will be made to feel bad, they will not want to come. If on the other hand family meeting is a place where children will actually be appreciatively listened to and where they can report on their progress in working on their "projects" (efforts at self improvement and at contribution to the family welfare), and receive recognition for doing so, they will look forward to the meetings. And if decisions about requests they have made are deferred until family meeting, when adequate discussion can take place, the children will feel the necessity to be there.

Family meeting is the **specific time and place to bring up and talk about anything that anyone has any dissatisfaction about**. Not only is it a place for parents to clarify non-optimal behavior of the children, but it is also the time and place for children to complain about the actions of parents and siblings. The crucial aspect of the meeting is the commitment to looking at all problems from all perspectives, hearing all ideas, and recognizing that the problems are not really solved until there is consensus. All complaints are looked at against the backdrop of the rational-ethical ultimate ethical principle and the other principles considered consistent with it. Thus, there will be the effort to find ways of dealing with problems that are most likely to have the best total set of outcomes. This is the way of determining, as much as possible, what the right thing is to do. If a child is dissatisfied, even if for now things have to be a certain way, there must be the commitment to continue to review the issue to see if anyone has any new ideas.

Decisions are generally not made by group vote in the family meeting. The parents are the leaders of the family, and as such must be responsible for decisions. But this does not mean that parents are always right, and this fact should always be acknowledged to the children. **Parents have to do what they believe to be right.** Doing otherwise is modeling a low-intensity ethical sense, a belief that it is okay to do that which is not right. But what must go along with this responsibility for decision-making is the openness to reviewing decisions to see if they are really optimal. A problem still exists if the child does not agree with the decision. This does not mean that the parent must agree with the child. Instead, it means that either the parent or the child (if not both) is incorrect in his or her thinking, and in either case important work needs to be done. Both parent and child must acknowledge that what is important is doing the right thing, whatever that is, and that coming to be correct is the goal, not just being able to maintain the belief that one is correct. The parent is thus modeling the open, listening attitude described in the chapter on "Rational-Ethical Anger Prevention."

There are indeed times when the parents may decide that putting an issue to a vote is the right thing to do. But they should be able to explain to the children why doing so appears to be the right thing to do. The parents are making the higher level decision to delegate the decision to a vote of the group, presumably, for instance, because the issue does not involve "technical knowledge" and is of interest to all involved.

In making the transition to having family meetings, parents may often find that **the behavior of one or more children may not be optimal for the functioning of the group discussion**. If however such behavior leads to decisions not being made, or being made in an undesirable way (from the children's perspective), they will soon learn to avoid interrupting and to stay on topic, for instance. Of course, if children do indeed make progress in behaving appropriately, their

progress in this regard can be recognized (rewarded informally). Parents, then, must set the model of not interrupting and of staying on topic. Doing so additionally accomplishes making the inappropriate behavior non-rewarding, by virtue of its interference with rapid decision-making.

Regarding the above, a parent might say, "So far, I believe that the right decision for me to make is X, but I know that you don't want that, so I certainly will listen to why you think some other decision would be right, and we have fifteen minutes until we have to stop." At the end of that time the parent might say, "You know, I was able to follow some of what you said, and it sounded somewhat convincing, but not enough for me to change my mind. I wish we had spent more time talking about one of these issues, but we seemed to have gotten off track. I'll have to stick with my original decision, but we can talk about it some more tomorrow."

By the same token, a parent might say, "You know, in order for me to believe that you have a real understanding of what I am saying, I need to be able to speak several sentences without being interrupted, and so far that has not been possible. Now our time has run out. Maybe we can continue next time."

The bottom line is that everyone should be able to be listened to without interruption, and the way that the parents conduct the meeting can be such that the children learn this ethical principle in a very concrete, convincing manner. Experiences such as these help children to learn very fast how to optimize their input into decision making. What does not work, of course, is for parents to interrupt and shout down the children, setting the model for such behavior. Also what does not work is to change the decision to what the child wants as a way of getting the child to stop an emotional display, thus rewarding inappropriate behavior.

Having an agenda on the family bulletin board, such that anyone can add to it and see what is going to be discussed, can be useful for maintaining interest and encouraging participation. Also, in a family meeting plans can be made that certain individuals will "research" a particular topic to present at a later meeting. In some families, but not necessarily all, a written record of the topics and decisions might be kept. How formal or informal a meeting is to be, and how long or how frequent, are decisions that will vary from one family setting to another and perhaps from one time to another.

Thus, there are no absolute rules for the conducting of family meetings. Instead, what should be done in a particular family at a particular time should follow from the **principles** of rational-ethical child rearing. The specific procedure itself will not be what works. Only the following of the principles will.

I will assume the reader knows that the words and sentences that the parent actually uses in talking with the child will necessarily vary from family to family and will also depend upon the age and understanding of the child. On the other hand, if the parent occasionally says something the child cannot understand, this will offer the child a wonderful opportunity to learn something new and to learn to ask questions when he or she is failing to understand something. It is of course a good idea for the parent to question the child to make sure the child has indeed understood. (And such a question should be more than "Did you understand?" since the child may not be aware he or she didn't.)

The **second set of procedures** has to do with the **formal reward system** within the family.

We must recognize that families vary very widely with regard to their economic capabilities, and that any specific ideas about the formal reward system that will be optimal in a family will depend upon such factors. I am going to address some of the kinds of problems that I have witnessed in my own culture. The important conclusions for the reader to draw have to do with the principles behind the specific problems and procedures I am outlining. (In what follows, when I use the term "should," the reader should interpret this to mean "probably should, if appropriate in that particular family setting.")

In my culture, which is one of affluence, there is, I believe, a major lack of recognition on the part of many of our youth of the importance of **interdependence**, and consequently a major lack of a system of ethical thinking that serves as a guide to good decision making. To some extent, authoritarian ethics has always failed to promote the best functioning of our groups (families, societies, etc.), but in addition I believe that currently there is even a greater failure of such ethics. Rational ethics is very early in its development, and it has not filled the void. Consequently, we are seeing, in my culture, an increase in disorganized, antisocial behavior among our youth, often with tragic results. Nothing has satisfactorily replaced the weakened authoritarian ethics.

I have already called the reader's attention to the fact that **there is hardly anything we can have, or anything we can do, that does not require others having done their part**. Many youth seem to have the belief, "I exist; therefore, I should have." It is unrealistic to expect the infant to be aware of the importance of doing his or her part to make the world a better place, but **child rearing should accomplish this awareness quite early**.

The key concept to be taught is that **members of a group benefit from the group only to the extent that the group functions well, and the group functions well only to the extent that the members of the group do their part in behalf of the group**. My use of the word "group" implies some sort of coordinated activity, generally with the acceptance of roles by the members of the group. The members of the group give to the group, and the group gives to its members. This is the reason that the child should contribute to the group, learning and utilizing his or her growing skills in order to so contribute.

But what I observe instead is that many families operate in such a way that the child expects to receive things from the family group simply because of the attainment of a certain age, and when the child does not receive, anger is produced. Furthermore, there is a strong tendency for parents to give or withhold as an impromptu reward or punishment in response to whether the child obeys or not from moment to moment. "If you do X, I will give you Y." "Just for that, I am not going to give you Z." And children are paid to do chores, as if there is not a reason to do them just by virtue of being a member of the family.

What I am about to propose to the reader will not be appropriate for every family. It is oriented toward those families that are attempting to make the transition to rational-ethical child rearing and are encountering characteristic problems in making that transition from fairly common family situations currently. Thus, although I will be advocating for a specific set of procedures, the reader should realize that there will be this variation in applicability.

After the attainment of a certain age, in the preschool years, the child should receive no handouts except perhaps for annual occasions. Instead, the parents should give the child a weekly allowance that would equal all of the handouts during the course of a year, divided by fifty-two. (The allowance could be given daily for the smaller or more immature child.) The allowance should be ample, as much as the family can reasonably afford. This allowance should be for "optional pleasures." The family also provides food, clothing, shelter, medical care, affection, and training, and these items should be considered separately from the allowance. The allowance might depend on a formula that considers the child's age, so that different children in the same family might receive different allowances.

Now it is not reasonable for the child to receive the allowance for optional pleasures if he or she is not doing his or her part for the family. Therefore, if the child is having problems in meeting this expectation, some of the allowance should be withheld. For example, if the weekly allowance were $7.00, then the daily amount would be $1.00. At the end of the week, the child would receive his or her allowance, consisting of $1.00 for each day that the child met all of his or her responsibilities. (Notice that we are not talking about withholding specific amounts for specific, individual mistakes, any more than we are paying the child to do specific chores.)

On the family bulletin board, there should be a chart showing each day of the week as a column. As long as nothing is written in a column, the child will receive the allowance (at the end of the week) that is for that day. What is written in the columns are designations such as C3 and R5. A C3 would mean that chore number three had not been completed properly. An R5 would mean that rule number five had been violated. At the bottom of the column would be written in the allowance for that day. Note that only one day's allowance would be held, no matter how many mistakes there were, if they happened on the same day. For younger children and for children with greater difficulty with self-control, the day might be divided into two, three, or four sections, such that the day's allowance would be given according to the number of sections having no entries in them. Doing this would allow a child to quickly start again to try to have a mistake-free interval of time and consequent attainment of allowance.

For children who can read or are learning to read, next to the chart on the family bulletin board would be **two sheets**, one for **rules** and one for **chores**.

A **rule** is an ethical rule of conduct. Examples would be:
> No hitting. (I should not hit.)
> No stealing. (I should not take brother's possessions without brother's permission.)
> No coming to supper late. (I should not come to supper late.)

A rule should be on the list only if a child has demonstrated an inability to avoid violating the rule despite adequate discussion in family meeting. Notice that the loss of allowance due to a violation of a rule is indeed a form of punishment, but that its characteristics are that it is not impromptu and that the child is able to know at the time of violation of the rule what the consequence will be. Thus, the child should be given the opportunity to work on the problem first, without punishment, and the provision of this punishment is only to help the child have added motivation to inhibit the problematic behavior. The child should be told that when he or she seems to have achieved the necessary skill of inhibiting the problematic behavior, the rule will be removed from the list so that the child can practice obeying the rule purely out of the wish to do the right thing (ethical sense). (Remember, if the child disagrees that following the

rule is the right thing to do, discussion of this issue is urgent. In rational-ethical child rearing, one is trying to promote ethical thinking, not obedience, unless obedience is recognized by the child as the right thing to do in the case in question.) And ethical rules of conduct are only guidelines. If the child believes the rule should not have been followed in this particular case, he or she should discuss this in family meeting, where a decision can be made regarding the allowance reduction. If the rule violation happens several times a day, then the above-described option of dividing the day into sections may be optimal. One always wants the child to have more success than failure, and one especially wants to avoid a prolonged period of time in which appropriate behavior can make no difference. (Prolonged periods of "grounding" are a currently frequent example of this kind of error, and are quite demoralizing.)

A **chore** is something that the child is expected to do, without being reminded, by a certain time, following which a parent is likely to inspect to see if it has been done and done adequately. The chore should be described on the sheet and the inspection time specified (with actual inspection being done anytime after that, within a certain, specified limit that makes sense).

Whereas rules should be written on the rule sheet only if the behavior continues to be a problem, all chores should probably be on the chore sheet, to help the child attain a sense of pride that he or she does indeed have a set of responsibilities. In fact, the reader might prefer to use a different term than "chore," one that has a more positive connotation, such as "responsibility" or "role." However, the child's feeling about the chore will have most to do with how the parent presents it to the child, not what word is used for it. And if the child really does not like doing it, that fact should be accepted and the child appreciated for doing something distasteful in behalf of the family.

When there are more than one child, I believe the optimal approach is to designate a list of "**chores to be done by the children**." Each week, the children can decide among themselves how to divide up the chores, and a child will be responsible only for those chores for which he or she has signed up. Thus, if chore number three were not done, the C3 would go only in the column for that child. If no child was willing to sign up for the chore, then it would be the responsibility of all of the children, such that, if it were not done, C3 would be placed in the columns for all of the children. Such a procedure is far better than the parent making the decision as to how the chores will be divided up, because the children are not likely to agree with the parent's choices, and because leaving the matter up to the children gives them the opportunity to learn the skills of negotiation and the problems involved in determining fairness. Some children will decide to rotate the chores in order to achieve fairness, and it will have been far better if the children come up with this solution than if the parent imposes it upon them.

Always the concern of the parent should be the welfare of and the good life for the child. A way of demonstrating such concern is to tell the child, upon assigning a new chore, that although failure to complete the chore will result in the appropriate designation on the chart, the actual loss of a part of the allowance will only occur after an initial period of time during which the child is getting used to the chore and learning how to do a good job. Thus, the child gets **helpful feedback**, but does not actually experience a significant punishment (the withholding of part of the allowance). Also, the parent should make sure that the child can request at any time to be shown in what ways his performance of the chore is unsatisfactory. Always the role of the parent should be as an ally of the child in the child's efforts to learn the appropriate skills.

(Currently, because of the reliance upon punishment, the parent is often seen as an enemy rather than as an ally.)

Above, a chore was described as something a child was supposed to do **without being reminded**. Indeed, one of the main reasons for managing the issue of chores in this manner is to avoid reminding the child. I have many times told parents that a child should never be reminded, that when a child is reminded, doing so is a sign that there is a problem and is also a cause of the problem. The general principle is that a child is not likely to do that which is done for the child. If someone reminds the child, the child is not likely to remind himself or herself. So a parent should arrange the procedures in the family such that children have the opportunity to develop the skills involved in reminding the self. If the child has trouble remembering to do something, the role of the parent should be to help the child (usually in family meeting) develop methods for doing so, again being the ally of the child against the problem, rather than being aligned against the child-with-the-problem.

It is apparently tempting to many parents not only to indicate on the chart the failure to complete the chore, but also to say something to the child. What is said is almost always painful to the child, and therefore represents **punishment** and should therefore be avoided. Placing the C3, for example, on the chart should be all that is done, if possible. Although the use of the chart in this manner does inevitably produce negative feeling, and is therefore to some extent punishment, doing it in this manner represents the least punitive approach to the issue of failure to meet expectations, and it offers the parent the opportunity to sympathize with the child. Additionally, the child knew exactly what the "punishment" was supposed to be, whereas what the parent may say to the child is quite unpredictable, and would therefore be impromptu informal punishment. Of course, the parent, in saying something to the child, does not have to be punitive. The parent might say, "Gosh, I sure hate marking this down. You have otherwise done so well. What do you think went wrong? Is there any way I can help? Do you want to go over again what the chore involves?" Doing so sincerely would be avoiding punishment.

With regard to the **allowance**, there are possibilities for "advanced learning" for the older child. For instance, the child can have an "account" in the family "bank" (maintained in the home by the parent), in which the child can save his money, without having to carry it around, and the parent can even add interest to the amount that is kept in the account, helping the child to learn that concept and even to make the appropriate calculations. Lending the child money, however, can be quite problematic, and probably should only be done with the much older child who has demonstrated satisfactory financial responsibility. Doing so clarifies the concept of having "good credit." Lending the child money tends to undermine what the child needs to learn about budgeting. Also, the more the child really has to have the right amount of money to get something, the more he or she will learn about arithmetic, money, cost, and value.

I believe that a child should not be allowed to work for money outside the home unless he or she is doing his or her part satisfactorily at home. And if a child works outside the home, and therefore does less in the home, it makes sense for the child to contribute some of his or her income to the family, rather than keeping it all for himself.

The **third set of procedures** has to do with the granting of **permission**.

Currently, one sees in many families children continuously asking, "Can I (do X)?" It is also not unusual to see a parent say, "No," and then to see the child ask, "**Why** can't I?" whereupon the parent might say, "I **told** you that you **couldn't**, so stop bugging me!" In all of this interaction, what is portrayed is authoritarian-ethical child rearing. The "author" (parent) has spoken, and has told the child what to do (or not do). The ultimate legitimization for the original ethical rule of conduct (given in shorthand as "No," meaning "You should not do X") is that the author does not wish the child to do it. The child's question ("Why?") is looked upon as a plea for reconsideration, and is responded to with anger and some hostility (punishment). A more accurate answer (still within the standard model) would be, "Because I said so."

Now the question to ask about this procedure is whether it fosters development of ethical thinking in the child, and of course at this point the reader should see that it doesn't and should understand why. But what to do instead is not immediately clear. The right procedure surely could not be to get into a detailed ethical discussion every time a child asked to do something, because the functioning of the family would slow down significantly. The answer to the question is that what is done should be guided by principles, applied perhaps creatively to specific situations. So what are those principles?

The goals are to foster in the child the capacity for ethical thinking, a set of accurate ethical beliefs (ones consistent with the rational-ethical ultimate ethical principle), and a strong ethical sense associated with those ethical beliefs. The accurate ethical beliefs, accompanied by the strong ethical sense, will motivate the child to do the right thing without the parent telling the child to do it.

Therefore, **insofar as possible, the child should not have to ask the parent for permission, because the child should already know the answer**.

So there should be an emphasis upon the child having certain **privileges**, meaning behaviors that the child knows **do not require specific permission**. For instance, a child should already know whether he or she can spend the night with a friend, because that should be or not be one of his or her privileges. Of course, the privilege may indeed be **conditional**, meaning that the child **automatically** has permission under certain **conditions**, such as the completion of all chores and homework, for instance. And there may be certain required ways of carrying out the permitted behavior, such as, in the current case, notifying the parent of his or her intention to do so by a certain amount of time before leaving, etc. And of course there may be specific reasons why a child cannot be granted permission to do something which he or she has the privilege to do, such as that there is an important family event or problem that interferes and takes precedence (in which case the parent would of course express sympathy and try to provide some comfort).

Now our discussion shifts to the procedure of **granting of privilege**. How is this to be done? Again, we are talking about having some general principles to go by. So we are asking, "What set of principles will guide us in the granting of privileges?"

We want principles that will work. Therefore, we should look at what we have found to work best so far. The reason for having such a set of procedures is to reduce the chances of making mistakes. The worse the potential outcomes of such mistakes, the more important it is to have good procedures. In other words, we should not have permission to do things which, by virtue of

insufficient skill, might result in really bad outcomes. This is the reason, for example, that there are procedures for granting the privilege of driving.

Let us take a look at one set of potentially very dangerous behaviors that certain individuals are nevertheless given the privilege of engaging in, namely, the practice of medicine, even, say, neurosurgery. What are the procedures involved in the granting of such privileges? They would be the following:

(1) The individual learns "academically" the information necessary to make good decisions (i.e., with acceptable safety).
(2) The individual observes another, who is proficient, engage in the behavior.
(3) The individual participates, by helping, in the procedure.
(4) The individual engages in the behavior under the (perhaps declining) supervision of one who is proficient.
(5) The individual demonstrates by being tested that he or she has learned all that is considered needed for acceptable safety.

The above set of procedures is carried out because it optimizes the chance that the individual will be able to do competently what he or she has been granted the privilege to do, and this is the same concern that any parent should have in granting privileges to a child. These procedures involve telling and then showing the individual how to do it, and then having the individual learn to do it in steps that make mastery the easiest and the safest, all the while determining whether the individual is indeed learning what he or she is supposed to learn. So prior to a child receiving the privilege to do something on his or her own, the to-be-permitted activity should be **talked about** with the child and to the extent possible **shown** to the child, and then the child should be given the opportunity to do it under **gradually decreasing supervision**, but all the while the child should be asked **questions** to see if he or she really is learning how to handle whatever problems might come up while doing it. And hopefully the process will occur with the maximum of reward and minimum of punishment or experience of failure, such that the child will feel a sense of pride in his or her accomplishment. (The anticipated experience of pride would be a component of the child's ethical sense.)

The reader is asked to try to imagine what using the above principles would involve in the granting of the following privileges:

Brushing one's teeth on one's own
Going to the store with the parent
Setting the table
Riding a bicycle
Going swimming
Vacuuming
Doing laundry
Visiting with a friend
Driving the family car
Going on a date
Having music lessons

I am aware, of course, that the above list will be relevant only in certain cultures, including my own, but again, it is the **principles** that are important, not the specific details. And the overall idea is that children, in fact all individuals, should be continuously developing, practicing, and

maintaining **skills**, namely behaviors that hopefully will make the world a better place within their spheres of influence. Skillful behavior is behavior that is not a mistake, i.e., does not lead to a bad set of total outcomes.

Child rearing is the effort to bring about in children accurate existential and ethical beliefs, and an adequate (strong) ethical sense associated with the ethical beliefs, so the granting of privileges should be according to procedures that are most likely to bring this about.

The final set of principles has to do with **impromptu instruction**, meaning **telling a child to do something**.

Children certainly do not always know what to do and at times have to be told. However, we should remember that every opportunity that the child has to figure out what to do helps the child to grow in knowledge, skills, and problem solving. So when parents needlessly tell a child what to do, they may be starving the child of important experience. I have seen examples in my practice. I go to the waiting room and ask the family to come into the office, whereupon a parent immediately tells the child, "Come on." I ask the child a question and before he or she has a chance to answer, a parent says, "Answer the doctor." I have seen situations in which for prolonged periods the only activity that the child engages in that is not preceded by an instruction to so act is restless fidgeting. And I have seen children look as if they were in a trance, responding to continuous commands in a robot-like manner, with no affect or interest, and with a manner that suggests resignation and detachment, as if they have long ago given up the hope that they might, on their own, do the right thing.

I believe the reader can imagine that in the above examples the child really should have been given time to do his or her own responding, rather than being told what to do. If the child were not to do the appropriate thing, then there could be useful discussion as to why he or she had not. If the child does not respond properly to the situation, an opportunity for learning has occurred. If the child does respond appropriately, an opportunity for informal reward has occurred, with a further enhancement of the strength of the ethical sense (anticipation of such approval).

We have now seen some specific procedures or ways of doing things that are generally different from what often occurs in current, usual child rearing, which is mostly according to the authoritarian-ethical model. We have seen that these proposed specific procedures do often take more time and energy, but even more, they require knowing how to do them and they require the belief that the underlying principles are optimal.

We have seen how **skillful child rearing will bring about a strong ethical sense associated with accurate ethical beliefs, as well as accurate existential beliefs**. And we have seen that although reward and punishment both produce the ethical sense, punishment also has the unfortunate side effect of producing anger, and the build-up of anger-containing memories (chronic anger) over time produces a motivational state (rebellion) that competes with the ethical sense, making it more difficult to do the right thing. Therefore, skillful child rearing, including the avoidance of punishment, will produce a strong ethical sense without the repetitive stimulation of anger and the build-up of chronic anger. **Thus, reward, teaching, and modeling for identification are the levels of child rearing that should be used primarily, and of course used skillfully, according to well understood principles.**

Just as in the last chapter we concluded that although our basic animal nature arose through natural selection because it fostered the survival of the species, it did not cause us to deal with anger-producing situations in such a way as to produce a good quality of life, our basic animal nature has not provided us with a model of child rearing that reliably promotes a good quality of life for the child or for us as a species. Therefore, just as in the last chapter we concluded that we would improve our quality of life by adding, and adhering to, a set of ethical principles and rules of conduct to handle anger-producing situations, we now can say that having a different model of child rearing produced by a more optimal set of ethical principles and rules of conduct may allow us to provide our children and our species in general with a much better quality of life than has so far been possible.

So I propose that the task of the reader is to decide whether this rational-ethical model of child rearing does indeed make sense, and if it does, to advocate for it within his or her sphere of influence, and, if the reader is involved in child rearing, to utilize it in that child rearing. This is what I believe the reader should do, if he or she wishes to do his or her part to make the world a better place within his or her sphere of influence.

RATIONAL-ETHICAL BELIEF MANAGEMENT

Let **belief management** mean any **behavior** engaged in for the purpose (sought-for outcome) of **optimizing belief**.

Optimizing belief shall mean **acquiring, strengthening, maintaining, and utilizing belief for the purpose of promoting the ultimate ethical principle**. This ultimate ethical principle, for the purposes of this discussion, will be the **rational-ethical** one, namely, that we should do that which will promote not only the **survival** of our species, but also the **good life** for everyone, now and into the future. The good life will mean, for our purposes, **as much joy, appreciation, and contentment as possible, and therefore as little pain, suffering, disability, and early death as possible**.

(We should note that the above definition of belief management automatically includes engaging in an effort to become better educated. However, there will be much more added to the concept.)

The reader should remember from reading the chapter on "Basic Concepts: Determinants of Behavior" that for our purposes "**thinking**" is considered a form of **behavior**, in that, to a certain extent, we have the ability to choose as to what we will think. We can purposefully think about certain things or stop thinking about certain things ("putting them out of our minds").

The reader should be aware that **belief management is something that we already do in our daily lives** to a great extent, so the concept will be recognized as it is described. But what will be added is a discussion of how "Homo rationalis" will practice belief management, compared to our ways, and thus a discussion of ways in which we can work toward **more effective belief management**. More specifically, even though we already engage in the behavior that we are calling "belief management," we do so in highly inconsistent, unskilled, and often ineffective ways, and sometimes even with disastrous results.

The reader should remember that a basic method of this book is to use words in agreed-upon ways, for the purpose of the book, so as to avoid confusion, communication breakdown, and the illusion of disagreement. My effort is going to be to continue to provide a comprehensive, simple, and adequately accurate model of mental functioning that will be extremely useful in dealing with our most difficult problems as a species. This model should be usable by everyone, and should be fairly consistent with the ways in which we talk about mental functioning already. Nevertheless, there will be some ways of using words that will seem perhaps somewhat unusual for some readers. However, I do believe that such readers will see the value of proceeding in this manner.

Let us review some of what has already been covered, primarily in the chapter on "Basic Concepts: Determinants of Behavior."

Belief is whatever it is in the nervous system of an animal that is a **model of something in or about the world**. That model may be highly **accurate** or to a greater or lesser degree **inaccurate**. The model may be "**inactive**" in the brain, as in all of those beliefs that the brain might have that are not having any effect on the animal currently, or the model may become "**active**" in the brain, because of the current "**situation**," and it generally becomes active in the form of certain "**predictions**." As it does so, it becomes a **determinant of ongoing decision-**

making, and it also may (or may not) produce, strengthen, or inhibit one or more **motivational states**, further influencing ongoing decision-making, and also having an effect on the "**quality of life**," since motivational states can often be considered "**pleasant**" or "**unpleasant**." (By a "pleasant" motivational state I mean one that tends to promote behavior predicted to produce, sustain, or enhance it, and by "unpleasant" I mean one that tends to promote behavior predicted to avoid, reduce, or end it. The former is usually subjectively experienced as an **enjoyed state of mind, or what we label "joy"**; the latter, especially if intense, is usually subjectively experienced as **"suffering."**)

We humans, and on this planet only we humans so far as we know, have developed a way of, in turn, **modeling these models (beliefs)**, by using **symbols** and the **rules of syntax** such as to produce **propositions** (usually sentences).

Our thinking and communicating is to a great extent with these propositions, and we have thus built a world of propositional models of our beliefs, such that we can **share, clarify, and even change** those beliefs. For instance, I can tell you what I believe, and by elaboration even cause you to "change your mind," or I can even "think things through" and "change my mind" myself. We can suddenly **bring new beliefs into existence** by virtue of our propositional behavior. If I ask someone where something is, and the person tells me, I immediately come to have the (new) belief as to where it is (unless I don't trust the person or unless the person's answer involves believing something that is contradictory to something else I believe fairly strongly). And the situation in which a belief is **put into words** often tends to **activate** and therefore **strengthen** that belief. ("If he hears it enough, he'll come to believe it." "If I say it to myself over and over, I'll come to believe it.") So **this ability to use symbols and the rules of syntax enormously affects what we believe**.

In fact, as we have come to use the **rules of logic and the rules of evidence**, we have been able to improve not only the **consistency** of our beliefs but also their **accuracy**, and in so doing, we have become more able to avoid **mistakes** and thus improve the quality of our lives. Thus, **our ability to "put things into words," such that the rules of logic and rules of evidence may be applied, will be an important aspect of belief management**.

Yet, we obviously have a long way to go in this direction, since we still make so many mistakes and therefore experience so much **pain, suffering, disability and early death by virtue of our own decision-making and that of others**.

Now I am about to give the reader a particular additional concept (model) that will be extremely useful in simplifying and understanding what is to follow. It will be a way of understanding the word, "belief," even more usefully.

We speculated, in the chapter on "Basic Methods: Determinants of Behavior," on what happens in the brain when we believe something or are predicting something. What follows is a simple elaboration, an oversimplified guess (model), which, however will allow us to conceptualize better.

We have noted that a particular belief can probably be conceptualized as a set, or network, of altered synaptic connections of neurons in the brain such that those neurons are more likely than chance to achieve transmission of their impulses across those synapses if activated by certain

input that occurs by virtue of the current situation. (The current situation is what is happening at that point in time that may have some effect on the animal, and thus also includes the physical state of the animal's own brain.) To simplify further, the activation of a belief may be thought of (modeled) as the activation of a particular network of neurons in the brain, the belief being that particular network, whether activated or not. In other words, the **belief** may be thought of as a particular **network of neurons, or synapses**, that is prone to become active when it receives input from certain situations.

The network of altered synapses that represents a particular belief probably exists throughout a large part of the brain, and is intermingled with other networks, representing other beliefs, such that any particular area, or volume, of the brain can be said to be the **partial** location of **many** beliefs. (The firing of a particular neuron probably occurs related to many different beliefs, so that one neuron cannot be said to be associated with one belief.)

But what I am going to add, as a further simplification, for the purpose of making communication easier, is my use of the phrase, "**part of the brain**," to deliberately cause the reader to think of a **visually observable volume** of "gray matter," or brain substance, that presumably will be the **location of a particular belief**, such that **another belief** would presumably be located in a **different**, visually locatable volume of gray matter.

We are fairly certain, currently, that no such separation in space between beliefs, whatever beliefs are, is possible. (This inability actually to separate the locations of beliefs into visibly separate volumes is in addition to the inability to separate beliefs from one another because of the fact that any belief is a part of a "**network**" or "set" of beliefs that are **interdependent**, such as the fact that my belief that my car is in my garage is interdependent with my beliefs that I have a car and that I have a garage.) But it will be extremely helpful if the reader will think in this grossly oversimplified way, because of certain characteristics of beliefs that we will need to talk about. Again, the reader should imagine any particular **belief** to be in **one part of the brain**, different from the location of other beliefs, as if one could point to a part of the brain where the belief resided.

Now, if we imagine that a particular belief resides in a particular "part of the brain," we can recognize that another belief, that may be contradictory to it, would reside in a different "part of the brain." What this means is that **one brain can have two beliefs in it that, if modeled with propositions, would be found to be contradictory to one another**.

Now I wish to elaborate on this concept some, because there is a natural tendency to believe that if a person has a particular belief, that person cannot also have the opposite belief. In fact, however, there are many indications that persons can indeed have two different beliefs, that are contradictory to each other if expressed in words, that may indeed be activated in different situations, or perhaps even in the same situation. Thus, what I am saying is that **each of our brains has all sorts of beliefs in it, some of which are contradictory to one another when expressed as propositions**. It is only through some work that we develop a consistent set of beliefs that are more dominant in most situations.

To be sure, we also have many beliefs that are not contradicted by other beliefs that we have. Or, we might say that we have many beliefs that are so strong that beliefs opposite to them are relatively weak enough that we could say that, for practical purposes, we did not believe them.

But what I am focusing on are those beliefs, in the same brain, that do indeed contradict each other (when expressed in propositions, or sentences).

Now, it should be obvious that when there are two opposite or contradictory beliefs in the same brain, it is quite possible for one of them to be more accurate than the other. So **a person can have two contradictory beliefs, in two different parts of the brain, one of them being more accurate than the other.**

Let us look at how this state of affairs is both understandable and apparent. When we observe the infant learning about its environment, we know that many of its initial ideas about (beliefs about) how the world is are going to be fairly inaccurate, and that the education of the child involves in part helping the child to obtain a more accurate view of (a more accurate set of beliefs about) the way the world really is. But the ways in which the child will learn the more accurate beliefs about the world will be by virtue of **new situations**, often involving **verbal input**, that will help the child to acquire the new beliefs. Following such input, there will then be the **new belief** and the **old belief**, "**in different parts of the brain**," generally related to or activated by different situations. And the child will then have to go through the process of **strengthening the new belief and weakening or inhibiting the old belief**, such that ultimately in all relevant situations the new, more accurate belief will be the one activated. And we can see that some situations will perhaps for a while activate both beliefs, until the inaccurate one is ultimately weakened to the point that it is no longer influential. An example, we shall see, might be that of the child gradually learning not to fear a certain kind of situation (that is, coming to **believe** that it really isn't something to be afraid of).

Many inaccurate beliefs are obtained by the process usually referred to as the development of **superstition**. A person will come to believe that two events are **causally** connected because they have **happened together** several times. The belief that is acquired is one that, when activated, results in the person **predicting** that, this time too, since one of the events has occurred, the other is likely to occur also. The infant will have many such beliefs, acquired due to **coincidence**. Not only that, we as a species certainly have a history of having many such beliefs that have been shown, especially through scientific study, to be **inaccurate**, often "**superstitious**."

It is only when beliefs are expressed as **propositions** (sentences) and subjected to the **rules of logic** that we are able to recognize **contradiction**. Prior to the development of symbols and the rules of syntax, and then the rules of logic, we, like all animals, are completely irrational, and can believe essentially anything. It is only through the process of the **education** that our species provides its members that we can increasingly approximate **rationality**, that is, establish our beliefs according to the **rules of logic and the rules of evidence**. And there is almost no belief, no matter how incorrect the majority of people would regard it, that has not existed in at least someone.

So what I am trying to convey to the reader is a somewhat unusual picture of the human mind, but one that is more accurate. The more usually held, inaccurate view is that any one individual has a mind in which a highly consistent, non-contradictory set of beliefs exist. I believe the reader will find the proposed, more unusual, picture consistent with common examples that I am about to provide, that is, the picture that **we have many inaccurate beliefs, right along with and contradictory to the more accurate ones, and these inaccurate beliefs may indeed affect us in significant ways**.

I wish now to give **examples** of this state of affairs, both from a clinical setting and also as a part of daily life.

First let's look at **clinical** examples.

The person who has an **elevator phobia** can tell us that he or she "knows" (**believes**) that elevators are very safe, according to statistics. But at the same time, the person has a very strong **belief** that getting on this specific elevator is indeed unsafe, at least for him or her. This other belief produces the strong motivational state of great fear (through the prediction that something bad is about to happen if he or she gets on this elevator), even though the prediction is quite vague and general.

A person with **obsessive compulsive disorder** may tell us that he or she "knows" (**believes**) that the compulsions, which are carried out to avert danger, do not make sense, in that he or she "knows" that there is no danger, but he or she still also strongly "feels" (**believes**) that there is indeed danger, such that he or she continues to carry out the compulsions to protect against it.

There are times when an individual who has had **paranoid delusions** is regaining insight. He or she may recognize that a set of ideas is inaccurate, but nevertheless be unable to talk about those delusional ideas without becoming convinced all over again of the accuracy of the delusions.

The same phenomenon can be seen when a person with a bipolar disorder is beginning to have another **manic episode**. He or she may say, "I'm getting manic again, because I'm beginning to have those same unrealistic thoughts (beliefs)," thoughts that before long, if the episode is not stopped, will carry much conviction (become very strong beliefs).

Currently, there is some debate and uncertainty as to the frequency of occurrence of "**multiple personality disorder (or dissociative identity disorder)**." But to the extent that this disorder exists, it does so by virtue of more than one extremely large set of beliefs existing in different parts of the same brain, but those sets to some extent being cut off from each other, such that there is a tendency for only one such set to be "in charge of" (to be activated during) the decision-making process. (In addition to genetic temperament and other such factors, the "**personality**" to a great extent consists, according to the terminology of this book, of the totality of a person's **beliefs**, which, in turn, are a major determinant of that person's motivational states and decision-making, and therefore of the behavior **characteristic** of that individual, that is, behavior consistent with his or her "**character**.") So it is as if two or more "personalities" exist "in different parts of the individual's brain," each one consisting of a unique set of **beliefs**.

The above five examples are ones drawn from clinical experience, but the same processes and phenomena occur in **daily life**.

The most usual statement from someone reflecting this situation is, "I **know** that it doesn't make sense, but that's the way I **feel**." "Knowing" that something doesn't make sense reflects the **belief** that it doesn't. The "feeling" is the result of the **opposite belief**. The opposite belief is usually vaguer, more general, and not as easily put into words, but it is belief nevertheless. It is manifesting itself as certain predictions, which in turn may be rather vague and general, such as a "dread" that something terrible will happen (or a "hunch" that something good will happen).

Sometimes these vague beliefs, manifested by the feelings that they produce by becoming active as predictions, are referred to as "intuition." And of course such a belief may sometimes actually turn out to be more accurate than the one that the person considers himself or herself "actually" to believe, or "know."

In addition, most of us, I believe, will recognize the phenomenon in which we will seem to vacillate between two different ways of seeing things (two different sets of beliefs), leading to perhaps two different conclusions as to what we should do. A person might say something like, "I become convinced that I should do X, but then I start thinking that I shouldn't, and I keep changing my mind." This is usually happening when a person says, "I can't make up my mind." Obviously, such a situation is not one in which one set of beliefs disappears completely from the brain when replaced by the other, only to be formed all over again as the other set of beliefs disappear. What instead is happening is that **first one set of beliefs is activated and then another is**.

Another example is that of someone trying to deal with a painful reality, such as a terrible loss. He or she will say, "It just doesn't seem real to me. I **know** it happened, but I just can't bring myself to **believe** it." Knowing it happened means believing it did. In such a situation, one could probably consider both sets of beliefs to be **active at the same time**. There is no difficulty in conceptualizing this if one considers the two sets of beliefs to be in different parts of the brain, with both parts of the brain being active at the same time.

As we go along, we will recognize this same state of affairs occurring in many ways in our daily lives.

Now we can say that **belief management** must include **strengthening** certain parts of the brain (certain beliefs), and **inhibiting** other parts of the brain (certain other beliefs) such as to allow them to **grow weak** by undergoing "**disuse atrophy**." In order to understand such processes more effectively, I wish to give the reader one more important way of looking at these mental, or brain, processes.

Remember that the models in the brain tend to be **hierarchical**, in that lower level models pass information on to higher level models, and higher level models tend to influence (activate and inhibit) lower level models. This is the process whereby, for example, **sensations** are integrated into **perceptions**, which are recognized (or not) by higher and higher level models (models of "kinds" of situations) that then activate lower and lower level models of kinds of behavior that result ultimately in specific acts in specific situations. Now if we imagine these various models to be **in various parts of the brain**," we can say that **one part of the brain may "integrate" the input from other parts of the brain, and then "activate" (or "inhibit") still other parts of the brain to produce (or inhibit) behavior**. Thus, there are hierarchies of parts of the brain, corresponding to hierarchies of beliefs and behavior.

Actually, we can even imagine that two or more **different parts of the brain** may **at the same time** be involved in **different activated hierarchies**. The reader may have made the observation that he or she **can do several things at the same time**, such as slipping a foot in a shoe, while buttoning a shirt or blouse, while talking with someone, while looking at the clock to see how late it is getting. In playing a musical instrument, one hand is doing one thing while the other is doing another (and maybe the feet are doing something else). Each of these separate activities

involves activation of hierarchies of models in the brain. In our oversimplified terminology, **different parts of the brain are doing different things at the same time**.

But at least some of the time, these activities may have to be **integrated** or **coordinated at an even higher level**. So our simplified model would say that different parts of the brain were doing each of these separate things, and that one part of the brain was, at least sometimes, **putting them together** in a feasible or proper way. Thus, we can imagine the brain having several, or perhaps even many, different hierarchies of activation and inhibition occurring at the same time, even though the individual may be aware of only certain ones.   And according to the model we are using in this book, these hierarchies are hierarchies of **beliefs**, that can at least theoretically be modeled with **propositions**.

(It is most likely true that we humans have a greater capacity for higher level hierarchies than is true for most other animals. We think that this is probably due primarily to our frontal lobes being more developed.)

Now without speculating to an excessive degree with a model that is already oversimplified, we can at least say, metaphorically, that one part of the brain can "**monitor**" other parts of the brain, and can "**decide**" what other parts of the brain should become active or should quiet down. A person's subjective experience that would correspond to something like this would be, for example, deciding to imagine something happening, or deciding to put something out of his or her mind (deciding to stop thinking about it). In other words, we can develop beliefs about what we should think about and what we should not think about, and engage or not engage in this behavior (thinking). I believe the reader will recognize this as a common experience.

The following are three examples of the operation of very high level hierarchies.

First, w**e can think about our thinking**. For example, we can decide to **observe** what we start thinking about, and **report** it to someone, as in a free association test, and also report what we think about the thoughts that we had. We can to a certain extent develop a part of the brain that **"watches" other** parts of the brain and **responds** to what the other parts of the brain are doing. (The brain is truly a remarkable organ.)

Second, if one part of the brain **activates** another part that "contains" or "is responsible for" a model of **something that has happened**, this would be "**purposefully**" trying, successfully, to "**remember something**."

And, third, if part of the brain **assembles** various models of previously unrelated memories of experiences, it would be doing what we would call "creating something in imagination," or simply "**imagining something**."

In the above several paragraphs, I have used words that customarily refer to behaviors ("activities") of animals (especially humans), such as "watching," "observing," "imagining," "assembling," etc., but nevertheless attributing these "activities" to "parts of the brain," as if each of these parts of the brain were an animal (or person). Doing so is obviously an inaccuracy due to an extension of meanings or uses of words. This inaccuracy is the use of **metaphor**, designed to facilitate understanding, but it can produce confusion and uncertainty if taken too literally. We really are just talking about models (beliefs) of things about the world, including models of

the animal's own behavior, which, when they become active, actually do produce that behavior. The reader is referred back to the chapter on "Basic Concepts: Determinants of Behavior" for a more detailed and precise discussion of the model of mental/brain functioning that I am using. But this way of speaking is being used because I am specifically talking about the **hierarchical** nature of these models, in which one model has an **activating** or **inhibiting** effect on others.

So, given all of this, can one part of the brain make another part of the brain, that represents a particular belief, become active, when it hasn't ever been active before? In other words, **can we decide to believe something**? Well, sort of. Let's look at examples.

A good example is **watching**, for instance, **a movie or play**, when we "**get into**" the action (if "believable") and respond emotionally to it as if it were happening in reality. We "know" that we are just watching a production, but we "feel" for the characters as if what was happening to them were indeed real. Our emotions (motivational states) are consistent with the **belief** that what we are seeing and hearing is really indeed happening and is not just a performance, but then we don't jump out of our seats and try to go help the character who is in danger. But also, to the contrary, we have some ability, if we wish, to remain detached (avoid experiencing feeling), essentially by **not believing** (being "objective" or "skeptical" about) what we are seeing. **So we can, at a higher level, decide "how much" to believe something.**

And a more obvious example is that of a good **actor**, who produces in himself or herself the **beliefs** of the character being portrayed, so that the emotion will be "genuine," thus engaging in "deep acting" rather than "surface acting." But while this is happening, there is another part of the actor's brain that is fully aware (believes) that there is an audience and that there are specific things to say and do according to the script. So the actor is indeed able, at a higher level, to **decide** to see the world differently (to have **beliefs** about the world that are different from those that he or she ordinarily has). To a limited extent, the actor **decides to have the beliefs** of his or her character, the activation of which beliefs produces the motivational states that the actor is portraying on the part of his or her character.

Another interesting phenomenon is that of **hypnosis**, in which **beliefs** can be **induced** by the hypnotist in the subject, for a limited period of time, generally because the subject **allows** the hypnotist to do so. By the same token, the subject can do this by himself or herself, through **self-hypnosis**. Thus, **one can induce in oneself beliefs that one "knows," at a higher level, are inaccurate**.

A more ordinary example would be the induction in oneself of a more comforting or pleasing belief about something, in order to derive that comfort or pleasure. This would be regarded as "using one's imagination," perhaps in order to have "a more **positive outlook**."

The important concept in the above examples is that one part of the brain can in a sense "**supervise**" other parts of the brain. Such "supervision" is the **activation of a set of beliefs about other beliefs in the brain**, such activation producing one or more motivational states that have as their sought for outcome the activation or inhibition of the other beliefs that it is supervising. In other words, I can develop in my brain, or mind, a set of beliefs about other beliefs that I have, and I can therefore influence these other beliefs, making them stronger through activating them or making them weaker through inhibiting them. And this is most of what is being referred to as "belief management."

Whether these various models that are being activated by higher level models are considered to be "**beliefs**" or not is more a matter of **definition** than of description. They represent the activity of certain parts of the brain, or certain models, that consist of "imagined situations" that include "predictions," which in turn may influence to some extent behavior (decision-making), both directly by **channeling** motivational states and indirectly through **production** of motivational states. It will be another part of the brain that will classify their activity as (believe their activity to be) "realistic predictions" or just "acts of imagination."

I believe that at times it might be helpful to use a word designed specifically for these phenomena, that alludes to the "belief-like" nature of them, while at the same time acknowledging that, "at a higher level," the brain considers them to be inaccurate. The term, "**pseudobelief**," seems to me to be the most appropriate word. The defining characteristic of a pseudobelief would be that another (supervisory) part of the brain would inhibit certain (but not necessarily all) decisions that would otherwise be fostered by the predictions produced by its activation.

For instance, my (pseudo-)belief that I will make my cancer go away by virtue of frequently imagining it doing so and "willing" it to do so would not necessarily interfere with my deciding to undergo treatments, even uncomfortable and painful, that had been shown often to be effective. And the actor who is engaging in "deep acting," would be maintaining as pseudobeliefs the beliefs of the character, while nevertheless making his or her decisions on the basis of accurate (supervisory) beliefs about the nature of the situation (it being a performance, requiring certain behavior, etc,). Only certain ones of the decisions promoted by the pseudobelief would be approved of by the higher level, supervisory beliefs of the actor. (For instance, the actor might, in response to the pseudobelief display his or her fear in various ways, but would not run off the stage as he or she would if he or she believed at the supervisory level that danger was indeed present.)

We sometimes refer to these phenomena by saying that the person is "not fully believing," or is "only partly believing." We might say that the supervisory part of the brain is a stronger belief than the part of the brain that is being activated by that supervisory part of the brain.

But there is also the fact that the supervisory part of the brain may itself be weak or strong, such that the person may not be "real sure" (may not believe strongly) as to whether some belief is "true" or not. Or the acting may be very "deep" or only somewhat deep, or perhaps fairly "surface." Or the person could conceivably "lose contact with reality," this phrase referring to an inaccurate belief becoming so strong as to surpass the influence of a higher level belief about its inaccuracy. ("My emotions became so strong that I actually began to believe that…," or "Because I wanted to do it so badly, I convinced myself, unfortunately, that it was okay to do it.")

The strength of a supervisory belief (regarding a pseudobelief) will depend on the same factors that the strength of any belief depends upon. The more frequently the supervisory belief is activated, the stronger it is likely to be. The more consistent the supervisory belief is with other, related beliefs, and the stronger those other beliefs are, the stronger it is likely to be. And there will be other factors, described below, that may be quite crucial.

Use of pseudobelief by a higher level supervisory ethical belief would be one example of belief management, and as such, might be done well, poorly, or even disastrously. And remember that optimizing belief management is what this chapter is about.

Now it is primarily because we can "put our beliefs (including pseudobeliefs) into words," that is, model them with propositions, that we can indeed activate and inhibit them more easily. We can, for instance, evaluate and change the propositional models of those beliefs (including pseudobeliefs) with the rules of logic and the rules of evidence, and then, because of the strong, bi-directional influential relationship between beliefs and the propositional models of them, change the actual beliefs (or pseudobeliefs) themselves. For instance, we can come to a logical conclusion (as an outcome of verbal behavior, either internal thought or dialogue with others) that we should indeed believe something, or that we should engage in a particular pseudobelief, and therefore specifically activate the belief or pseudobelief at a lower level. So **belief management**, by a supervisory part of the brain, **will most often consist partly of propositional behavior**, in the form of thinking within oneself or in the form of communicating with others to obtain corrective feedback and additional ideas (beliefs, pseudobeliefs), as well as, of course, to obtain support for existing beliefs such as to strengthen them.

Now, we frequently create, activate, or inhibit belief and pseudobelief according to **ethical** principles. For instance, because we can state our beliefs in words, we can arrive at conclusions (new, supervisory beliefs) about what we **should** believe, in order to be consistent with our basic ethical philosophy, and such new beliefs, being ethical, may produce the motivational state that we are calling the **ethical sense**. Thus, these new beliefs about other beliefs could be called **supervisory ethical beliefs**, some examples of which are:

> I should consider the possibility that I may be wrong.
> I need to (should) practice what I am going to say.
> I should not dwell on this too long.
> I need to convince myself that what I am doing is right.
> I need to convince myself that what I am doing is wrong.
> I should try to imagine (predict) what may happen and be prepared.
> I should try to imagine what it is like for the other person.
> I should try to remember what happened.
> I should try to believe that the outcome will be good.

In fact, we should notice that belief management in general is a behavior that is **often** motivated by an **ethical belief**, the ethical belief that I should indeed do it (because doing it, for instance, will help oneself and/or make the world a better place).

I will now clarify **how belief management is used to overcome inaccurate beliefs** that produce motivational states that are a form of suffering and a source of disability. As we shall see, we are talking about specific, methodical behavior such as that of a psychotherapist and his or her patient, as well as behavior that occurs in daily life.

Let us use the example of the **elevator phobia**. The task is essentially one of inhibiting or shutting down the belief that the elevator is dangerous and enhancing the belief that it is safe. There are, for our purposes, two beliefs in two parts of the brain. What is needed is to establish a third part of the brain that is **supervisory**. (This is often done with the aid of a psychotherapist, but may also be done through reading appropriate material. And to some extent it tends to occur

naturally.) This third, **supervisory**, part of the brain must promote certain internal behavior, a certain kind of thinking. And it must become strong through repetition of its activation (essentially, practice or exercise).

First, it must **evaluate** the two beliefs to see which one is consistent with beliefs acquired through the rules of logic and the rules of evidence. In other words, the person needs specifically to look at whatever data is available to determine whether the elevator is indeed dangerous, or what the approximate probability is that getting on the elevator is likely to lead to a bad outcome. This is necessary because one would not want to overlook an actual danger.

Since there is a miniscule probability that catastrophe can indeed happen at most any time, one has to recognize (come to believe) that the normal and healthiest approach to that fact is to take whatever routine precautions have been found to be helpful and then to consider the danger to be zero. (Wearing seatbelts and obeying traffic rules, while assuming, or believing, that there will be no accident, is an example.) In the case of the elevator phobia, the rational conclusion, based upon the evidence (considering the enormous numbers of people riding elevators with almost no reports of bad things happening), is that the elevator is "safe," that is, that the danger is zero.

Second, upon arriving at this conclusion (belief), the next step, carried out by the supervisory part of the brain, is to "imagine" riding the elevator and feeling confident while doing so. One imagines getting on the elevator while actively inhibiting the belief that doing so is dangerous, and actually feeling good while thinking about (believing) how safe it is. Thus, one is to some extent producing the "situation" (in imagination) that has been activating the inaccurate belief, while inhibiting the inaccurate belief and activating the accurate belief, as evidenced by the absence of fear. This may take some work (time and effort), and might first involve imagining doing so "from a distance," such as imagining another person doing so, or imagining an elevator that goes up only one floor, etc., until one imagines riding one very high without the fear.

Third, when one has done this frequently, and one has been able successfully to inhibit the activation of the inaccurate belief while riding the elevator in imagination, one then starts riding the real elevator while continuing to inhibit the inaccurate belief, until the inaccurate belief becomes very weak and the accurate belief becomes relatively much stronger than it, such that the inhibition of the inaccurate belief becomes very easy and even automatic. Ultimately, the inaccurate belief atrophies some from disuse, in addition to being automatically inhibited by virtue of the inhibition having occurred so frequently (strength of inhibition increased by repetition). The end result is that the situation now activates the accurate belief rather than the fear-inducing inaccurate one.

Next, let us use the example of the **obsessive-compulsive disorder**. The same set of procedures is carried out. **First**, a supervisory part of the brain must be established that evaluates the safety of refraining from the compulsion, and this supervisory part of the brain must be strengthened through repetitive use. There is already the belief that there is danger in so refraining, but the evidence of the lack of such danger must be reviewed, and then a decision arrived at as to whether it is safe or not to refrain. (When beliefs about "germs" are involved, for example, scientific information should be acquired.) **Second**, in imagination, the individual practices refraining from the compulsive acts while retaining the belief that doing so is indeed not dangerous, until doing so no longer produces the fear. **Third**, practicing in imagination refraining will be followed ultimately by actually doing so, over and over, till the inaccurate

belief is adequately weakened and inhibited, and replaced by the stronger, accurate one that the compulsion is not necessary and is even non-optimal, and therefore should not be engaged in. (And note that the supervisory part of the brain is an ethical belief, about what should or should not be done.)

The above basic procedure, and variations on it, would be the way to approach **any symptom** in which inaccurate belief is producing motivational states that involve suffering or disability, and thus an impairment of quality of life.

Less severe problems of this sort may possibly be dealt with **on one's own**, but more severe problems are usually best dealt with by virtue of help from a **psychotherapist** skilled in such treatment.

(And currently, because of lack of appropriate treatment resources, the strength and durability of the inaccurate beliefs due to the length of time the symptoms have persisted, and/or the intensity of the motivational states producing the suffering and/or disability, **medication** may be deemed necessary to reduce the intensity of the motivational states, even though there are some indications that the use of it may reduce the effectiveness of this "psychological" or "psychotherapeutic" approach, that is, this belief management.)

There is a specific problem of this sort that is unusually difficult to deal with, namely, the tendency to develop **panic attacks**. They are episodes of extreme fear.

One can conceptualize them in the following manner. Perhaps most higher animals have a mechanism for producing them, in response to suddenly having to run very fast to get away from a predator, or perhaps having to fight one desperately, and the mechanism thus has survival value. When the danger no longer exists, as when the predator stops chasing the animal, the mechanism turns off. For humans, we seldom need such a mechanism, but sometimes the "panic center" in the brain develops a "hair trigger," perhaps as a part of the development of depression. The problem is that these apparently "spontaneous" panic attacks occur without an obvious reason for them. In other words, the person observes no threatening predator. What therefore usually happens is that the individual develops some inaccurate beliefs about them that actually add to the fear, such as that what is happening is a heart attack, a stroke, impending death, or the losing of one's mind, along with beliefs about the dire results of others becoming aware that one is having one. So the chasing predator is replaced by all of these fear-inducing interpretations of (beliefs about) what is happening, such fear-inducing interpretations thus maintaining the panic over a longer than otherwise necessary period of time.

There is actually some uncertainty as to how "spontaneous" panic attacks might be. I have the belief, though the accuracy of it remains to be established and though it is not generally held, that the "spontaneous" panic attack is precipitated by the fear produced by a "**thought**" that the person has, namely, a **prediction** produced by the activation of a belief, and that it is the **suddenness** (the amplitude of the rate of increase) of the appearance of the fear that triggers the panic attack. (Sometimes panic attacks occur as the person emerges from sleep, this restoration of awareness and reactivation of worry producing a sudden increase in anxiety, or fear.) Then, as the person focuses on (thinks about) the **feelings** produced by the panic attack, the attention is taken away from the original **thought** (belief, becoming active and therefore producing a prediction), and in fact the original thought is **inhibited** by the fear it produced, so that the

person **loses the ability to recall what that thought was**, especially also because the belief was so vague and general, and perhaps never yet had been put into words. So, if asked what thought seemed to have set off the panic attack, the person will be at a loss to describe it, producing the illusion that the panic attack occurred "spontaneously." Much effort may be required to identify precipitating thoughts, primarily after the fear of the panic attacks has been overcome, as described below.

Also, the awareness of a sudden increase in fear produces the fear-inducing belief that one is beginning to have a panic attack. Once there is the slightest indication that a panic attack may be starting, the person becomes intensely and fearfully focused on whether that is so or not. And this **fear of the fear** becomes a vicious circle that brings the attack to fruition.

And the **repetition** of the panic attacks **strengthens** the mechanism producing them, making it "easier" to have them, with even less stimulation by a fear-producing thought. Thus, the panic attacks appear to be more and more "spontaneous," and may be produced by increasingly less intense fear-inducing thoughts.

In fact, the person may come to have a fear of **any** sensations that **resemble** aspects of the panic attack, believing such phenomena to be the beginning of an attack, such as the experiences (increased awareness of heart beating, shortness of breath, etc.) felt when exercising, so that these non-panic phenomena can then start producing panic attacks.

And there is a natural tendency for the **superstitious** belief to occur that a panic attack is likely to occur in a particular **kind of situation** if one has done so in the past. This could be a reason for such a phenomenon as the above described elevator phobia. The person can come to **avoid** many situations because of this, and thus become quite **disabled**. And, as noted, the person can come to avoid even exercise, because of the belief (prediction) that doing so will bring on an attack.

The tendency toward panic attacks is usually treated primarily with medication that tends to block their occurrence. A purely psychotherapeutic approach would involve the same principles as given above. The more realistic belief that must replace the catastrophic interpretations of the phenomenon is that it is "just another darned panic attack," with a realistic understanding (set of beliefs) about what is happening. The **individual essentially must learn not to fear the panic attacks**. The supervisory part of the brain must bring about the more realistic beliefs about the nature of the panic attack, and then actively replace (inhibit) the unrealistic beliefs with the realistic ones. Usually a therapist is required to help build up this supervisory part of the brain.

With the loss of fear of the panic attacks, the next procedure would be the determination to **re-enter situations** (perhaps first in imagination) that had come to be ones in which the panic attack would be predicted, and therefore likely to occur, with the determination to have the panic attack if necessary and to allow it to subside while remaining in the situation. And, as noted, the situation may actually be the having of a particular anxiety-provoking thought, so that having and exploring the thought may be the necessary confrontation of the situation. Remaining in the situation while the panic attack no longer continues strengthens the belief that the panic attack is not inevitable in the situation, and the fear of the situation (or, for example, the fear of the thought) can lessen as the belief that the situation is safe increases.

(This whole procedure is difficult, especially without adequate intensity of the psychotherapy relationship, and medication simply to block the panic attacks is often preferred, even though the total set of outcomes may be less valuable.)

Although getting rid of panic attacks and their consequences (usually much avoidant behavior) often requires working with a psychotherapist (and, as we have noted, often medication), there are certainly individuals who have overcome the problem on their own, I believe by engaging in the above described "**belief management**."

Getting rid of **addictive behaviors**, including addiction to substances, involves the development of a strong supervisory part of the brain that is able to weigh the ethical beliefs associated with engaging in or not engaging in the behavior, based upon a thorough assessment of the probable outcomes of continuing the behavior. The ethical sense associated with the ethical belief that one should not engage in the behavior must be stronger than the motivational states (such as uncomfortable withdrawal symptoms or the desire to have extreme pleasure if only for a short time) that motivate the behavior. The development of this supervisory part of the brain is often best facilitated by a therapist and/or a self-help support group. With time and practice, the inhibitory ability of the supervising part of the brain can become adequately strong, and with time and lack of engagement in the behavior, the motivational states promoting the behavior may weaken.

A well-known part of the problem of addictive behaviors, and other problems involving non-optimal decision-making, is the phenomenon usually referred to as "**denial**." This phenomenon consists of an individual seeming to be unable to draw the appropriate conclusion (belief) from the evidence, such that he or she does not believe that a problem of sufficient severity exists to warrant the effort of doing something about it. This inaccurate belief is maintained because of how it makes the individual feel (i.e., better) if he or she has begun painfully to recognize the bad consequences of the behavior. Again, the answer lies in the development of a supervisory part of the brain that has the strong ethical sense associated with the ethical belief that one should maintain accurate beliefs as opposed to beliefs that make one feel good or better, if those beliefs are different. Much more will be written about this later.

Another example of this same phenomenon has been referred to as the "**depressive defense**." If the effort to attain a particular goal involves engaging in behavior that produces predictions of significantly probable bad outcomes along the way, such that unpleasant motivational states are produced, the individual may develop the belief that the goal is not achievable, that the effort is "hopeless," and that therefore refraining from the effort is appropriate. The unpleasant motivational states thus are avoided, but are replaced by depressive affect (sadness), another unpleasant motivational state that indeed does promote inaction. ("It's hopeless, so why bother trying.")

Another very important example has to do with the phenomenon of "**irrational guilt**." Irrational guilt is widespread after bad events, especially tragedies, usually manifested (modeled) by statements that begin, "If only I had…." In my efforts to help individuals with this form of suffering, I use the following story.

A woman is preparing a meal for some guests and suddenly recognizes she is missing a crucial ingredient. She hurries to the convenience store, but arrives just as the storekeeper is closing.

She bangs on the door and makes pleading gestures, and he shrugs and opens the door. She thanks him profusely and gets her item. While being checked out, a robber comes in, and in the course of the hold-up, shoots and kills the storekeeper.

I then ask whether the woman is guilty of his death, since it would not have occurred if she had not gotten him to reopen the store. A fair number of individuals will say yes, at least partly responsible. Others will say no. I then ask what the reason is for their answer, and the answers are usually quite inadequate.

The problem in thinking comes about because the woman's behavior is "**in the causal chain**." But if that were the criterion to use, then the woman should not have asked the guests over, nor should her parents have conceived her. The answer with regard to the appropriate criterion to use is **whether the person making the decision could predict the (bad) outcome of the behavior**. The robber was able to **predict** that pulling the trigger would result most likely in the storekeeper's death, but there was no behavior on the part of the woman that she could **predict** would do so.

The same process, that we are referring to as "belief management," must be used **to overcome the irrational guilt**. The individual must develop a supervisory part of the brain that evaluates accurately whether the person decided to engage in the behavior while having the prediction (belief) that doing so would bring about the bad event, and then must inhibit the inaccurate belief and replace it with the accurate one, over and over, each time the inaccurate, guilt-inducing belief begins to become active, until it is adequately weakened and automatically inhibited.

Another frequent problem is the existence of "**low self esteem**." The way in which it is usually manifested is in the strong, painful reactions that some individuals have to **criticism** and/or **hostile behavior** on the part of others. They may describe the feeling as almost unbearable, and therefore go to great lengths to avoid it, by seeking the reassurance from others that they are indeed being approved of.

The clearest way to understand this kind of situation is to imagine someone saying to two different individuals, "You have committed a terrible crime!" One individual feels very guilty and the other does not. What makes the difference? One of them believes it. So if someone behaves toward oneself as if one is a terrible person (implied by the hostility), and one does indeed believe that one is a terrible person, one will feel appropriately terrible. But many people indeed have this reaction to hostile behavior who would be considered good people by almost any common standard, so how can it be that such individuals believe that they are terrible persons? The answer is that they have been taught so, primarily as children.

The standard model of child rearing readily believes in formal and informal punishment for the making of mistakes, and children quite frequently make mistakes, so they receive fairly frequent punishments, if not formal ones then informal ones, sometimes quite subtle and sophisticated. So the child is taught over and over that he or she is deserving of anger and punishment. Now at the same time, the child also hopefully frequently receives approval from his or her parents or the surrounding social milieu, and this approval teaches the child that he or she is okay. So we can see that the brain of that child has two beliefs about the self, that he or she is terrible and that he or she is okay. Therefore, some situations (current approval) may activate the belief that one is okay (or even great), and other situations (disapproval or hostility) may activate the belief that

one is terrible. And it is most likely that the belief that one is okay is more accurate than the belief that one is terrible.

So again, the procedure for dealing with this "low self esteem" problem is the establishment of a supervisory part of the brain that assesses clearly the evidence for both beliefs, comes to a conclusion (presumably that the individual is okay), and then specifically inhibits the activation of the inaccurate belief (detectable by the bad feeling) and activates the accurate belief in its place, over and over, until the inaccurate belief loses its strength through inhibition and disuse. The success of this procedure is based in part upon the strength of the supervisory belief, of course, and that in turn is accomplished through repetition, especially in situations that would ordinarily activate the inaccurate belief. The strength of the supervisory belief would also be increased with the help of a therapist, a self-help group or perhaps book, and/or an insightful friend.

There are times when individuals make mistakes, perhaps causing anger in others, such that the "low self esteem" is produced in response to that non-optimal behavior. The optimal response to becoming aware of having made a mistake is to undo any damage that one can and to learn from the mistake by understanding its causes as much as possible (identifying and correcting the inaccurate beliefs that were involved). There is no logical reason why punishment, by the self or by others, has to occur, and in the time of "Homo rationalis," when punishment is avoided in the child rearing process, and in the culture in general, individuals will find it far less painful to recognize having made a mistake.

Finally, I wish to discuss the complex phenomenon, "**depression**," meaning the psychiatric illness. At the time of my writing this book, not all aspects of this phenomenon are completely understood, and I will again oversimplify in order to give the reader a useful model to provide sufficient practical understanding. I believe that this oversimplified view is and will remain adequately consistent with the findings of science, and it will clarify what is involved in probably the most effective form of psychotherapy for the illness.

Depression is characterized by the having of **various abnormalities of motivational states and beliefs**. The individual usually has an increase in all **negative feelings** (anger, fear or anxiety, and sadness, and more complex feeling-thought phenomena such as guilt, shame, "hopelessness," and "low self esteem"). The individual also usually has a set of **beliefs** which when verbalized to others seem to be extreme (inaccurate), and which are prone to be painful (to produce the above unpleasant motivational states). There is an **altered set of physiological processes** such that various **"physical" symptoms** are produced and such that **damage** is likely to occur to parts of the **brain** or other parts of the **body**, including the immune system, resulting in the person being in danger of acquiring **other medical problems**.

Depression can be **caused** by a number of factors, but **stress**, or certain kinds of stress, are most frequent. (Certain illnesses and the use of certain substances are additional examples of causes.) What I will try to offer is a way of understanding the development of and the treatment of the usual kind of depression.

First, I wish to describe the processes involved in the phenomenon usually spoken of as "**worry**." This word usually refers to the repetitive "thinking" of certain painful "thoughts." These "thoughts," using the terminology of this book, would be the activation of certain

existential beliefs (beliefs about the way the world is, was, or will be, or, about what is happening, has happened, or will happen). Actually, even if the belief is about what has happened in the past, its activation is essentially a prediction, namely that what is to happen in the future will be consistent with or a result of what has happened. An example would be that if one "realizes" (activates the belief) that a loved one has died, one is predicting that he or she will never see the person again, and that life will be altered in certain ways. And it is this prediction, and others like it, that produce the bad feeling, or motivational state, that accompanies the activation of the belief.

It is important to realize that the activation of a belief is not the same as the verbalizing of it (the modeling of it with propositions). In fact, one could verbalize a belief without actually activating it to any great extent. Thus, a person could describe to someone something bad that happened, but only when "fully realizing" it experience the emotion (motivational state) that goes with the belief. One frequently sees an individual telling someone something, at first not seeming to experience much emotion, but after a delay beginning to cry (or to manifest some other emotion), as the "full meaning" of what he or she is saying "hits home" or "becomes evident" to the individual.

Now a belief may be inactive, producing no current effect, or partially activated, or fully activated. In other words, **activation is a matter of degree**. Remember that, when we speak of a belief, we are talking about something like a network of neurons in the brain that may be completely inactive, weakly active, or strongly active. And most of our beliefs that are active at any given time are not really noticeable in consciousness. (Perhaps the more strongly a belief is activated, the more likely it is to be conscious, though other factors would be relevant, also.) Most of our behavior is automatized, being guided by beliefs that seldom are consciously noted. So we can imagine that there are beliefs that are only active to a mild extent, that might be producing a mild motivational state, but that are not active enough to be clearly experienced in the form of some specific memory, for example, or other kind of belief. Under these circumstances, the individual will most likely feel "a mild state of uneasiness" (if the prediction produces an unpleasant motivational state) or a "good feeling" (if the prediction produces a pleasant motivational state), but he or she might claim not to know what is producing the feeling. "Worry" usually refers to activation of belief that causes an unpleasant motivational state. So an individual might say, "I am feeling bad, but I don't know what about," or, "I am worried, but I don't know what I am worried about." But of course a person also may be quite conscious of exactly what the worry is about, meaning being fully aware of what the unpleasant predictions are.

Worry is usually a normal and necessary phenomenon. The unpleasant motivational states produced by the predictions tend to promote thinking (a form of behavior, as the term is used in this book) about possible responses that might produce a better outcome, which, if predicted, produces less unpleasant motivational states. So the bad feeling (motivational state) is like an alarm bell going off in the brain, indicating that action is needed. It may happen, then, as the individual "figures out" what to do, that he or she will develop active beliefs or predictions that are "reassuring" (reduce the unpleasant motivational state).

Worry is a call to action.

It should be noted that although the **optimal response** to worry may be to work on **solving a problem**, since it is an unpleasant state, it is not surprising to see individuals try simply to turn off the alarm bell. One way would be to **suppress the activation** of the beliefs, by refusing to worry, or putting the mind on something else (including providing oneself with an intense experience, such as that produced by eating), and another way would be to **turn off the "alarm bell"** by ingesting some substance, such as alcohol, or by going to sleep (or perhaps by the extreme of committing suicide). Obviously, according to our terminology, all of these responses represent, to a certain extent, **belief management**, and we can see that belief management can be and sometimes is non-optimal. For instance, the repeated use of alcohol to prevent worry tends to leave the individual poorly skilled in the use of productive worry leading to the solving of problems, and after a while the individual will lose the capacity to solve problems (which will therefore grow) and will be entirely focused on regulating feeling by the use of the alcohol.

Now although worry may be normal and necessary, when an individual has the illness **depression**, others almost always sense that the degree of the person's worry seems "**excessive**" and/or "**inappropriate**." The individual seems to "imagine (predict) the worst." This tendency is usually referred to as a "feeling of hopelessness" or a "feeling of helplessness." The individual may express these **predictions** in words, such as "I just know that (X is true or X is going to happen)," or may be aware primarily of the bad feeling and therefore able to say only, "I have this awful feeling of (dread, anger, sadness, guilt, etc)." Most often, the individual does indeed have some specific belief that is activated to a conscious extent over and over, and he or she may talk of little else, if the depression is severe. The most helpful way to understand this, I believe, is to regard the alarm bell as being unusually loud. In other words, whatever brain mechanisms are involved in the having of the particular feeling, or motivational state, are **intensified** or **amplified**. The alarm bell won't turn off, even if the individual has thought the situation through as much as possible and should be prepared to handle it. This is why it often does not help for others to try to reassure the individual.

So in the last paragraph, the situation was described in which **bad feelings caused bad thoughts**, that is, thoughts that were consistent with the bad feelings. In fact, when a person is worried, he or she usually tries to figure out what the worry is about (so that it can be worked on). He or she will try first this thought and then that thought until a thought produces a marked increase in the bad feeling, whereupon he or she will say, "That's what I am worried about."

But note that the production of that thought (further activation of that belief) produces an increase in the bad feeling. We have been talking about bad feelings producing bad thoughts, but **bad thoughts also produce bad feelings**. And indeed, a particular feeling can even be made to occur by **purposely** thinking a certain thought. We do this when we cooperatively "get into" a particular drama, with the pseudobelief that it really is happening, and therefore "get our money's worth" in the form of strong feeling. And to a certain extent, as noted above, by **inhibiting** the activation of certain beliefs, or the **suppressing** of certain thoughts, we can indeed make ourselves **feel better**.

So now we may ask what **optimal belief management** would look like in the case of **depression**. Obviously, the use of alcohol would not be optimal. But what would?

In the first place, as always, there needs to be a **supervisory set of ethical beliefs** (supervisory "part of the brain") that is accurate as to the **optimal approach**. In other words, the person

should have a clear **understanding** of the **basic method** and have a strong intention (highly motivated, persistent decision) to carry out that method. Usually, at the current time, this part of the brain must be built up by input from a therapist skilled in such matters, or at least from reading or listening to the appropriate material. And the building up of this part of the brain requires **effortful repetition, or exercise,** just as does the development of any skill or new activity of the brain.

Now the basic situation is that the individual feels bad, and that those bad feelings, at least in part, are produced by certain **beliefs becoming active** in the brain. So the first thing that must be done is the **identification of those beliefs**. In particular, the belief must be **verbalized** (modeled with a proposition), because then the belief can be more effectively **influenced**.

Then, for each such belief a **judgment** must be made as to **whether the belief is accurate or not**.

If the belief is **not accurate**, the corresponding accurate belief must be identified. Then, when the person begins to feel the bad feeling, or an increase in it, the belief causing the feeling must be verbalized again and immediately inhibited, and be replaced by the more accurate belief. An example might be the person feeling "like a failure." When verbalized, the proposition might be, "I can't do anything right." The person would already have identified this as an obviously inaccurate belief, and would therefore say to himself or herself something like, "Stop it! That's ridiculous! Most of the things I do are right. And I can work on any imperfections, and shall."

Now if the belief that is causing the bad feeling is indeed **accurate**, then it is appropriate to do what some call "dealing with it." One must consider what appropriate action should be taken, if any, to minimize the presumably bad consequences of the predicted events. This means thinking about the issue in as **constructive** a manner as possible. But it is seldom true that prolonged thinking produces any better results than brief thinking, and since the belief produces unpleasant motivational states and possibly even negative effects on the brain and the rest of the body, **the time devoted to the thinking should be limited in some way**. The person can make the decision to spend, for instance, 15 minutes three times a day thinking about the problem, while inhibiting such thinking at other times. Often the most effective way of accomplishing much of this is to arrange to do it only while talking with someone for that purpose. The individual could be a friend, a therapist, or perhaps a person specifically knowledgeable about that kind of problem.

What appears to be true in depression is that the beliefs that are producing the bad feelings are usually mostly inaccurate ones, even though they seem accurate to the depressed individual when first examined. When the individual is no longer depressed, he or she can often look back on those beliefs and wonder why he or she had them. Many such beliefs represent "exaggerations." For instance, there is often the overestimation of the odds that particular situations will occur. So **promoting the development of more accurate beliefs is an important part of the treatment of depression**.

The main idea is that **one is trying to limit the extent to which one's beliefs are producing bad feeling**. Since we have seen that bad thoughts produce bad feelings, which in turn produce bad thoughts, then this **vicious circle** can be interfered with by **inhibiting the bad thoughts**.

Of course, we know that such belief management may be insufficient to reverse the depression, and that there are times when medication is needed to have a direct effect on the feeling itself. Some (inaccurate) depressive beliefs are so strong, perhaps because of how much they have been practiced and/or how much they are supported by many other beliefs (perhaps similarly quite inaccurate), that they cannot be inhibited with the amount of work that can reasonably be done, and that medication (or even electroconvulsive therapy) becomes very important in order to bring about rapid remission from the depression. It is important to bring about remission fairly rapidly, if possible, because the longer the brain "practices" this vicious circle, the harder it will be for the brain to stop doing it.

Depression is a very common illness, and causes much pain, suffering, disability, and early death. When belief management can clear up the depression, or cause it to clear up more quickly, then **assisting the individual to engage in optimal belief management is an extremely important part of the treatment process**.

The above has been my clarification as to how belief management is used to overcome inaccurate beliefs that produce motivational states that are a form of suffering and also that are a source of disability by virtue of producing non-optimal behavior (such as avoidance) and even physiological damage.

We can see that we already do engage in belief management to a certain extent in our daily living. But we also see that belief management can be non-optimal, producing mistakes and even tragedies. So we can ask the question as to **what the great differences will be with regard to how "Homo rationalis" engages in belief management and how we do so**. And it is here that we will have such great difficulty in understanding and accepting the possibility of changing to their ways of living. It is here that the differences between them and us will be so great that the use of the metaphoric reference to a new species will seem appropriate.

I believe there will be one major difference, something we have never seen before. To have an adequate understanding of this difference, and its magnitude, we will need to review and then expand certain concepts.

We have always done really wonderful things, really terrible things, and all in between. In this book, we are designating all non-optimal behavior as "**mistakes**."

In the chapter on "Basic Concepts: Determinants of Behavior," we developed a model that allows us to **explain (in a general way) all behavior,** and, more specifically, to **explain the mistakes** that we so frequently make.

Let us review that material:

All behavior is determined by motivational states channeled through beliefs becoming active as predictions in certain situations.
Motivational states can be modeled by propositions containing the words, "want to" (e.g., "I want to…")
        Motivational states are produced by:
                Certain physiological processes produced by situations inside and outside the body.

Certain beliefs, becoming active as predictions in certain situations.
There are existential beliefs and ethical beliefs.

Existential beliefs are beliefs about how the world is, was, or will be.

Ethical beliefs are beliefs that can be modeled by propositions containing the word, "should" (e.g., "I should…").

Ethical beliefs are about whether certain behaviors are consistent with the ultimate ethical principle.

The ultimate ethical principle is arbitrary, and may be authoritarian (natural) or rational (emerging).

Authoritarian-Ethical – We should do what X wants, X being most powerful.

Rational-Ethical – We should do what will promote the survival of and good life for our species.

Ethical beliefs, when they become active as predictions, produce the motivational state called the ethical sense.
Mistakes are by definition decisions to behave in ways not consistent with the ultimate ethical principle.
Mistakes are produced by:

Inaccurate beliefs, that is, beliefs that become activated by situations into predictions that are different than what is observed.

"I thought I was doing the right thing, but I was mistaken about what would happen."

Weakness of accurate beliefs, too weak to channel motivational states into decisions.

"I was too uncertain about what would happen to take a chance."

Weakness of the ethical sense relative to other motivational states.

"I knew it was wrong, but I just didn't care."

Unusually strong motivational states other than the ethical sense.

"I knew it was wrong, but my feelings were so strong that I just couldn't resist doing it."

Now let us ask the question as to what **the most comprehensive, basic, and important ways of preventing mistakes** are. Let us therefore take a closer look at each of the above four causes of mistakes, asking what the ways would be of preventing or reversing each of those causes.

Inaccurate beliefs, that is, beliefs that become activated by situations into predictions that are different than what actually occurs.

We should note that an inaccurate belief may be either an existential belief or an ethical belief, and that either kind of inaccurate belief increases the likelihood of making a mistake, and thus of causing disappointment, discomfort, pain, suffering, disability, or early death, if not for the individual then for others.

It should become apparent that we should live a lifestyle that optimizes the chances of **having accurate beliefs**, including **identifying incorrect beliefs and correcting them**. How to do so is the most important topic in this chapter, and thus will be discussed in detail as the chapter proceeds.

Weakness of accurate beliefs, too weak to channel motivational states into decisions.

Notice that this cause is essentially the same as the first cause. Any belief can be characterized by how strongly it is believed. In the chapter on "Basic Concepts: Determinants of Behavior," we saw that the "model" in the brain that we consider to be a belief is probably something like a network of ("synaptic") connections between neurons, and that this network is strengthened by the repetition of its activation or action. We have also noted that a particular belief may become inhibited, in which case we might regard the strength of that belief as being "below zero." So probably the concept of the strength of a belief cannot be differentiated from the concept of whether one has the belief or not. Another way of saying this is that the attainment of a belief is the increase in strength of that belief above "zero." The bottom line is that, again, it is important to have **accurate beliefs**, as opposed to inaccurate ones that lead to mistakes, and it is helpful to have **strong** beliefs **if they are indeed accurate**. Again, how to accomplish having strong, accurate beliefs will be discussed in greater detail later, but obviously what is suggested is that repetition of activation of the (accurate) belief is one basic answer.

An important additional concept to recall and keep in mind is the fact that **any one belief is dependent upon many other beliefs**. In fact, any one belief is really a part of a vast "network" of related beliefs, and we can therefore readily see that the strength of a specific belief will probably depend upon the presence of and strength of many other related beliefs. This fact makes it clear that inaccurate beliefs may have widespread deleterious effects on behavior, because any inaccurate beliefs may weaken other related accurate beliefs and therefore may represent a significant hazard to the individual and to others who might be affected by that individual's behavior. This is a basic reason that "Homo rationalis" will regard the ethical belief that "**we should seek to attain accuracy of belief**" as **one of the highest level ethical principles**.

Weakness of the ethical sense relative to other motivational states.

The ethical sense is the complex motivational state that is associated with an ethical **belief**. But right away we should realize that implied in this idea is **the assumption that the ethical belief is accurate**, that is, that it is logically consistent with the ultimate ethical principle. For instance, suppose someone believed strongly that he or she should do something, only to find out later that the decision was a mistake. The strength of the inaccurate ethical belief simply added to the tendency to make the mistake. So we must recognize that **accuracy of the ethical belief** remains as a part of this idea.

But assuming that the ethical belief is indeed accurate, if the ethical sense associated with it is weak, it may be no match for other motivational states that may lead to mistakes. So let us ask **why the ethical sense may be weak**.

One possible reason for the weakness of the ethical sense would obviously be weakness of the ethical **beliefs** producing it. So once again we are continuing to talk about the importance of having **strong, accurate beliefs**, as opposed to inaccurate beliefs, strong or weak.

But we must also look at the possibility that a person "is very clear about" (has a strong belief about) what the right thing to do is (what he or she "should" do), and thus has a strong, accurate ethical belief, but still does not have much motivation to do it because whether it is the right

thing to do or not does not concern him or her very much (does not produce a strong ethical sense). How does such a situation come about?

We may recall that the ethical sense, associated with ethical beliefs, comes about by virtue of our lifetime of feedback from others, especially during childhood, this feedback being our observations of others' reactions to what we do. Some of those reactions are pleasurable and some are painful (literally or figuratively). We come to **believe** (and therefore predict) what others' reactions will be to what we are contemplating doing, and thereby experience the positive or negative feeling associated with such predictions, such feelings being the ethical sense. (Eventually, such feelings occur without specific predictions of others' reactions, producing the phenomenon of "inner directedness," the ethical sense having become independent of the current approval of others.) So obviously the ethical sense, its strength and the beliefs that it is associated with, are dependent upon the **history** of our **interactions with others**, especially including our parenting figures during childhood, and also including others of those within our own culture.

We may also recall that **initially** this feedback is primarily through **reward and punishment**, consistent with the authoritarian-ethical principle (that we should do whatever X wants us to do, X being most powerful). Currently, there is substantial variability among parents with regard to how much, as the children grow older, they teach their children **ethical rules of conduct** (somewhat generalized ethical beliefs) and **ethical principles** (even more generalized ethical beliefs), as well as the skill of **ethical thinking** (internal ethical dialogue).

At this point in our development as a species, many parents spend little time helping their children to learn, remember, and apply ethical rules of conduct and ethical principles, instead subjecting the child to a fairly continuous stream of instructions to do or stop doing specific things (often accompanied by informal reward and punishment). There may be much inconsistency in these instructions, some of the inconsistency having to do with the changing mood of the parent, and there may be much variability with regard to how much informal (or even formal) reward and/or punishment accompanies compliance with or deviations from such instructions. The child may indeed begin to learn (not in words) what to do and what to avoid doing, but part of what is learned is the situation in which the learning is applicable, namely, whether or not the parent is present, is in a particular mood, or is likely to "find out." Thus, there is little possibility for the child to acquire any comfortable and consistent set of ethical rules or principles. Instead, the child learns much more limited ethical beliefs as to "how to behave" when in the presence of the specific parent to whom these beliefs apply, and in the absence of that parent, there is relatively little left of ethical beliefs with their associated ethical sense. The general rule of conduct that may be most likely to be acquired under these circumstances is that it is okay to do something as long as one does not get caught ("One should not take a chance on getting caught"). (And this whole phenomenon is made even worse when the child is caught between two or more parenting individuals with different reactions to the child's behavior and a tendency to reward and punish the child according to whether the parent sees the child as aligning himself or herself with that parent by virtue of the behavior. For instance, one parent may informally reward a child for disobeying/displeasing the other parent.) So the strongest motivation (ethical sense) of the child may be to do that which will result in the child being perceived of as (or, being believed to be) obedient, rather than to do that which is consistent with certain rules of conduct and principles that are independent of the rewarding/punishing parent.

The above had to do primarily with **punishment and reward**, the two lowest levels of child rearing.

The third highest level of child rearing, **teaching**, is usually not carried out as optimally as it could be. Children are expected to listen and obey. They are not expected to think and debate. When a parent tells a child why the child is being punished, the child generally sees such explanations not as opportunities to question the parent, but as reasons to obey. The accompanying informal punishment (e.g., painful way of speaking to the child) converts the whole teaching experience, including the discussion of any rules of conduct or principles, into simply an experience of being punished. The unpleasantness of the process results in a tendency to avoid ethical dialogue, and therefore even ethical thinking. Indeed, the attitude of many adults currently is that ethics is an unpleasant albeit occasionally necessary limitation on pleasure. It is even one of those conversational topics that is somewhat hazardous in social situations. And because of the association of punishment with ethical teaching, and the tendency of such punishment to foster rebellion, both children and adults enjoy conversation, play, and even behavior in general that is seen as casting off the burden of ethics. This is part of the gratification that goes with the pleasure of seeing someone "get away with" something, especially if done so with skill (thus demonstrating greater power than the authority). Punishment promotes chronic anger, often manifested as rebellion, so the teaching of ethics to children while punishing them has the effect of inhibiting ethical thinking and of fostering a tendency to rebel, and thus defeating the very purpose of such teaching.

This negative attitude about ethical rules of conduct and principles is very common, and is therefore reinforced (rewarded) by groups of those who feel the same. The best example is the adolescent peer group, that reinforces with exhilaration the flaunting of resistance to the wishes of the parents and society in general. The ethical sense, in such a situation, is primarily experienced in response to the perceived beliefs and expectations of the peer group, rather than in response to some general principles and general rules of conduct that are relevant independent of the immediate peer group or subculture.

There are indeed relics of the teachings of general principles within the thinking of individuals, ethical propositions that are understood somehow to be valid, such as that one should not steal or lie, but these are often seen as irrelevant in specific situations, because they have almost never been the determining factor in decision-making and have therefore not been exercised such as to grow strong and produce a strong ethical sense.

Finally, the highest level of child rearing, **modeling for identification**, as it is currently carried out, seldom emphasizes the importance of figuring out what the right thing to do is, instead emphasizing the importance of the privileges of power, and the importance of getting to as powerful a position as possible. Thus, children wait for the day when they can be the ones to say what should be done and for the day when they no longer have to adhere to the wishes of others. "Freedom" and "wealth" (wealth being equivalent to power, or the ability to do as one wants) become the highest values (signs of success). Additionally, parents often do not model the need to adhere to doing the right thing, as they violate the very rules of conduct and principles that they advocate for in their teaching of their children. Thus, even though most children and adults can state some ethical rules of conduct and general ethical principles, the ethical sense is not strongly associated with such beliefs, but is much more associated with obedience to the wishes

of the "most powerful," especially when the "most powerful" is present or is likely to find out. And the "most powerful" may be the parent, the influential or powerful individual (e.g., leader), the peer group, or the representatives or imagined deity of the subculture.

So we may say that **a weak ethical sense may come from non-optimal child rearing behavior on the part of those in the parenting role (as promoted by cultural phenomena), and perhaps also from subsequent similar life experience**. And currently, within my own culture, there has been significant breakdown of authoritarian ethics, with a loss of a belief that those that represent or stand for what is right indeed adhere to such principles themselves. One authority figure after another is found to be deficient in adhering to what is supposed to be the proper set of ethical standards, or beliefs, within the culture, leading perhaps to the belief that adherence to such principles is not important, and maybe even impossible. This weakness of the ethical sense is accompanied often by anomie (a sense of meaninglessness). Authoritarian ethics has never worked well to produce a good quality of life for all, and how well it has worked has varied with culture and fluctuated with time, this fluctuation having more to do with the effectiveness of external social coercion rather than the strength of the internal ethical sense. This fact lies behind the surprising amount of looting and other presumably bad behavior during a natural disaster.

(Certainly there are also other causes of weakness of the ethical sense, including ones that have to do with the biological makeup and limitations of the child, an extreme example being autism, and including ones that have to do with currently acquired brain dysfunction, such as apathy due to certain frontal lobe disorders and due to certain substances, including currently prescribed medications. But we certainly can agree that the vast majority of situations in which there is weakness of the ethical sense come about at least in part from the life experience of the individual within his or her culture.)

If the above is so, then we see how important the reactions of others to an individual's behavior are, especially the reactions of parents. And we may then ask what determines those reactions, that is, that behavior, and I believe the reader will agree that, using the model developed in this book, such reactions are greatly determined by the **beliefs** of the persons who are providing the feedback. Parents' responses to children are greatly determined by their own **beliefs** about "what is right and wrong" and also their **beliefs** about how parents should convey these beliefs to their children, that is, about what constitutes appropriate child rearing. So once again we get back to **the importance of accuracy of belief, ethical and existential**. And, as noted, the culture to a great extent determines those beliefs, the culture meaning in this case the collection of those **beliefs** that the majority of individuals referred to have, and that are therefore rewarded, taught, and modeled for identification by those around the individual.

There remains the question as to **how an individual, after childhood, might strengthen his or her own ethical sense**. Obviously one way might be to become a member of a group that specifically reinforced (rewarded) having the ethical sense, especially a group that did a lot of talking about the relevant ethical beliefs. The repeated reinforcement would lead to stronger predictions of such rewards in response to adherence to the ethical beliefs. To do so, however, the individual would need to **believe** (accurately) that this was something that he or she should indeed do, and he or she would need to have an accurate **belief** as to which such group would indeed serve this purpose, that is, would reinforce **accurate** ethical beliefs. Again, the solution to the problem to a great extent involves attaining **accuracy of ethical and existential belief**.

Unusually strong motivational states other than the ethical sense.

I think that the reader will agree that many very strong motivational states, usually referred to as feelings (because they are usually consciously experienced), occur in response to **situations** that are occurring, including the situation of finding out about certain things that have occurred. But also, it is the person's **beliefs about those situations**, leading to certain predictions, that primarily determine what motivational states will occur and also what their intensity will be. For instance, whether a situation is **believed** to be dangerous, and how dangerous it is **believed** to be, determine whether fear will be present and how intense that fear will be. The strength of a wish (motivational state) to see a movie will depend upon one's **beliefs** about the value of the movie. How strongly one wishes to get to know another person better depends to some extent on what one already **believes** that person to be like, based upon experience with the person so far and/or upon what one has heard about the person so far.

There are, of course, motivational states that reflect the physical status of the body, such as pain, hunger, thirst, itching, etc., that can be quite intense, but even these motivational states may vary in intensity depending upon the person's **beliefs** about the situation in which they arise. For instance, a person's tolerance of pain (lowered intensity of the motivational state) is affected by the person's **beliefs** about whether the pain is likely to increase in intensity, or to last much longer, or to be out of the person's control.

So if the problem is that a person has a motivational state that is motivating the person to do that which will turn out to be a mistake, and such motivation is stronger than the ethical sense, associated with an ethical belief (such as an ethical rule of conduct) that would motivate the person to do otherwise, a possible correction of the problem would be undertaking to reduce the intensity of the first motivational state. An example would be a person having very intense anger that was motivating hostile behavior, when the person believed that he or she should not engage in the hostile behavior, for reasons given in the chapter on "Rational-Ethical Anger Prevention." In that chapter, methods of thinking about the situation, referred to as "internal anger prevention," were discussed. These consisted of changing one's expectations of the other by the **activation of more realistic (accurate) beliefs** about the other's capabilities. There are other methods that individuals use to reduce the intensity of a feeling (motivational state), such as forcing oneself to stop thinking about the situation (including "counting to ten"). But of course these solutions depend upon the individual **believing accurately** that these are the appropriate things to do.

There are also **substances**, prescribed or not, that can alter the intensity of motivational states, and there is therefore the possibility of using such a substance to reduce the intensity of the motivational state that we are talking about. However, whether this is a good idea or not depends upon what the total set of effects of such a substance will be on the individual. For instance, sometimes such a substance may have the opposite effect by reducing the ethical sense more than the other motivational state, resulting in "disinhibition," and therefore an increased likelihood of the mistaken behavior occurring. Also, the use of such a substance will usually have more widespread effects on the life of the individual, effects that may indeed be optimal, but also may perhaps be non-optimal, and even sometimes quite bad. For example, one of the most frequently used classes of medication to reduce the intensity of feeling is that of the antidepressants, especially now the serotonin selective reuptake inhibitors. They are fairly

effective at reversing the symptoms of the presumed brain disorder (for instance, depression or panic disorder), but they also have a non-specific effect of reducing most motivation in general. Not only do they reduce the intensity of the sexual drive, but they also can, especially with high doses, produce a generalized apathy, such that the person loses the ability to care about things that previously were important to the person and contributed to that person making the world a better place. In general, therefore, the successful use of substances to reduce the intensity of motivational states that would be prone to cause mistakes is highly dependent upon **accurate belief** about what the total effects of doing so will be, and about what the optimal kind and amount of the substance should be.

It should be evident from the above review of the four causes of mistakes that the most important, underlying cause of mistakes is INACCURATE BELIEF, and the most important way of avoiding, minimizing, and correcting mistakes, and therefore the most important way of optimizing decision-making and therefore quality of life, is through the PROMOTION OF ACCURACY OF BELIEF.

It is for this reason, that is, because of the above **relationship between accuracy of belief and quality of life**, that "Homo rationalis" will believe that achieving accuracy of belief is **the most effective way of promoting the survival of and the good life for our species**, meaning all of us, now and in the future (their ultimate ethical principle). They will believe, therefore, that **any way in which we live that reduces the likelihood of accuracy of belief will be against their ultimate ethical principle**, and therefore, by definition, should probably not be engaged in. And it is **precisely this resulting ethical principle**, that we should avoid doing anything that will reduce the accuracy of belief, that will make them look at us as if we were **almost a different species**, because we have **no** such ethical value, at least to any effective extent. As we shall see, we, by virtue of our basic animal nature, have always freely engaged in activity that reduces the likelihood of attaining accuracy of belief, and we have always coerced ourselves, through our cultures, to engage in such activities.

So what does promote accuracy of belief, and in what ways do we do otherwise?

The point of all of this is that our modeling of our beliefs with propositions, such that we can check them for consistency (with the rules of logic), and such that we can check them for accuracy (with the rules of evidence), has produced an enormous capability of developing new beliefs and changing existing beliefs, not by virtue of our own personal experience, but by virtue of our ability to evaluate those beliefs by looking at the propositional models of them and by virtue of sharing and comparing the models of them with other humans. I can have an enormous number of beliefs that have been acquired in no other way than by listening to the propositional behavior (communication) of another human. I can believe what I am told. (Or I can refrain from believing what I am told because it is logically inconsistent with a large number of other beliefs that I have.)

Belief does not just appear spontaneously. There has to be some reason for the belief to develop in a given brain. In general, there must be some new input into the brain to bring about change in "belief structure" (the "network" of related beliefs). Thus, optimization of accuracy of belief will have to be by virtue of optimizing **input into the brain**. We must optimize our **experience** such as to accomplish the goal of attaining increasing accuracy of belief.

Obviously, **formal education** of our species is extremely important (despite the fact that there are many examples of the fact that we do not really value formal education, and even have a history of denying it to certain groups). But the beliefs that are relevant to us in our **daily living** are to a great extent different from the beliefs that are usually taught in the school system. Only a very basic way of approaching the acquisition of accurate beliefs can be accomplished in the school system (and we do a rather poor job of this currently).

So how can we **optimize our lifestyles** such that we maximize our chances of acquiring increasingly accurate beliefs, or of correcting inaccurate ones?

The most obvious situation in which there is the possibility of **identifying and correcting inaccurate belief** is the situation in which two or more individuals become aware of having a **difference in belief**. If the two beliefs are opposite, then, according to the rules of logic, at least one of them (if not both) must be inaccurate. The emergence of the awareness of an apparent difference of opinion (belief) signals the opportunity for identifying and correcting inaccurate belief.

(Of course the apparent difference in belief may instead be an illusion produced by a difference in the use of words, etc.)

So it is to a great extent by the **comparison of beliefs** that we develop greater understanding (accuracy of belief). And we must have a way of going about the comparison of beliefs that really works, that is, that results in this **increasing accuracy**. We have seen that what has allowed us to develop beliefs about, or models of, the world that are, for the first time, extremely accurate has been the development of the **rules of logic and the rules of evidence**. Therefore, the specific approach to difference of belief that is most likely to result in increasing accuracy of belief is the comparison of the beliefs **to see what the specific differences are and to evaluate those differences according to the rules of logic and the rules of evidence**. (This process is most often that of clarifying whether the beliefs are logically consistent with other beliefs that have become considered accurate by virtue of the rules of logic and the rules of evidence.)

However, **to a very great extent**, we specifically **avoid** engaging in comparison of beliefs in any **effective** manner. Discovery of difference in belief results often in behavior just the **opposite** from that which would promote increasing accuracy of belief.

Examples of what we often do in response to difference in belief are:
- Refuse to listen to others who believe differently
- Refuse to read material written by others who believe differently
- Misrepresent (e.g., by exaggeration) the beliefs of those who believe differently
- Distract (e.g., by jokes and personal attacks) those who believe differently
- Confuse (e.g., by alternative, sometimes atypical, uses of words) those who believe differently
- Interrupt and shout down those who believe differently
- Speak or behave in a hostile manner to those who believe differently
- Threaten with punishment or revenge those who believe differently
- Avoid those who believe differently
- Turn others against those who believe differently

- Fight (physically, emotionally, or militarily) those who believe differently
- Kill (sometimes with torture) those who believe differently

And the extent to which we freely engage in such lifestyle tendencies is **obscured** by the fact that **WE COOPERATE WITH EACH OTHER TO MINIMIZE THE AWARENESS OF DIFFERENCE OF BELIEF**. The extent to which we **avoid saying what we really believe**, in our personal relationships and in our social, occupational, and other public settings, because of a reluctance to bring about the consequences of doing so, is **ENORMOUS**. But it is so much a part of our way of life that it **goes relatively unnoticed**. We have developed, within my culture at least, an agreement that difference of belief will be overlooked and disregarded, stated sometimes as, "What is true for you may not be true for me, so let us just agree to disagree and move on." And stating that one has a different opinion sometimes is even considered a breach of etiquette, certainly not an opportunity for expansion of thought and correction of inaccurate belief through extended discussion.

On the other hand, we do actually see some examples of comparison of ideas, both in our personal lives and in the media. We actually designate times, places, and situations in which the expressing of difference of opinion is allowed and expected.

However, such activity is seldom carried out in depth such that a sense of accomplishment is obtained. For instance, one seldom sees a resulting change of belief. This is usually true because in such discussions the individuals primarily make assertions, often changing the subject with each assertion, rather than asking each other questions to find the precise differences in belief so that those differences can be evaluated in the light of the current accumulation of evidence.

Nevertheless, the **increasing tendency for this sharing and comparing of ideas** is an example, I believe, of the beginning acceleration of the third exponential change. There are now parts of the world where people are at least not imprisoned and/or killed because of their basic beliefs, even though they may differ from the basic beliefs of the majority or of those "in power," and even though they voice them aloud, and even in the media. And such "freedom of expression" appears to be growing some. And it is growing only because we have been increasingly requiring ourselves to live according to certain **ethical principles** that allow for it, these principles guiding us to do something different than our basic animal nature has always had us do.

Now why is it natural for us, as part of our basic animal nature, to engage in activities that reduce the likelihood of attaining accuracy of belief? There is one, basic answer to this question. We have, and have always had, as a part of our basic animal nature, a **second criterion for legitimization of belief.**

Let us first look at the **first criterion for legitimization of belief**. We have talked about the criterion for legitimization of existential belief being **how accurately it allows us to predict**. Such a belief is a set of potential consistent predictions, and the belief is accurate only insofar as those predictions turn out to be accurate or would turn out to be accurate if the relevant situations occurred. Ethical beliefs are no different. They are sets of potential consistent predictions as to whether the outcomes of behaviors would be consistent with the ultimate ethical principle. So **accuracy of belief means accuracy of all the predictions that could be produced by that**

belief, given all possible situations that could occur. And the way of determining such accuracy is to arrange for some of those situations to occur, or to observe them closely when they do, and to see what happens, that is, to see whether the relevant predictions turn out to be the same as what actually happens. (The ultimate elaboration of this procedure is that of the "scientific method," of course.)

This first criterion actually exists as a **part of our basic animal nature**. It is no different from our **basic ability to learn**. If we did not develop fairly accurate models of the way the world actually is, then our decision-making would result in so many mistakes we would not be able to survive. If our beliefs about the terrain were inaccurate, we would keep falling down. If our beliefs about what was edible were inaccurate, we would die of poisoning. If our beliefs about how others react were inaccurate, we would die of loneliness or murder. If our beliefs about our checking account were inaccurate, we would bounce checks. If our beliefs about our medicines were inaccurate, we would get sicker and perhaps die. If our beliefs about our economy were inaccurate, we would perhaps have economic disaster. If our beliefs about relativity were inaccurate, we would lose our astronauts. **Our very existence depends upon accuracy of belief**, as is true for every other animal about which we could say that it makes decisions.

Let us now, however, look at the **second criterion for legitimization of belief**. This criterion is **how having that belief makes one feel**.

If we remember that a belief is manifested in certain situations by specific **predictions** that may produce **motivational states** that **promote or inhibit** the activity of certain networks of synaptic connections, then we can see that the promotion or inhibition of the **predictions** themselves, and therefore of the **belief**, may become a part of this basic process. In other words, there are tendencies to avoid believing those things that result in predictions that produce aversive ("unpleasant") motivational states, and tendencies to believe more strongly those things that result in predictions that produce rewarding ("pleasant") motivational states. Belief may be promoted or inhibited by the motivational states that the belief produces by virtue of the predictions that result from that belief. For us humans, with our language, we are prone to say that **we tend to believe that which makes us feel good and to disbelieve that which makes us feel bad**. We also say that **we tend to believe what we want to believe. This tendency is also part of our basic animal nature**.

It should be noted that this tendency to use this **second criterion for legitimization of belief** is thoroughly recognized by us all, and **is both valued and decried**, because it **has both good effects and bad effects**.

The **good effects** primarily have to do with increased comfort and good feeling, and a reduction in the negative effects on the brain and body in general of aversive motivational states (usually anger, fear, or sadness). Examples of statements that reflect this awareness are:
"You have to think positively."
"You have to have hope."
"You have to have faith."
"Put out a positive intention (that good will happen)."
"Don't worry."
"Look on the bright side."

The **bad effects** primarily have to do with the tendency to produce mistakes, decisions that are regretted. Examples of statements that reflect this awareness are:
> "He has his head in the sand."
> "He is in denial."
> "He just believes what he wants to believe."
> "He has a closed mind."
> "He has been carried away."
> "You can't reason with him."
> "He has blinders on."

Please note that there is no problem in having an **accurate** belief that makes one feel good. The problem occurs when one has **an INACCURATE belief that makes one feel GOOD**. The belief is maintained because it makes one feel good, but the likelihood of making a **mistake**, even a tragic one, is increased because of having that **inaccurate** belief.

I wish to have two simple words to refer to these two criteria for legitimizing belief. I will use the word, "**accuracy**," to refer to the criterion that is whether the belief allows one to predict accurately, or is consistent with other beliefs that allow one to predict accurately. I will use the word, "**comfort**," to refer to the criterion that is whether the belief causes the believer to feel good, or at least better.

(Please note that my use of the word, "comfort," includes reference to good feelings, even ecstatic ones, as well as the absence of or relative improvement of bad feelings.)

(And also please note that although we simplify things by talking about a belief as being "accurate" or "inaccurate," we really are referring to a property that is usually a matter of degree, such that a belief may be considered somewhat accurate, or more accurate than another belief but less accurate than a third one.)

It should be noted that there is evidence that **sometimes** believing that which produces comfort, even if inaccurate, actually improves the health of individuals, including the outcomes of medical treatments. So it is likely that **some** comfortable but inaccurate beliefs have primarily a beneficial effect, whereas other comfortable, inaccurate beliefs lead to pain, suffering, disability, and early death, on the part of self and/or others.

I believe, however, that the **vast majority** of examples of pain, suffering, disability, and early death are indeed at least in part caused by **inaccurate beliefs** (leading to mistakes). And then if we look closely at **most** of the examples of inaccurate belief that have caused us such harm, I believe that we will find that the inaccurate belief was maintained in part or even primarily because of **comfort**.

Let us also recognize the breadth of the concept of maintenance of belief because of comfort. It is obvious that we may have a tendency to believe certain things because of the comfort that is produced by virtue of certain circumstances of our own personal lives, having little or nothing to do with others around us. But there is another extremely important kind of comfort produced by certain beliefs, often referred to as the need for conformity. In other words, because of the beliefs of the group, subculture, or culture to which one belongs, and because of the value placed on those beliefs by the others, the individual may feel the necessity to believe certain things as an

act of obedience to the others. In fact, there have been, and still are, situations in which to believe otherwise than others do subjects one to the fear of losing one's close relationships, social standing, livelihood, and even life. There has indeed been enormous loss of life due to deviation of belief. And the reaction of the others to one who believes differently is often in part brought about by the discomfort produced in the others by that individual's questioning of their beliefs. The belief that an individual should be shunned or killed then may be maintained because of the comfort it provides. So we should not underestimate the degree to which comfort has indeed been used as a criterion of legitimization of belief.

The reader should note that there is indeed a very basic dilemma that actually represents OUR MOST SERIOUS PROBLEM OF ALL. Having comfortable, inaccurate beliefs does much good AND does much harm.

Is it okay to believe something just because it makes one feel good, or better? Is it the right thing to do to use that criterion, of comfort, to legitimate a belief?

If the belief is accurate, there is no problem. If I indeed do not have cancer, my comforting belief that I don't have cancer is not a problem.

If the belief is inaccurate, there is the potential of making decisions based upon it that will turn out to be mistakes. If I do have cancer, my belief that I don't, despite resulting in relief, may lead to mistakes that could cost me my life.

But which is worse, the bad from the mistakes made based upon predictions that would be produced by the inaccurate belief or the bad from the loss of the good effects from the comfort produced by the inaccurate belief? Would the pain, suffering, disability, and/or early death produced by mistakes resulting from the comforting, inaccurate belief be less than the pain, suffering, disability, and/or early death resulting from failing to maintain that belief?

But how would one arrive at such a conclusion?

An assessment would have to made (a belief would have to be arrived at) as to what the negative effects would be of acting according to the inaccurate belief. But in order to make that assessment, one would have to have an accurate belief about the outcomes of acting according to the potential predictions that constituted the meaning of that belief.

Let us consider a particular belief that satisfies the criterion of accuracy. We will call it Belief A, for accuracy. It will be modeled (put into words) by us using "Proposition A."

And let us consider a particular belief that satisfies the criterion of comfort. We will call it Belief C, for comfort. It will be modeled (put into words) by us using "Proposition C."

And let us assume that Propositions A and C are contradictory. We could say, for instance, that C was a belief that A was not true. For instance, I believe that *what the doctors have told me (namely, that I have cancer) is wrong*. (Proposition A is underlined, and Proposition C is italicized.)

Would we be able to say that we should **always believe Proposition C**? This would be saying that we should always believe what makes us feel good. But we have seen many examples of the horrible consequences of inaccurate beliefs, maintained because of comfort. (For example, many years ago, it made the newspaper when a person, under the influence of a drug, believed, I assume with exhilaration, that she could fly and consequently lost her life when she jumped out of a window.) So I believe that we would agree that this possibility is ruled out. It is often true that it is important for us to believe some things that make us feel bad. (In fact, as we have already noted, the bad feeling may be an important motivational state that calls us to appropriate action to avert an even worse state of affairs.)

Would we be able to say that we should **always believe Proposition A**? We are questioning this, because we know that sometimes believing C does a lot of good. So let us table this possibility.

Would we be able to say that we should **sometimes believe Proposition A and sometimes believe Proposition C**? This would be acceptable if and only if we always tried to choose the belief according to what would give the **best set of outcomes**, or produce the **least mistakes**. And the reader should remember that, for the purposes of our discussion, a mistake would be a decision that led to outcomes, or that would lead to outcomes, that were not consistent with the **rational-ethical ultimate ethical principle**. So we should maintain those beliefs the maintenance of which will foster the survival of our species and the good life for all of us, now and in the future.

The problem becomes especially complex because of the **probabilistic nature of the world**. We might have an inaccurate belief that (if we only knew it) would never be activated by a situation into a prediction that would lead to a mistake. Or at least we might have an inaccurate belief that seemed very unlikely to produce such a prediction, perhaps because of the low probability that the situation would ever occur in which such a belief would be relevant and therefore would be activated into a prediction such as to influence a decision.

So if we compared the low probability of a mistake occurring by activation of the inaccurate belief with the high probability, perhaps, that the inaccurate belief would do much good because of the comfort it produces, we might indeed conclude that it would be better to maintain the inaccurate belief.

But there is one problem with this way of making the judgment. **How would we know** (come to believe) that we had correctly assessed how bad the mistakes would be that would be made due to predictions produced by the inaccurate belief (belief in Proposition C)? We would have to have an accurate belief about the accuracy of Proposition C and therefore of Proposition A. But this is just another way of saying that **we would have to have the accurate belief**!

So I believe that "Homo rationalis" will have concluded that **we should ALWAYS attempt to have ACCURATE beliefs**, that is, beliefs for which the preponderance of evidence exists, even if some of those beliefs make us feel bad. I believe that "Homo rationalis" will indeed have this as **one of their highest ethical principles**. And in fact this will be the way in which they will have a lifestyle that is drastically different from ours. This is why I believe that they and we will be almost like two different species. It will be why they and we would not want to be around each other. It will be why some readers have now thrown this book away.

But for those who are still reading, let us look at a brief possible dialogue or debate between the advocates of accepting this unitary criterion and the advocates of not doing so (represented by statements in italics).

We are simply never going to be able to use the one criterion, because life would be too painful. We would have to give up some of our cherished beliefs, and the pain would be too great.

Well, this might be so, but then again it might not. If we look at how we are now, and try to imagine the change taking place now, I would certainly agree. But we are not talking about such a change occurring even in our lifetimes. We are talking about **a change that could take many generations**. Also, we are talking about a change such that, more and more, we are **reared as children to value accuracy of belief as a supreme value**. And because we will no longer be filling our children with anger that interferes with good relationships, we will be much more supportive of each other, even during life's most tragic and frightening times. Currently, we are somewhat relieved of a sense of responsibility for this kind of support, because we see the individual as needing us less by virtue of his or her inaccurate belief that makes him or her feel better. In fact, when we feel the discomfort produced by an individual apparently trying to obtain such support from us, we often try to induce in that individual some beliefs that will make the individual feel better and feel less needful of us, even though those beliefs may be inconsistent with the preponderance of the evidence. We exhort the individual to make the effort to so believe. (Of course, we do not do this only to relieve ourselves of responsibility; we indeed want to alleviate suffering anyway.) Actually, if the truth were known, the most important need of such an individual would be the need to avoid feeling alone. He or she would want to know that others really knew how he or she was feeling, and cared. So **the inaccurate beliefs probably are a poor substitute for this feeling of belonging, togetherness, and concern**.

Also, although we do indeed agree that currently many individuals would simply be unable to make such a transition, we do observe, with regard to any particular belief that has been maintained because of how it has made the individual feel, that occasionally such individuals do give up such beliefs for more accurate ones. In other words, there is no specific inaccurate belief that we can identify, I believe, that has not been given up by someone at some time, without disaster having occurred for that individual. He or she may indeed say that he or she has been "disillusioned," and that it was a painful experience, but he or she will usually describe being better off by virtue of the disillusionment.

Finally, we must ask the question as to what extent our culture has actually taught us that life without comforting though inaccurate belief may be intolerable. Do we make the assumption, even in our child rearing, that individuals cannot bear the truth, so to speak?

Note that **we readily assume that children must be protected from the truth**, because they would not be able to handle certain kinds of knowledge. Although this may indeed be true to a certain (unclear) extent, we should ask the question as to whether it is more **our own discomfort** and **our belief that children cannot handle the truth** that **brings this state of affairs about**. (Many parents know the difference in the reaction of the child to calm, comforting attention compared to anxiety-ridden alarm when the child falls down.) What do we convey to children when something is presumably so awful it cannot even be mentioned or talked about openly? We certainly know that many children are protected as much as possible from information about

the world that other children are acquainted with first hand, because of their (perhaps unfortunate) cultural or temporal circumstances. If in fact we have examples of children having experiences that we believe they should be protected from who nevertheless seem to be functioning adequately and without significant suffering, **we could ask what factors make such a difference**.

Yes, we do know that posttraumatic stress disorder can happen to any of us, including children, but to what extent does this occur because we are not able, through lack of knowledge and through emotionally driven avoidance, to assist such individuals to "deal with" whatever they have gone through? And to what extent is the experience traumatic primarily by virtue of how the culture regards and responds to such events? I believe we probably always will have some psychological vulnerability to trauma, but I also think that **we all live in a very judgmental and somewhat hostile and dangerous interpersonal environment, in which we find that it is very difficult to talk openly about some of our central concerns**. Some individuals find that being understood is very difficult to accomplish, especially if their lifestyles differ significantly from the norm.

But how would we ever make such a transition? How will those of us that can do it force others to do it also?

It is here that we see one of the greatest differences between "Homo rationalis" and ourselves. We do indeed tend to think that improvement in our lifestyles must be forced on some of us. My belief is that all of the changes that will take place in this exponential transition to "Homo rationalis" will take place in a voluntary manner, on the basis that those changes seem right to those making them. Such changes will take place primarily because individuals (such as the reader, hopefully) will become convinced of the good involved in making such changes, and in doing so themselves will model for identification such changes and thus help others to make them also. We, because of being reared in the authoritarian-ethical model of child rearing, tend to see transitions to better ways of doing things as transitions that are forced upon us, often with the threat of punishment if we do not change.

Certainly, there will be many for whom such transition is impossible within their lifetimes, and those making the transition will need to be understanding of the limitations of such individuals. The only time when such confrontation will really become important or necessary is when it becomes apparent that an individual is likely to act on some inaccurate belief in such a way as to cause unacceptable harm to others. Under those circumstances, it should be accepted as necessary to ask the individual to legitimate his or her belief according to its consistency with evidence. But going around and attempting, without invitation, to "prove others wrong," would very likely be inconsistent with making the world a better place for everyone. As this transition becomes more and more talked about (and it is indeed being talked about to a slight degree even now, this being a part of the beginning acceleration of the third exponential change), others will join in when they are ready. Social growth through advocacy, logical appeal, and success, rather than revolution and domination, will be the only possible way, because, as has previously been described, there is probably no good outcome of a struggle for dominance, if one considers the total outcome, and because attempting to force others to believe is the exact opposite of what has been described as "friendly debate," as described in the chapter on "Basic Methods in This Book," or the "open, listening attitude," as described in the chapter on "Rational-Ethical Anger Prevention." **Modeling the open, listening attitude is the most effective way of promoting it**.

Hopefully, the reader, having read the above dialogue, is able to consider that such a change may indeed be possible, and that it would indeed be a good change, or at least the reader is able to continue contemplating this question while I proceed ahead with further clarification.

The reader might say at this point that it is hard to imagine the appropriateness of giving up all inaccurate beliefs that make one feel good or better, since so much benefit appears at times to come from having those beliefs. This is indeed a distressing dilemma, that believing things because of how they make one feel can have such beneficial effects (such as improved responses to medical treatments), along with having such terrible effects (such as flying into the World Trade Center). I believe there are some answers to this, however, and the answers again lie in the concept of the development of supervisory parts of the brain, higher level beliefs about one's beliefs. Again, we will note that this answer consists of behavior that we already engage in and are familiar with to some extent, though we engage in it inconsistently, unskillfully, and fairly ineffectively, and sometimes even tragically.

What is basically needed is the **ability to believe something only to the extent that doing so produces some benefit, but not to the extent that doing so leads to harm**. For instance, if one did not act according to the belief, the belief would not cause a mistake. But in order for this situation to exist, there would also have to be in the brain **the corresponding accurate belief**, ready to become active should a situation develop in which the belief would be relevant to decision-making. But then there obviously would also need to be a part of the brain that would **make that decision**, that would inhibit the inaccurate belief and activate the accurate one when the situation made doing so appropriate.

We may think of this activity as **pseudobelief management**, a subheading under the heading of belief management. A pseudobelief is a model in the brain which by itself would qualify as a belief but which is under the supervision of (being activated or inhibited by) another part of the brain that regards it as (believes it to be) an inaccurate belief. We would consider someone to be engaging in pseudobelief if he or she were purposefully making himself or herself believe that which he or she believes is really not accurate, but doing so only to an extent that is not harmful or productive of a mistake. With our current language, we might refer to this phenomenon as "**purposely imagining something to be so when one knows it is not**."

In other words, the individual "partly" believes something because doing so accomplishes an outcome, but the belief is "supervised" by the higher level ethical belief that this belief is not accurate and should not be acted upon, or should be acted upon only within certain limits that are consistent with what would be produced by accurate beliefs also. The actor behaving in a genuinely fearful manner, but only to the extent consistent with the situation of putting on a performance (i.e., not running off the stage), was an example.

So **belief management** includes any purposeful activation or inhibition of belief by a higher level ethical belief, whereas **pseudobelief management** (a kind of belief management) is any such activation or inhibition that also includes the belief at the higher level that the belief being activated or inhibited is actually inaccurate.

The reader may begin to see the importance of the concept of the **highest level of belief in the brain**, the **supervisory level**, that **makes judgments** (consists of beliefs) **about both beliefs**

and pseudobeliefs, and **activates and inhibits them** as needed, according to certain **ethical principles**. "Homo rationalis" will have this capability to a much greater extent than we do, by virtue of helping children to develop it through their process of child rearing.

With our current child rearing, children begin to be able to **think about their own thinking** primarily in adolescence, but because we do not have this capability to any great extent, and do not foster it systematically within the child rearing model we use, we really do not know how early a child **might** begin to develop this capability given more optimal child rearing. Obviously, the child will need to see the parent thinking about his or her own thinking, as manifested by the parent relating to the child with the open, listening attitude, and of course this seldom happens currently.

But we do engage in **pseudobelief management** to some extent, and we have **ways of referring to this phenomenon**.

We might say that we were "pretending" that something was so, but doing it so effectively that we had the emotions to go along with what we were pretending. ("I actually started convincing myself!")

We might say that in order to meet a particular time-limited challenge we were convincing ourselves of something we really did not believe to be that certain. (In some sports, some individuals will "psyche" themselves up, producing the belief that success is certain, in order to generate an emotion, or motivational state, that fosters maximal effort. The intention to break a board with one's hand in Karate comes to mind.)

We might say that we were just refusing to worry about something until the time came when we had to do something about a situation. (We might refer to it as convincing oneself that there is nothing to worry about.)

We might say that we are assuming the best while preparing for the worst, and we might refer to this as "positive thinking."

And all of these ways of speaking might be referred to as engaging in good "mental hygiene."

Some of these examples involve a supervisory part of the brain inhibiting the activation of accurate belief into predictions producing negative, and perhaps harmful, motivational states, but retaining the ability to activate them when a situation comes that requires decision-making that would be influenced by those beliefs. Some of them also involve specifically activating an inaccurate belief because of the beneficial motivational states it produces, while at the same time being prepared to act on another, contradictory but more accurate belief if the necessity arises.

Finally, I want to convey to the reader again, and to an even greater extent, **how different we are from the way "Homo rationalis" will be**, because it will be quite difficult for us to imagine **something we have never seen**. We tend to take it for granted that the way we are is the way to be. We take it for granted that what most people think is probably the right thing to think.

But it is probably nowhere else that the differences between us will be so profound, other than in the area of belief management.

In order to help the reader see this difference more clearly, I plan to give my prediction as to how "Homo rationalis" will approach the whole topic of belief management. In other words, I will present the matter "from the top down," using the reasoning that they, I believe, will use. In doing so, there will be some reviewing and repetition, but this is necessary to convey the differences between the way we engage in belief management and the way they will. (In fact, we do very little "top down" reasoning.)

Remember that the primary difference between "Homo rationalis" and ourselves is that they will have shifted completely to rational ethics (away from authoritarian ethics). They will maintain, arbitrarily, that the highest ethical principle is that we should do that which will promote not only the survival of our species but also the good life for everyone, now and in the future. Since every decision we make can be questioned as to whether we should have made it or not, then **all** decision-making, **all** behavior, is subject to this ultimate ethical principle. Ethics will not just be something to think about in certain kinds of situations, but instead will be the most important factor in **all** decision-making. **At any time**, a person can ask, "Is this that I am doing right now what I should be doing?" And the "meaning of life" for them will be the goal of getting as close as possible to accomplishing consistency with the ultimate ethical principle.

Now, because they will make the same observation that we can easily also make, namely, that there is not a single thing that we can have or that we can do that does not require others having done their part, they will conclude that they should do their part in making the world a better place. They will say, "I should do my part to make the world a better place, within my sphere of influence and within the limits of my capabilities." Please note that, so far, we, also, could conceivably agree to live this way individually, even though most of us do not.

But let us now look at an implication of the above. When we talk about applying the ultimate ethical principle to every aspect of our behavior, this means that we are attempting to optimize all behavior. But what does this mean? It means that when we engage in any decision-making, we hope that the outcome of that behavior will be consistent with the ultimate ethical principle. Thus, in order to do better than just leaving that to chance, we must try to **predict** the outcomes of our behavior, to see if they are consistent with the ultimate ethical principle. Since we have defined behavior that is less than optimal, namely that leads to a bad outcome, as a mistake, **we are attempting to avoid making mistakes**.

And from earlier in this chapter, we saw that the primary, most effective way of avoiding making mistakes is to do whatever we can to promote our having accurate beliefs. Accurate beliefs produce accurate predictions, which promote behavior least likely to be different from what we are seeking.

So, "Homo rationalis" will consider the ethical principle that we should do whatever will promote accuracy of belief as the second highest ethical principle. Since it is the second highest ethical principle, perhaps even indistinguishable from the first, this ethical belief will be the highest level "**supervisory**" ethical belief in the brain of each individual.

And **this supervisory ethical belief should be an extremely strong one**. For it to be strong, it will have to be **practiced**. The "pathways in the brain" that represent this ethical belief will need to be used over and over. So the culture in the time of "Homo rationalis" will need to **promote** this belief in every appropriate way, **including in their methods of child rearing**.

Please note, again, how different this is from the way we currently are. We have talked about how we agree to avoid the very behavior that would increase our trend toward accuracy of belief, namely, using any opportunity for sharing and comparing different beliefs, while utilizing the open, listening attitude.

Now remember that **the open, listening attitude is the operation of a very high level supervisory ethical belief** that whatever belief we currently have could actually be inaccurate or wrong, accompanied by the motivation (**ethical sense**) to try to understand the reasoning of any individual that believes differently from the way we do. By understanding the reasoning we mean understanding the other person's beliefs and understanding why those beliefs seem to that person to be accurate. The goal is to find, as much as possible, what the basic differences are in belief, and then to see how the two different beliefs seem to meet the criterion of being consistent with other beliefs that are in turn considered accurate because of the rules of logic and the rules of evidence.

Remember that one of their highest level ethical principles, perhaps even indistinguishable from the ultimate ethical principle, will be that we should try to attain accuracy of belief. This means that we would have to engage in **behavior** that would optimize the chances for attainment of accuracy of belief. And we have seen that much of our behavior is designed to promote a second criterion of legitimization of belief, namely, comfort, which at times leads to legitimizing beliefs that are not only inaccurate but likely to lead to decisions that produce pain, suffering, disability, and early death.

So let's take a look at behavior that we freely engage in, and the corresponding behavior that they would engage in.

Nowhere is this more evident than our utilizing the natural attitude (I **know** I'm right, so **you** are either lying, dumb, or crazy, or just plain bad) rather than the open, listening attitude (I could be wrong, especially if you think so, and if I am, I would appreciate your helping me to see it). The "just plain bad" component of this attitude partially explains why there is a very high probability that difference of opinion will result in anger. We regard almost all difference of opinion as being a state of "conflict," and we evaluate ourselves and each other as to how well we "fight."

Imagine a politician manifesting the open, listening attitude during a debate, saying, "This is what I believe, but of course I could be wrong." Think of what attributes of prominent people are valued by the public. What wins approval, admiration, and votes is dogmatism, certainty, and a display of strength and power. Strong, declarative statements that imply that "you are either with me or against me," accompanied by non-verbal behavior that even has a hostile component to it, such as indignation, defiance, or threat, are much more prone to inspire a following than are calm, reflective questions and clarifications, with the acknowledgment that the issues are uncertain and that both sides have much to say for them.

Think also of how our superheroes behave. We want to be taken care of by strong, parental figures who are dangerous to our foes.

We love the struggle for dominance, no matter how much pain, suffering, disability, and early death it produces. We certainly have seen times when going to war or battle produced euphoria. Our language uses hostile terms to describe efforts to resolve difference of opinion. Political processes are referred to using terms from our worst behavior as a species, such as the battle for nomination or the fight in the legislature or the overwhelming slaughter of someone in the election.

In our public debates, there is applause for subtle, skilled hostility that stays just within the bounds of agreed-upon propriety.

And think about the cultural attitudes toward those individuals who go into fields that are based upon accuracy of belief and non-dogmatic inquiry, such as the sciences and education, compared to those individuals who go into competitive, aggressive and at times hostile sports. When, for instance, would a scientist or a teacher ever evoke the displays of admiration that a professional boxer or wrestler routinely does? And think of their relative incomes.

Our culture has terms for those who are uncertain and non-hostile, such as "wimp" and "wuss." And those young people who value understanding the way the world really is are often referred to as "nerds" and "geeks," with the implication of some sort of deficiency.

It is only when we really look at the possibility of maintaining at all times a non-hostile, open, listening attitude that we see how much closer we are to chimpanzees than we are to "Homo rationalis."

Yet, I believe the reader can sense that there is value in attaining accuracy of belief, and also can sense the value in benevolent understanding of one another rather than interminable, cruel conflict, psychological and physical injury, and mutual murder.

And especially perhaps during a time of threatened or actual disaster, it becomes starkly evident that the people who save us and take care of us are those with the most accurate beliefs about the nature and functioning of the world.

Our greatest heroes tend to be the most like chimpanzees, strong, powerful, and dominating. But I believe we can imagine that the greatest heroes of "Homo rationalis" will be those who have attained the greatest knowledge about how the world really is and who have done the most with that knowledge to make the world a better place for everyone. And I believe we can to some extent acknowledge how much better for us all the values of "Homo rationalis" would be.

For any one of us, appreciating the values of "Homo rationalis" and attempting to make them a part of one's own life and interactions with others will involve taking a "supervisory" role with regard to one's own basic animal nature. But that is something that only we humans can do. This, I believe, is the third exponential change. It is just beginning, but we are far enough along that we can see and understand this change, and experience even a sense of excitement about the appearance on this planet of something quite new and different. I believe that if we ever hear from extraterrestrials, they will have accomplished this third exponential change, since I believe

that we are quite limited as to what we can accomplish continuing only as talking, hi tech, angry chimpanzees.

So we have now attempted to obtain an idea of what "Homo Rationalis" will be like and how, in the areas of anger prevention, child rearing, and belief management we can make use of such insights in order to make our own lives better and make the world a better place for others. What I wish to do now is make some predictions as to the culture of "Homo rationalis," primarily having to do with their government and their religion, assuming those predictions will follow from what we have covered so far. This will allow us, hopefully, to get an even greater perspective regarding the cultures in which we are immersed, and how we can work toward becoming freer and freer of victimization by those cultures.

RATIONAL-ETHICAL GOVERNMENT

Let "**government**" mean that set of **organizations** and **procedures** existing for the purpose of making and implementing **decisions for the group**.

This chapter is an attempt to predict what government will be like **in the time of "Homo rationalis."** It will be an effort to describe some **basic properties** of the **best kind** of government, based upon the idea that the government would ultimately come to be **rationally designed** by "Homo rationalis."

It is important for the reader to recognize several facts regarding the nature of this chapter:
  (1) This chapter is purely speculative, about the future.
  (2) This chapter cannot be adequately understood unless the reader has read the previous chapters.
  (3) The reader will most likely find some of these speculations to be distasteful, because they are based upon what life will be like during the time of "Homo rationalis," when, I hypothesize, their outlook will be so drastically different from ours that we and they would regard each other almost like two different species.
  (4) This chapter has no recommendations regarding the structure of government currently, nor does it take any positions regarding any current political issues.

My prediction is that our species, in the time of "Homo rationalis," will take the same approach to this problem as has been taken earlier in this book, namely, a "**top down**" approach, beginning with the **rational-ethical ultimate ethical principle**, that we should do that which will promote not only the survival of our species but also the **good life** for everyone, now and in the future. The "good life" means as much joy, appreciation, and contentment as possible, and therefore as little pain, suffering, disability, and early death as possible. The "top down" approach is one of requiring that conclusions be **deducible** from highest level ethical and existential beliefs. (With regard to existential beliefs, by highest level I mean beliefs that are most general and most agreed upon, and legitimated by consistency with the rules of logic and the rules of evidence.)

(Of course, the **transition** to this ideal, reasoned form of government would probably be a "**bottom up**" process, with **gradual** change in procedure reflecting gradually increasing confidence, among increasing numbers of individuals and groups, in the proposed newer procedures. So I am not in any way suggesting that there would be an "overthrow" of existing government and replacement of it with a new kind of government, derived from a set of principles.)

In order to have a government that will promote the rational-ethical ultimate ethical principle, it will have to be based upon **what we have learned so far** as to **what works**, that is, what seems to make for the good life, and **what does not work**, that is, what seems to produce pain, suffering, disability, and early death. By "what we have learned," I mean our **agreed-upon beliefs derived from our observations**.

We can see that our species has already made a little **progress** in this direction. We are increasingly coming to the conclusion that some forms of **democracy** represent an improvement over the more naturally occurring forms of government that had always existed prior to the emergence of this new method. These **other (previous) forms of government** followed

naturally from our being a **group animal**, which, to facilitate coordination of effort, develops certain characteristic ways of relating that establish a **hierarchy of power** within the group. Certain members of the group, by virtue of their physical and behavioral characteristics and capabilities come to have more influence over the behavior of others in the group. To at least some extent, these characteristics and capabilities have included **aggressiveness, hostility, and violence**. There has therefore been the tendency for those who were most capable of being aggressive and frightening to be the most powerful, that is, the most influential over others. And the same state of affairs led to the phenomenon of **one group becoming more influential over others** by virtue of being more prone to aggressiveness, hostility, and violence. In certain respects, then, the natural tendency toward **struggles for dominance** that occurs between individuals, as outlined in the chapter on Rational-Ethical Anger Prevention, **also occurs between groups**, including even nations, as exemplified by **wars**.

And this naturally occurring state of affairs has indeed promoted the **survival of the species,** the increased effectiveness of coordination of behavior allowing for more effective competition with and protection from other species. However, **it also promotes much pain, suffering, disability, and early death**. And it is in response to the growing awareness of this fact, combined with our increasing ability to make use of our symbols and rules of syntax, and to some extent the rules of logic and rules of evidence, that our species has decided to try to develop **new procedures,** different than what comes naturally, with the idea of **also promoting the good life** as much as possible.

And so, we decided to **agree to the procedure** that at least certain of our leaders would be chosen, not according to struggles for dominance to see who could induce the most fear by virtue of aggressiveness and hostility, but instead by **voting**, in which "everyone" would participate in choosing and in which "everyone" would be eligible to be chosen. Probably the basic reason for this procedure has been that it makes unnecessary the struggles for dominance. But also, we probably concluded that we would be able to choose leaders that we predicted would expose us to as little aggression, hostility, and violence as possible, by, for instance, enhancing the group's aggressive capabilities such as to achieve dominance over **other groups**, and establishing satisfactory control over the **members within the group** (establishing the equivalent of "law and order").

(Needless to say, it has never, ever been true that "everyone" has been allowed to vote. Instead, there have been certain requirements for voting, that have been for the purposes of (1) ensuring the competence of the voter and (2) reducing the influence of certain groups of individuals. The first purpose is exemplified by having an age requirement, and the second purpose is exemplified by our history of having denied women, slaves, etc., the right to vote.)

Note that there have been other methods, also, such as having the leader be related to the previous leader in some way, such as by birth. Such methods would similarly presumably prevent the necessity for aggression, hostility, and violence in order to determine the leadership, but the general opinion appears to have become that these other methods do not give as good a result as democracy does, in which there is a greater sense of everyone being able to influence the procedure rather than just "being at the mercy of it," and they cannot be changed, if found unsatisfactory, without another struggle for dominance.

So now we need to look at what we have learned has tended not to work, and we will need to try to conclude thereby what the ideal form of government would be.

Let us be clear about what we as a species are trying to accomplish in general. **We are trying to avoid making mistakes**, decisions that are regretted. We have seen in the chapter on Rational-Ethical Belief Management that the primary cause of making mistakes is **inaccurate belief**, and we have looked at some of the causes of inaccurate belief. So we want to have **procedures that optimize accuracy of belief** on the part of those involved in making decisions. And we will be talking about the making of decisions regarding **procedures in general**, but also the making of decisions as to the **methods of making decisions themselves**, especially decisions regarding who will be chosen to **represent** whom.

In most areas of thought, there is a basic set of beliefs that have come to be agreed upon as sufficiently accurate that they are taught to those for whom such knowledge is relevant, and this is referred to as "**education**." The assumption is made that everyone past a certain age should have a basic set of such accurate beliefs, and thus be **well educated**. As individuals get older, and as they begin to focus on specific areas of knowledge that will have greater relevance for them as individuals, their education becomes more individualized. A person who will become an attorney is assumed to need a different education than a person who will become a biologist or a mechanic. Ultimately, most individuals will have more or less the same very basic education, but then also more specialized education relevant to the way that individual will be participating in the life of the group, or society.

(Of course, with time, sometimes what was considered basic enough to be expected education, or "knowledge," may come to be regarded as inaccurate, and may be replaced by even more accurate expected "knowledge.")

Notice that in certain areas of our functioning, we readily assume that **education in a certain domain of knowledge is important to allow optimal decision-making in a particular area**. There are certain activities and occupations in which individuals must have undergone some sort of **examination** to determine that they have such basic knowledge. Obtaining a driver's license is an example within my own culture, and practicing medicine is also.

Now one could ask what areas of decision-making or behavior are ones in which we would prefer that the individual be **less** educated rather than more, or that we know **less** rather than more about whether they have such basic knowledge. It is hard to imagine a reason why we would not want accurate belief in **all** areas of decision-making. We of course certainly would want to know other things about such individuals, such as how motivated they were by the ethical sense, and what their ethical beliefs might be. And we might want to know how easy it was to communicate with them, and how good they were at implementing the principles of problem solving behavior outlined in the chapter on Rational-Ethical Anger Prevention. But there would be nothing to take the place of the individuals being expected to have a certain **basic set of accurate beliefs**, or **knowledge**, about the area of decision-making or behavior under consideration. This would be a major part of what we usually mean by "**competence**."

Well, a concrete example of a procedure, consistent with such an expectation, if implemented currently, would be that those who ran for political office would reveal to the voters their profile of results of standardized testing in all of the areas considered relevant to the office in question.

The reader should note already how different this way of thinking is from our current way of thinking. And indeed, my observation has been that many individuals currently, when presented with this idea, automatically reject it. But let us extend the idea even further.

What about the competence of THOSE VOTING? Should not **THEIR educational profile** in some way be used to **weight** their vote, depending on what they were voting on? Would it not make sense, even in today's world, for each individual to have his or her educational profile on a digital card that could be used for voting purposes, such that the vote would be weighted according to the degree of match between the individual's educational profile and the education presumed needed, to make more likely good decisions in the area being voted on?

I believe this idea will produce a negative reaction in many readers. Currently, in my culture, education is not valued all that highly by a large portion of the population. In fact, many can't wait for the day when they no longer have to go to school, and some actually drop out "early," in order to do things more important to them. Relatively few do any studying, after no longer being required to do so. Yet most individuals wish to have as many privileges as possible, and even attempt to have those privileges defined as "rights."

I believe that if all voting were conducted using the procedure of weighting votes according to the match between educational profile and the profile of knowledge needed for decision-making within the designated area, we would see a vastly greater effort to pursue becoming better educated. And we would probably pay teachers a substantially higher set of wages relative to the set of all wages. Obviously, we are not ready to implement such a procedure, but it is hard to imagine why doing so should not, even currently, be explored. But we currently do not value accuracy of belief, or education, very highly, and considerations such as these begin to clarify how different "Homo rationalis" will be.

Of course, there is a strong belief currently that everyone should have an "equal" vote for our leaders, probably arising from the observation that historically some groups of individuals have been excluded from the right to vote, and that such exclusion tends to produce unwillingness to accept the results of such voting. So it has seemed to work better, so far, to allow "everyone" to vote.

Also, of course, the development of a procedure to weight votes would be highly technical and subject to much debate as to what the criteria should be for the weighting.

But the main point of the above discussion is to point out that **we are left currently with a procedure in which individuals participate in decision-making in areas in which they may have very little accurate belief, or "education."** If our goal is to have an even better government than what we have currently, then we might make a note that this would be an area to think about. In other words, how can we have government in which those who know the most about a particular area of decision-making are the ones who have the most influence on the decision-making process, and how can this be done such that everyone agrees that the procedure is indeed the best one, even though the procedure results probably in many being effectively excluded from some decision-making that nevertheless impacts on their lives? How will "Homo rationalis" deal with this problem?

But already mentioned above is another area of knowledge (accurate belief), different from what we generally mean by "education," that is nevertheless recognized as extremely important in decision-making, especially when talking about choosing **leaders**, that is, certain individuals to be participants in decision-making in which they are to "**represent**" the interests of others. As these individuals participate in decision-making, they, like anyone, are capable of making mistakes, and these mistakes are made not just because of faulty education, but also because of all of those factors that make us less than optimal in our behavior. Ultimately, we are talking of course about certain very personal and individual beliefs and motivational states (many such motivational states being brought about by beliefs, both accurate and inaccurate) that will affect their decision-making. We are talking about those determinants of behavior that are influenced by the "personality" of the individual, that is, his or her tendencies to behave in certain ways and even to perceive in certain ways. So we can perhaps oversimplify and state that the **two most influential sets of characteristics** of individuals on their decision-making are "**education**" and "**personality**."

So we would like to know, if we were contemplating choosing someone to represent us in decision-making, not only what that person's education was like but also what his or her **personality** was like. Of course, there are "personality tests" available, but I believe the reader will agree that reading the results of a personality test does not provide nearly as much information about an individual as "**knowing the individual personally**" does. In other words, there is no substitute for actually **interacting** with the individual **over a long period of time**. Also, this is especially true if the interaction is of the kind that involves **cooperation**, or coordination of effort.

And here we see a **major defect** in our current, democratic government. **We do not know well those individuals for whom we vote.** We certainly recognize that what we see of an individual in the media is most often highly rehearsed and tutored behavior, designed to optimize impact on large numbers of persons. It is often much later that we begin to learn what the person is "really like." So here we are, making decisions about who will represent us in important decision-making that will perhaps affect us all, and we are lacking much information about the individuals among whom we are expected to make a choice.

So what is the rational solution to this problem?

As we have noted, the circumstance under which we get to know to the greatest extent what an individual is "really like" is the situation of the **small group** that has to work together cooperatively. By small, we mean containing few enough individuals that there is **sufficient interaction** with all of them that we get "firsthand knowledge" about their basic personalities and ways of making decisions.

The best example, perhaps, of the small group that knows each other the best is the **family**, or the **household**. Of course, the family often contains children, many of whom would be too young, and thereby unskilled and inexperienced, to participate on an equal level with the adult members of the household. But the reader is referred to the chapter on Rational-Ethical Child Rearing, in which the prediction is made that "Homo rationalis" will make major use of the "**family meeting**," in which the family members work on the solution of problems and the making of plans for optimizing the life experience of all of its members. In such meetings, there would be an emphasis upon exploring all options, using the rules of logic and the rules of evidence, as

applied to the knowledge that the members had, in order to arrive at the development of newer and better procedures and at new plans for the future. **All of the family members will have the opportunity to be heard**, and **all issues would remain open to rational discussion**, even though final decision-making must be the responsibility of the leaders of the (family) group. So such meetings will become a basic way of life for "Homo rationalis."

Now the reader might imagine that another group could be constructed that consisted of someone from each **household** in a **neighborhood**. Indeed, there would be some issues that would be most appropriately decided upon by such a group having to do with how to do things in the **neighborhood**. There have been examples of this, such as, the neighborhood developing a neighborhood watch, in which all the households agreed to look out for each other and deal with possible developing crime within the neighborhood. Thus, there would be decisions that were most appropriately made by this **higher level group**, involving everyone in the **neighborhood**, and other decisions that were most appropriately made within the **family group**, involving only the members of the **family**.

Each family or household would have to choose, of course, that individual who would best **represent** them, but **such a decision would be relatively easy because of how well they knew each other**. And of course they could alternate or rotate that responsibility, and engage in procedures to train the individual who would be assigned the role of representing the family within the neighborhood.

Obviously, each family's or household's "representative" would report back what was occurring in the neighborhood group, and discuss what this representative should advocate for in the next neighborhood group meeting.

Now I am sure that the reader can see the basic idea being proposed, namely, that this same representative process could occur with higher and higher levels of groups representing larger and larger geographic areas, the highest level group being one that would consist of representatives from groups that covered the globe. This hierarchical set of decision-making groups would, then, be the **central organizational structure** for our species.

There are, of course, problems with this model.

There might be perceived inequalities of representation brought about by variations between highly populated and sparsely populated geographic areas. And decisions would have to be made as to how to handle mixtures, within a neighborhood, of households with large and small (maybe even one-person) memberships.

And there would, of course, have to be ways to adapt to individuals moving from one geographic area to another, and thus altering the size of the groups.

Another problem is that geographic areas are not the only determinant of interest. "Special interest groups" exist and certainly need organizational capability and representation. Certain kinds of decisions would best be made by an organizational structure based upon geographic areas, whereas other kinds of decisions would best be made within organizational structures representing special interest groups.

There is actually even a question as to whether it is optimal to have a central organizational structure based upon geographic areas, as opposed to a major set of special-interest groups such that individuals within each of the organizational structure's set of decision-making groups would be from widely scattered areas. There might be less tendency toward diminished empathy and concern for those outside of the group if the grouping were not geographic.

However, there is a basic benefit to basing the central organizational structure on geographic areas, because of the ease of **facilitating face-to-face meetings** of the individuals, and because of the **improved communication** by virtue of the individuals being, to a somewhat greater extent, from **similar cultural backgrounds**.

Of course, as time goes on, it will become easier and easier for individuals widely separated in space to converse with each other electronically. Still, one wonders how well we would fare if there was some failure of such electronic communication.

Also, geographic organization would be an easier way to assure that all individuals had an easily determined place in the central organizational structure.

The above discussion has had to do with the development of a **basic decision-making organizational structure that would be the "backbone" of our species' global society**. The vast amount of decision-making for our species certainly would be out of the province of this central organizational structure, but **this structure would be responsible for ultimate decisions regarding the allocating of decision-making responsibility**.

And each individual representative would be representing, and would be chosen by, a relatively small group of individuals who had come to know that individual over a long period of time in the setting of working together on problems relevant to the representation.

So the above discussion had to do with optimal decision-making about **representation** based upon **accuracy of belief** regarding not only the apparent **education** of the individuals in the relevant areas of decision-making for the group, but also regarding the apparent **personality** of those individuals.

But now I would like to discuss the optimization of the **accuracy of information** (belief) about the **subject matter** relevant to the decisions being made by the group, in other words, accuracy of the information about which the decision-making individuals would be **educated**.

Currently, as we well know, the individuals ultimately responsible for making decisions regarding very important matters that involve us all are not necessarily well-informed (possessive of accurate belief) about the information relevant to those decisions. And, in fact, it will probably be true, almost always, that those individuals knowing the most about the subject will **not** be members of the decision-making group.

There are **two** basic approaches to this problem. **First**, the group members themselves can go through the process of becoming adequately educated in the specific area in question. Then, of course, there would have to be some way of optimizing the chances that this education was indeed adequate, resulting in the members adequately acquiring and understanding the necessary

information, and that the information was **accurate**. **Second**, however, the members can **delegate** the responsibility for provision of such information to **outside individuals or groups**. Again, however, there would have to be a way of assuring that these outside sources of information were indeed the appropriate sources, namely, ones that would be most likely to have **accurate** information regarding the subject matter in question. Presumably, **in both cases it would be the central organizational structure that would make the final decision as to how the establishment of such expertise would be accomplished**.

All of the above has to do with optimizing the chances of identifying **accurate information** amidst the totality of all information, accurate and inaccurate.

I believe that in the time of "Homo rationalis," there probably will be a **collection of propositions**, modeling almost all potential beliefs of a general nature, probably in the form of an **electronically available vast "outline,"** with the probability of accuracy (estimates of confidence) of each of those propositions being shown, as well as links to definitions of terms used and links to original sources of evidence. Thus, **information will be relatively easily found**.

However, there would always be the question as to the **accuracy** of the outline itself. And this is related to the fact that, as time goes on, **our beliefs change**, based upon the acquisition of **new experience**, especially new **experimentation and observation** within the various **sciences**. Consistent with the extreme value placed upon accuracy of belief, I believe "Homo rationalis" will attempt to optimize the process of acquisition of new, more accurate beliefs. As has been stated many times in this book, the **optimal process** by which this may occur is that of **comparing differences of actual or potential beliefs** (modeled by propositions), utilizing the rules of logic and the rules of evidence, such as in determining the logical consistency of a proposition with other propositions that model beliefs that have been accepted as highly accurate because of, in turn, their consistency with the rules of logic and the rules of evidence (often as determined by scientific study).

In keeping with the above, my prediction is that "Homo rationalis" will consider it to be extremely important to allow and foster **friendly debate of any and all issues**. They will therefore, I believe, have an easily identifiable, **publicly accessible forum** for the discussion of **any issue**. Perhaps the above mentioned outline of knowledge might also include, for each item, a link to information as to where that forum might be found. And I believe that they will find that **engaging in such friendly debate will be one of the most optimal methods of education for individuals at all levels of schooling**. Much of the development of the outline, and the assignment of probabilities upon consideration of the evidence, may actually be carried out by students as a part of their educational activities, of course monitored and guided by the academic staff appropriate to the area in question.

In summary, the reader is again encouraged to imagine **how much more "Homo rationalis" will value accuracy of belief** than our species does today, in which the postmodern position is almost to the effect that there is no such thing as accuracy, but instead just a collection of emotionally held beliefs, and alliances of individuals with the same beliefs in order to enhance their influence within society.

I now would especially like to call the reader's attention to a current characteristic of our species that I believe would be relatively absent in the time of "Homo rationalis." When we hear someone expressing a belief, we often not only evaluate what we consider to be the accuracy of the belief, but also develop a **judgmental attitude** toward the individual based upon the individual's having of that belief. It is currently not unusual for one individual to develop anger toward, and behave in a hostile manner toward, another individual simply because that other individual has a different belief. I believe that "Homo rationalis" will consider relevant only the evidence for the **accuracy** of the belief. (There might indeed be reason for concern about an individual's inaccurate belief if the belief would seem to make more likely behavior detrimental to the good life, but the response would be helpful concern, not anger and hostility.)

In the first place, being hostile toward a person because the person has a particular, different belief does not do much for helping the person to develop more accurate belief (assuming that it is the person that needs to learn something new, as opposed to the others who are judging that person). Such **hostility** is not likely to bring about a favorable change in the person's belief, compared to adequately intensive **friendly debate**.

In the second place, in the time of "Homo rationalis," because of the availability and prevalence of friendly debate regarding any and all issues, there will no longer be, I believe, groups of individuals adherent to beliefs that would result in truly awful decision-making. So "Homo rationalis" probably will not have occasion to respond with alarm and anticipatory anger upon hearing an individual express a belief that seems atypical.

So, the ability to engage in **friendly debate** will be supported by a **culture** that values highly such activity. And every individual will have had substantial **experience** in friendly debate during **childhood** within his or her **family meetings**. And friendly debate will be a very much **enjoyed** activity, much different than the hostile "arguments" that we have currently, and usually dread.

Next, I wish to predict how "Homo rationalis" will approach **the problem of non-optimal behavior**, referred to as **crime**, **misdemeanor, delinquency**, etc.

I believe that we will have to assume that, no matter how optimal our child rearing procedures, and cultures in general, become, individuals will make mistakes, and some individuals will either grow up as, or become, someone unusually likely to engage in certain kinds of mistakes, and that some of these mistakes may, even then, be very harmful and possibly tragic. (Of course, I am predicting that such developments will have become quite rare.) We will always have the need, not only to try to **prevent** such mistakes, but also to **protect** ourselves from individuals likely to make them. This is currently a function of **law enforcement**. Of course the problem is that our current methods don't come at all close to achieving such goals.

Just as is true of our standard model of child rearing, **punishment** is considered to be an extremely important, if not the central, way in which to promote optimal behavior. There are actually **two main goals of punishment**.

The first main goal of punishment is **deterrence**, reduction of the likelihood that the individual will engage in the bad behavior again, because of the individual's belief that engaging in the behavior again will increase the likelihood of suffering again. (This would presumably be an

example of instrumental conditioning.) Also, presumably an individual will decide to refrain from engaging in an act if the individual has the fear-containing belief that there is a severe enough punishment. (And, of course, incarceration and other forms of external control directly and externally prevent repetition of the behavior.)

The second main goal of punishment is that of **revenge**. It is a part of our basic animal nature that we develop anger toward individuals who engage in certain kinds of behaviors that are felt as harmful to us. Punishment provides the satisfaction that the individual who engaged in the bad behavior is made to **suffer** to perhaps the same degree as those who were caused to suffer by the bad behavior. A clear example of the role of revenge in punishment is the belief that the victims of non-optimal behavior should be able to influence the intensity of the punishment. (Of course, there is indeed the second function of victim impact clarification that has to do with determination of appropriate compensation, but frequently victim impact clarification is undertaken only for the purpose of influencing punishment, primarily in determination of length of incarceration.) And around the time of my writing of this, there is the example of an individual being punished, within my own culture, by being sentenced to a lifetime of severe sensory and social deprivation, possibly the most heinous of forms of torture, with, so far, little outcry from others.

As the chapter on "Rational-Ethical Child Rearing" pointed out, **punishment** tends to produce all sorts of **negative side effects** when applied in child rearing. There is a dubious question as to whether punishment no longer produces negative side effects, once individuals are **adults**. We certainly do have the impression that incarceration often increases anger toward society, in addition to increasing the skillfulness of the non-optimal behavior through the sharing of experience among inmates. Certainly, the threat of punishment tends to cause the individual to become more secretive about any continuing motivation to engage in similar behavior, thus reducing the effectiveness of any "counseling" or other such procedures based upon communication with others. I believe that "Homo rationalis" will conclude that it is very likely that punishment indeed has negative side effects, even when applied to adults, at least when compared to an alternative approach that makes skilled use of alternative methods of changing non-optimal decision-making and behavior.

The problem is that we do not yet have any clear picture of such alternative methods, and many doubt that there are any. Because our **belief in punishment** is so pervasive and so strong, and because we have almost never seen the effort to live so drastically differently, we simply cannot imagine how an alternative, **nonpunitive** approach to non-optimal behavior might indeed lead to a **better set of outcomes**.

Perhaps, one might say, the task is no longer to promote optimal personality development, but simply to promote deterrence and revenge, but if an alternative approach would lead to less pain, suffering, disability, and early death, then identifying and developing that alternative approach would be consistent with the rational-ethical ultimate ethical principle.

I believe that "Homo rationalis" will regard **protection** against non-optimal behavior as being entirely separate from the issue of **revenge**. I believe that they will take seriously any non-optimal behavior, and will respond with measures appropriate to **prevent** the recurrence of such behavior. However, not only will they consider others to have been a victim of that individual's behavior, but **they will regard the individual himself or herself as a victim** of circumstances

(child rearing, life events, abnormal functioning, inaccurate belief, etc.), in need of **understanding** and **help** from those around him or her, to the extent that this is **possible**.

This issue has come up within our culture as an effort to substitute **rehabilitation** for punishment. So far, this effort has tended to fail. There are several reasons for this.

In the **first** place, within our culture, it is almost impossible to remove the element of punishment. "Being nice to" such individuals causes the victims of their behavior to experience painful emotional states, including **anger**. And, in fact, many others who empathize with the victims also experience anger under such circumstances. Those who respond in this way may tolerate to some extent the provision of rehabilitation for such individuals, but they would want to be assured that there was an adequate amount of **suffering** retained for the individual being rehabilitated. This punitive attitude toward the individual interferes with the individual regarding those who are trying to help him or her as being benevolent. This, in turn, **drastically reduces** the **motivation** for effort required by the rehabilitation process.

In the **second** place, we have so far become unable to discover and utilize reliably successful **methods of rehabilitation**. We have not been able to assess the results of rehabilitation such as to be able reliably to predict the probability of **recidivism**. One reason for this, of course, is that, for reasons given in the last paragraph, individuals going through a rehabilitative process may be quite reluctant to be honest with those who are assessing their progress. Of course, we are indeed developing technology (brain imaging) that will probably fairly soon allow us to assess more adequately an individual's honesty.

In the **third** place, because it is not unusual for rehabilitation to take a longer time than punishment would take, and because we are appropriately concerned about "**fairness**" when we are doing something simultaneously negative to an individual, such as punishment, there is a reluctance to require an individual to remain in an adequately long rehabilitative process. Again, the absence of an adequate criterion with which to decide whether an individual had benefited satisfactorily from the rehabilitative process, combined with the concern about fairness, hinders us in maintaining the process for a **long enough period of time**.

However, in the time of "Homo rationalis," I predict that there will be a far more **benevolent attitude** toward individuals who have made mistakes, no matter how awful the mistakes have been, and this attitude will allow for a **much more successful rehabilitative process**, and therefore reduction in the likelihood of repeated mistakes.

And there will undoubtedly be individuals who will continue to present a significant threat to others and who, therefore, will perhaps have to remain in some appropriate degree of **supervision** for the remainder of their lives. Nevertheless, "Homo rationalis" will believe in being good to those individuals, as to all people, and even within a setting of maximum supervision, it will probably be possible for such individuals to make positive contributions to their immediate surroundings and perhaps to the species in general (for instance, by helping others to understand what can go wrong in the life of an individual such as to produce such non-optimal behavior). Treating such an individual well will be consistent with the rational-ethical ultimate ethical principle.

This benevolent attitude toward those individuals who have caused us to suffer is very much **inconsistent** with our basic animal nature, but, perhaps as another example of the third exponential change, we have already begun to talk about "loving our enemies." Indeed, **the more that we can get anger, hostility, punishment, and revenge out of our lives, the more optimal our behavior will become in general**, I believe.

But, the reader should note that a change of this sort will not occur from the "top down," but instead will gradually increase in individuals (such as the reader) scattered over the globe, ultimately spreading through small groups, then larger groups, and, of course, the media. I believe that we will certainly have to **stop punishing our children** before we can come to a nonpunitive approach to the socially deviant adult, especially those who have engaged in harmful behavior. And our stopping punishing our children is not going to come from some legal restriction imposed by a wise government, but instead because more and more individuals, such as the reader, become convinced of the value of the approach, have made the change, and have advocated for the change to their friends and relatives.

Now I want to clarify further the **extreme difference in culture**, as pertains to **government**, that will exist between that of "Homo rationalis" and that of ours. I believe that probably nowhere else will the difference between their way of thinking and ours be so overtly apparent than in their attitude about government.

Although we believe we should have government, and although we do indeed believe that our government does do some good and essential things, I doubt that there is a single person that is satisfied with how government functions. In fact, within my culture, many individuals speak primarily derogatorily of government, and some individuals even see the government as an actual enemy, in no way to be trusted and in some ways to be regarded as quite dangerous. The more extreme views of government involve it being basically a secret organization, operating behind the scenes for nefarious purposes that victimize the individual in ways he or she probably can't imagine.

Of course, the above described perception of the government is enhanced by media accounts of individuals within the government being found to have engaged in illegal and unethical behavior. What is understood by everyone is that it is the structure and functioning of the organization of government that allows for such behavior. Probably most commonly, people believe that government will always be prone to malfunction because it is made up of individuals who are ethically flawed. But we have not yet seen government devised in the manner described in this chapter, nor have we yet seen what we can be like as individuals reared in a culture predicted in this book, by the model of child rearing described in the chapter on "Rational-Ethical Child Rearing."

In the model of government described in this chapter, there would be no role for **secrecy**. Every individual would be a participating member of some component of the overall structure, with access to the activity of any of the groups within the structure. All **information** relevant to decision-making would be **publicly available**. All decisions would be **subject to review** if wished **by anyone**, such discussion taking place in the **appropriate public forum** for that issue, as described above.

Currently, there is a related great concern for the preservation of **privacy**.

It is interesting to speculate to what extent privacy had any meaning at all prior to the development of language, and even after the development of language but before the development of any degree of separation of living quarters. In fact, one might imagine that privacy would be the last thing that anyone would have wanted, with the security of everyone being highly dependent upon coordination of effort in the face of great risk of predation by other species. Under such circumstances, we probably were much more concerned about such external threats than we were about the behavior of each other.

However, this would have been in the context probably of rather rigidly maintained power hierarchies, with indeed periods of instability and struggles for dominance that have always characterized our species. In no way am I maintaining that life within our human groups was better back then than it is currently. We certainly have made substantial advances with regard to human rights and with regard to protection from our aggressive tendencies toward each other. I am only referring to the likelihood that we have indeed been able to live without the concern for privacy that exists today.

Perhaps the strong valuing of privacy has come about only since and because **we have become our most feared predators**.

But the concern about privacy that we have today, I predict, will not be present during the time of "Homo rationalis." With the paramount concern for **fairness** and the **prevention of anger**, promoted by the rational-ethical model of child rearing and therefore by the culture in general, as well as the concern for the **appropriate solving of problems** rather than the maintenance of rigid patterns of submission, we would expect individuals primarily to value being **understood** rather than being overlooked and ignored by virtue of successful maintenance of privacy.

I recognize, however, that it will always be a part of our basic animal nature that we will experience jealousy, envy, and other such competitive and divisive motivational states, and that there will always therefore be some tendencies toward exclusiveness and distancing. On the other hand, I predict that in the time of "Homo rationalis" there will be a culturally promoted need to help one another with such unpleasant motivational states, and the **mutual support** provided by **affectionate community** will drastically reduce the intensity of such negative, divisive motivational states and distress.

I suspect that, as a part of the drastically improved **understanding** of our basic animal nature, and the **major reduction of cultural victimization** based upon having cultures that condemn and punish individuals by virtue of their natural makeup, there will be an **acceptance of a much broader set of lifestyles and patterns of relatedness** (as, for example, multiple-person "marriages"), such that it will be much easier for individuals to find and maintain **gratifying relationships**.

And with the marked reduction in the tendency toward relationship breakdown, interpersonal anger, hostile behavior, and mistakes related to a disorganized and ineffective set of ethical beliefs and inadequate ethical sense, there will be, I believe, an **enormous gain in interpersonal trust**, not only within **interpersonal relationships in general**, but also particularly with regard to those in a **supervisory relationship to oneself**, and thus with regard to the individuals, organizations, and procedures that will constitute **government**. **Government will be looked to**

as a source of help, guidance, and protection from natural threats. In other words, individuals will regard government the way that they have regarded their own **parents**, but in a time when, due to the rational-ethical model of child rearing, parents do not become enemies of children, but remain their **closest allies**.

And of course one of the most important ways in which government helps our species has to do with the **making of sacrifices for the benefit of others**. When we conclude, as a group, that giving up a desired activity would help make life better, it becomes much easier for an individual to make such a sacrifice, **knowing that everyone else is doing so also**. So to the extent that individuals regard government as **everyone's tool**, rather than a tool used by some to subjugate others, **those individuals will be cooperative with and have good feelings toward the decisions arrived at by the governmental decision-making groups**. (This is why secrecy would not work, and why a better organizational structure, with more participation on the part of everyone and a better method of determining representation, would lead to a more positive valuing of and trust in government than exists today.)

Once again, I believe that considerations such as this make clear how different "Homo rationalis" will be from the way we are today, so different that they might indeed look back upon us with an attitude similar to that with which we regard chimpanzees. And so, if we were to take any one feature of "Homo rationalis," and try to imagine it in our current setting, we would probably regard it as highly distasteful and perhaps even ridiculous. (The analogy has been given earlier in this book of someone two hundred years ago ridiculing the idea that he or she would be able one day to drive a vehicle down the road 60 miles per hour, in that doing so would scare all the horses.)

At the beginning of the chapter, I mentioned that I did not have in mind our species overthrowing current governments and establishing a new government in their place, our experience so far having found such procedures to cause much pain, suffering, disability, and early death, with failure in the long run. So we might well ask **how** our species would ever arrive at the kind of government predicted in this chapter. Again, I believe that such a development will occur "**from the bottom up**," rather than "from the top down."

In this case, the beginning of this transition would occur within families, as more and more families became convinced of the value of **family meetings** for the purpose of optimizing the quality of family life and the effectiveness of its functioning. Our species has already begun finding the value in **group discussions** that have the characteristics of **friendly debate**. As the development of **neighborhood groups** became more and more prevalent, and as we became more and more able to function effectively in such groups, there would probably develop an increased **confidence** in the **value** of developing groups at **even higher levels**.

At first, most of these higher level groups would be **for the purpose of sharing and comparing ideas**. And these groups would exist **in parallel with the formal governmental structure** that would be an extension of what we have today.

However, to a greater and greater extent, the results of the discussions in such groups would have an **impact** in the **decision-making processes** in the formal government structure, until finally, I believe, we may start **transferring functions** from the increasingly outmoded formal structure to the now existing hierarchy of groups having its base ultimately within the family meetings. For

instance, perhaps the "old government" will increasingly **delegate** decisions to the "new government." If this happens, it will be because doing so "feels right to" (is believed optimal by) everyone. Finally, the **formal transfer of authority** should be relatively easy.

First, we must develop the **value**, and **then** the **procedure** will most likely **follow**.

I am concluding my discussion of my prediction as to what government will be like in the time of "Homo rationalis." There would perhaps be many other predictions that could be made, but my effort has only been to make clearer the basic nature of the third exponential change that I believe is occurring. If I am right, **we will come to live in a way that we have never lived before**. In contemplating this, we will be faced with our natural tendency to say that such developments will never occur, because we are simply not made that way. But to say this is simply to say that one does not believe that the third exponential change can occur. Actually, however, we really do see on our planet a range of humans from those who are very little different from chimpanzees, except perhaps for their mastery of speech, all the way to humans who are highly accomplished in social skills and very dedicated to primarily altruistic endeavors. If we can, then, come to **understand** much more **what produces** such a difference, we can **harness** those beneficial processes and use them in a systematic way to achieve **far better outcomes** in our efforts to construct ourselves such as to be able to live with one another optimally.

And the reader can experiment with himself or herself to see how much he or she can accomplish along these lines, but only assuming that he or she does indeed believe that the effort is worthwhile and appropriate. In other words, he or she must **agree** that he or she should **try** to make the world a better place within his or her sphere of influence, and within the limits of his or her capabilities, to promote not only the survival of our species but **the good life for everyone, now and in the future**.

This book is my effort to do so.

RATIONAL-ETHICAL RELIGION

In this chapter, I will attempt to predict what religion will be like in the time of "Homo rationalis," clarify how it will be **different** from religion as it currently exists, explain why the differences will presumably be **better**, and speculate as to how the **transition** may occur from religion as it currently is to religion as it will be then. (Adequate understanding of this chapter will, of course, depend upon the reader having read the earlier parts of this book.)

First, we must have some **agreement** as to **what we shall mean by "religion,"** by which we will also mean that set of phenomena that we designate as "religions."

There are many definitions of "religion." In our effort to predict what life will be like in the time of "Homo rationalis," we can assume that they will probably use words in a somewhat different manner than we do. Even currently, however, all religions have in common the goal of helping individuals to achieve the belief that they know the best way to live (how to live optimally). In other words, using the terminology of this book, all religions consist in part of attempts to optimize ethical belief, that set of beliefs about what we should do, how we should live our lives, or "what is important in life." There are, of course, other characteristics and components, but these other characteristics and components vary so much among the various religions that they do not seem quite as fundamental a part of "religion" as does the optimization of ethical belief. So, for our purposes, "religion" will be defined as **those individual and group psychosocial activities the most important function of which is optimization of ethical belief** (recognizing that there are indeed several other functions of those activities also).

The reader should note that this definition does, therefore, include some sets of beliefs that have been labeled "philosophies." In fact, any distinction between "philosophy" and "religion" is going to be an act of definition, most likely different for different discussions. For the purposes of this book, as the reader will see, the above definition of "religion" will allow us to discuss with greatest clarity the most important concepts to which the reader's attention is being called. The reader should also note that, according to this use of language, this book is a religious book.

We should note, however, that the **third exponential change**, ultimately leading to the emergence of "Homo rationalis," is consisting of a **change in ethics**, from primarily **authoritarian ethics**, which comes naturally as a part of our basic animal nature, to **rational ethics**, with its **rational-ethical ultimate ethical principle** that we should do that which will promote not only the survival of our species, but also the good life for everyone, now and in the future. They will thus see optimal religion as **rational-ethical religion**, the effort to have a religion or religions consistent with rational ethics, that is, consistent with the rational-ethical ultimate ethical principle.

I will speculate later on **how** they will attempt to **optimize ethical belief**, that is, the set of procedures they will use. First, however, I will address the **several other components** that have been associated with, or are currently a part of, **religion**.

One of the most prominent components of most religions so far has been some sort of **explanatory worldview**. By explanatory worldview, I mean only a set of existential beliefs (beliefs about the way the world is, was, or will be) at least regarding certain major parts of the world.

This explanatory worldview has served several **functions**, **one** being the **legitimization of the above-mentioned set of beliefs about what it is that we should do**. For instance, the reason that we should sacrifice a virgin is that there is a certain kind of deity in the volcano who may punish us if we don't, or the reason that we should engage in certain kinds of behavior and avoid other kinds of behavior is that there is a judgmental deity that provides rewards and punishments according to how well we obey, or the reason that we should live certain ways is that we all keep repeating painful lives until we have become maximally obedient to ethical standards (principles and rules of conduct) thought to be inherent in the nature of existence, or the reason that we should not engage in abortion is that when a human egg and sperm unite, a new entity, yet to be identified by scientific study, is created that will exist forever and is entitled to a body and the opportunity to experience life.

Historically, however, I believe we can see a general process taking place that is beginning to **transform the explanatory worldview component of religions**.

There have always been many, many religions, often primarily associated with some geographical area or some relatively large group of humans, and the explanatory worldviews of those religions have probably varied as much as, if not more than, their sets of ethical beliefs. To use a metaphor, we can imagine a large village of many single-story houses, some a little larger than others, each one representing a religious explanatory worldview. As time has gone on, new houses have appeared and old houses have tended to disappear. And that was the way it was for many thousands of years. However, over the past several hundred years, an enormously tall skyscraper, representing one particular explanatory worldview, has grown in the center of the village.

This explanatory worldview has been **different** from all the other explanatory worldviews **in two main ways**.

First, this new explanatory worldview consists of beliefs that are **extremely accurate**, in that, for the first time, those beliefs lead to **predictions** that turn out to be **what actually happens**, and **reliably** so. Therefore, we have become **able to do** amazing, wonderful things (though of course terrible things also). We have been able confidently to engage in behavior that, if our explanatory worldview were not correct, would be very foolish, such as flying, submitting to surgical procedures, exploring the bottoms of the oceans and even the moon, etc.

Second, this new explanatory worldview is frequently **changing in the direction of increasing accuracy of belief**. Thus, each "generation" of individuals builds upon what the previous generations have built, often with modifications and replacements of ideas that went before, with beliefs that allow for ever more accurate predictions. The reader can see why the religious explanatory worldviews have been depicted as single story houses, because there has been a tendency for those explanatory worldviews to remain the same over time, often with the understanding that to propose changes, even improvements, is perhaps to be disobedient and foolish.

The skyscraper is, of course, the set of beliefs acquired through the scientific methods, or "**science**."

The presence of the skyscraper in the midst of all the houses has caused some phenomena to occur in the houses. Adherents to each religion have become aware of **differences** between their own beliefs (with regard to explanatory worldview) and the beliefs arrived at by science. But there has been a tendency, explained later, for adherents of each religion to assume that their religion's explanatory worldview is necessary for its survival. Therefore, the logical inconsistencies between their own religious beliefs and those of science have had to be **responded to**, and there have been several characteristic **responses**.

One **response** has been for the adherents of the religion to take the stand that **science is wrong and is evil** (should be avoided). Most religious adherents that take this approach do so only with respect to certain beliefs arrived at through science, that are contradictory to beliefs within the religion. This view, with its derogation of the validity of science, tends to lead to avoidance of education in science, even though the fruits of scientific research usually are readily made use of. This particular response has perhaps not been very popular, and has tended to disappear as the value of the fruits of scientific research has increasingly become apparent.

Another **response** has been to say that the beliefs dealt with by science and religion are in **different domains**, and therefore **cannot contradict each other**. In this case, what is maintained is that the religious beliefs cannot be legitimated by the scientific method of legitimization (appeal to evidence, essentially the ability to predict accurately). **First**, some will point out there is **no evidence** one way or the other in the religious domain, allowing freedom to believe without concern about contradiction by science. The problem here is that if there are X religious explanatory worldviews, the probability that any one of them is correct, in the absence of any evidence, is 1/X, or very low. **Second**, others will say that the **evidence is plentiful**, but "**personal**," and **not subject to verification by others**. An example would be an individual claiming that he or she knew the explanatory worldview was correct, because he or she had heard a deity say so, or had at least heard, seen, or experienced something that made the individual feel a strong sense of certainty about what he or she was believing. And the problem here is that science would have an alternative way of explaining such an experience, including the ability of humans to hallucinate and be delusional.

Another **response** has been for the adherents to **adopt the terminology of science**, but using such terms in ways such as to produce the belief that science actually is confirming the explanatory worldview of the religion. There is widespread use, for instance, of the word "energy" to refer to entities or phenomena the existence of which are unknown within science. And most recently, terminology from quantum physics has been appropriated into the religious vocabulary. This development has often been referred to as "**pseudoscience**."

And finally, a frequent **response** has been to continue to use the same (religious) terms within the religion, but to **revise their definitions** such as to make statements involving them non-contradictory to scientifically derived or legitimated beliefs. Revising the definition of a word like "God" might result in meanings such as "all there is," "the great mystery," "love," "the ultimate reason for everything," etc. Such approaches, however, seem less compelling of belief, and they often do not provide much legitimization of the ethical beliefs of the religion.

So at the time of the writing of this book, there is **an uneasy relationship between science and most religions**, because of the tendency of most religions to have an explanatory worldview different from that produced by the scientific methods, and also for them to have a requirement

that their adherents maintain, often unquestioningly, belief in their religion's explanatory worldview.

If we recall that "Homo rationalis" will maintain as one of their most important ethical principles that one should try to make one's beliefs as accurate as possible, we can ask how they will address this problem.

My prediction is that they will have decided that it is **not religion's function to provide an explanatory worldview**. They will be satisfied with the explanatory worldview being arrived at by science. They will say that **the primary, defining function of religion is to promote the rational-ethical ultimate ethical principle, that we should do that which will promote not only the survival of our species but also the good life for everyone, now and in the future**, and that science, by increasing the accuracy of belief, is giving us greater ability to optimize our decision-making and therefore the quality of our lives.

The reader should note that in this way of thinking, **religion and science** are not enemies, but instead **partners**. Good decision-making requires both. Science tells us what is most likely to happen if we do certain things, and religion helps us to decide whether we should do them or not.

From earlier in the book, the reader may recall the **interaction** between **existential beliefs** (about the way the world is, was, or will be) and **ethical beliefs** (about what we should do). This interaction produces our ability to **legitimate** our **specific ethical beliefs** by showing that they are **deducible** from more **general ethical beliefs** and therefore ultimately from the ultimate ethical principle. The interaction may be conceptualized as follows:

I should do X (try to bring about outcome A).	Ethical proposition.
If I do Y, A is likely to result.	Existential proposition.
Therefore, I should do Y.	Ethical proposition.
I should learn about this subject.	Ethical proposition.
If I study this book, I will learn about this subject.	Existential proposition.
Therefore, I should study this book.	Ethical proposition.
I should not cause needless suffering.	Ethical proposition.
If I steal, I will cause needless suffering.	Existential proposition.
Therefore, I should not steal.	Ethical proposition.

Since science provides us with the most accurate existential propositions, it follows from this nature of ethical reasoning that **religion should honor science, promoting awareness of it and emphasizing the importance of it**. The reader should note how different this attitude of religion toward science will be from how religion has dealt with science so far. This is another example of those ways in which "Homo rationalis" will be so **different** from the way we are that they will be, metaphorically, almost like a different species.

But now there is **one very great problem** associated with this solution. The **function** of the various religious explanatory worldviews is not limited just to the legitimization of the ethical beliefs of those religions. These explanatory worldviews are themselves legitimated by the

criterion of "**comfort**," as clarified in the chapter on Rational-Ethical Belief Management, and thus **also serve that function**. In other words, **there are certain religious explanatory worldview beliefs that make us feel good, or help us to feel better**, and are maintained precisely **because** of that.

So I would imagine that the reader would be asking how feasible it would be for "Homo rationalis" simply to dispense with this important function and capability, and whether doing so would or would not be fostering the good life for everyone, etc., since many individuals currently attest to how important such beliefs have been to them. And indeed I believe that there is **no bigger problem** standing in the way of our species ultimately living a more rational-ethical life, with far, far less pain, suffering, disability, and early death. There clearly is much comfort, at times even joy, that is provided by many of the religious beliefs for which science so far has not obtained evidence, and indeed by some religious beliefs for which science has even acquired some evidence to the contrary.

Let us look closer at this particular aspect of many of the religions, to try to understand more basically why this problem exists.

We humans have always had a desire for and a belief in **magic**. Magic is the **ability to make things happen just by wishing them to happen**, the wish perhaps being accompanied by a **procedure** that is supposed to allow the wish to become effective. The belief of an individual that he or she can bring about a desired result will obviously allow the individual **to feel good or at least feel better**. Things happening by magic is in contradistinction to things happening according to understood regularities in the universe that make prediction (with probability above chance) possible. The religions, so far, have tended to provide the **comforting belief that good things are likely to happen**, especially if one carries out the **procedures** of that religion, including thinking a certain way, having a certain set of beliefs, behaving in certain ways, and perhaps even following certain rituals. The theologies are in part explanatory worldviews that explain why the magic is supposed to work, and they serve to increase the belief that the magic does indeed work. Examples would be the belief in the power of prayer, in the ability to cast spells, or in the effectiveness of sacrificing virgins, all these beliefs being strengthened by their consistency with the theologies of the respective religions.

I believe one day (as the third exponential change occurs) religion will finally be unshackled from this need to maintain belief in the effectiveness of magic, and will no longer be threatened by science and thus will no longer be trying to justify itself by the various responses listed above to contradictions by science.

If indeed religion will be the psychosocial individual and group activity that specifically helps us to develop our basic ethical philosophies, and if indeed "Homo rationalis" will regard the seeking of **accuracy of belief** as one of the highest level ethical principles, and therefore an important component of anyone's basic ethical philosophy, then how will "Homo rationalis" approach the problem that religion has always had inaccurate explanatory worldviews (inaccurate in comparison to those of science), maintained because of the second criterion of legitimization of belief, namely, comfort?

My prediction is that they will have already given up the requirement that the explanatory world views of their various religions have any accuracy, and as such they will not regard them as

beliefs, but rather as **pseudobeliefs**. If we recall from the chapter on Rational-Ethical Belief Management, pseudobelief is "belief" (a model of something about the world) that is regarded by a "higher level," "supervisory" belief as **not** being accurate and therefore as **not** being appropriate for use for decision-making, but that nevertheless may be activated for the **effect** that doing so has on the **motivational states**, and therefore **feeling states**, and therefore possibly even **quality of life**, of that individual.

My prediction as to what will happen is that the following attitude toward religious explanatory worldviews will develop and be maintained.

First, they ("Homo rationalis") will recognize that such inaccurate explanatory worldviews are a **normal and natural** part of the **development**, not only of our **species** in general, but also of each of us as **individuals**.

It is a part of our basic animal nature that we develop beliefs, models of things about the world that guide our decision-making, and that those beliefs vary with regard to accuracy. Both **accuracy** (producing thereby successful behavior) and **comfort** (producing thereby a better feeling state) reinforce, or strengthen, those beliefs. As life experience continues, **new, more accurate beliefs are acquired**. This process occurs for any animal, and enables the animal to get better and better at doing things. What is true of us humans is that we have drastically improved on this process by the use of our rules of logic and rules of evidence ("rationality," as used in this book), made possible by our ability to model our beliefs with symbols, especially language.

In other words, not only has our species, only with great difficulty, gradually become more rational (developing beliefs consistent with the rules of logic and the rules of evidence), but also all of us as individuals have only gradually, and with much effort, overcome the nonrationally derived beliefs of our infancy and early childhood, many of which have been reinforced by the comfort that they have produced. Thus, nonrationality is a **normal and natural** part of ourselves, and actually is much, much more a part of our nature than is rationality. Nonrationality is **what we all have begun with**, as a part of our **basic animal nature**. No other species, and no human infant, has as a natural part of itself any knowledge of or any tendency to use the rules of logic and the rules of evidence. These rules have only been arrived at by our species relatively recently, such recognition of them, and the increasing ability to use them, being the **second exponential change**, making us drastically different from all other species and from the way we were before this change accelerated (the acceleration occurring over the last two or three thousand years, and especially over the last few hundred years).

Furthermore, the **inaccurate beliefs** that we have acquired in infancy and early childhood **continue**, as we have noted, to be present in our brains, though to a great extent atrophied from disuse as more accurate beliefs have been acquired and reinforced by success in decision-making. Since these earlier beliefs, often associated with various (positive and negative) motivational states (and therefore "feelings"), still exist within our brains, it is possible for them to be **reactivated**, either by a **kind of situation**, or by a **specific effort** to do so from a more supervisory part of the brain.

And it is because of the existence of these beliefs, and of our ability to reactivate them, that there exists much of the **richness** of our emotional lives and of our ability to communicate with each other emotionally (reliably produce motivational states in each other).

Our various moods and emotional responses, often quite difficult to explain, are being produced in part by the mild activation of those primitive beliefs (both accurate and inaccurate). The emotional connotations of our language, allowing for "moving" prose and poetry, and the emotional appeal of art in general, arise in part due to the "background" activation of such beliefs, as do the eerie, nostalgic, sad, and anxious feelings we get in certain settings.

It is by virtue of our ability to use symbols that we have the ability to achieve greater **empathy** with each other (and even members of other species), especially by **sharing** our internal experience (thoughts and feelings) with each other through prose, poetry, and other forms of art. And it is by virtue of such empathy that we have the greatest capacity to understand each other and to **bond positively** with each other and resist some of the other tendencies that are also a part of our basic animal nature, that cause so much pain, suffering, disability, and early death, such as judgmentalism, anger, hostile behavior, revenge, punishment, killing, etc. So our ability to activate within ourselves our more primitive and inaccurate beliefs, long ago discarded perhaps through education and successful life experience, foster our ability to understand and bond with each other such as to cause us to treat each other well.

The ability to make primarily good decisions based upon a high level of rationality should in no way rule out the ability to experience the reactivation (as pseudobeliefs) of some of our earlier, nonrationally acquired, beliefs, even though they may not be as accurate as those that have taken their place in decision-making.

This same attitude ought to be appropriate with regard to the differences between cultures and with regard to the nonrational aspects of cultures. It would be unrealistic and even unfortunate to have the expectation that ultimately all cultures would become the same, by virtue of their containing only those components and characteristics that were found to be completely consistent with accurate belief. In fact, it is the interaction of **differences** between people that tends most to produce spontaneous **creative** products. Individuals often feel quite enhanced and deepened by virtue of a visit to another culture. And the **sharing and comparing of ideas** is most productive when the ideas **differ**.

To turn against and feel bad about that which is a normal and natural part of ourselves would be to reduce the quality of our lives. Instead, I believe that "Homo rationalis" will look at religious explanatory worldviews as a normal part of our cultures, and will look at them as our best efforts at the time of their origins to help ourselves live better lives. Since they have had this function, they will be looked at as aspects of ourselves that, if studied, will help us to **understand** ourselves and each other better, and thus help us to live more empathetically and harmoniously with each other. Such an attitude would be exactly the same as the one in which we look with positive regard at the first efforts of children to attempt to master the very complex and confusing world into which they have come. An example might be the comfort a small child feels when close to his or her stuffed animal, this certainly being a phenomenon that would not produce negative judgmental behavior on the part of the adult toward the child.

What "Homo rationalis" will **not** do is regard these religious explanatory worldviews as being subject to evaluation as to whether they are "true" or "false," or "accurate" or "inaccurate."

But they will also realize that there is no guarantee that all of the pseudobeliefs within those explanatory worldviews will necessarily have a beneficial effect. In fact, we witness today that religions, in addition to all the good they do, also sometimes cause some individuals to feel bad about themselves because of the negative, and even punitive, attitude that those religions promote toward aspects of ourselves that are normal and natural. (This has happened because the religions have also served the function of social control, and have operated according to the naturally occurring belief, prominent in the standard model of child rearing, that control can be provided optimally by the threat of, and actual administration of, punishment.) There is much self-hatred that is derived from certain religious explanatory worldviews. In other words, **these religious explanatory worldviews can have both good and bad effects**.

Because, in the time of "Homo rationalis," belief will no longer be required as an act of obedience, and the explanatory worldviews will no longer be required to be thought of as accurate, there will be much more of an emphasis upon understanding the "evolution" of the explanatory worldviews, reflecting our acknowledgement of the efforts of those who have gone before to make the world a better place, however imperfect such efforts may have been.

So as our species continues to make this transition toward becoming "Homo rationalis," we will have much more capability of **changing** our religious explanatory worldviews, since they will be regarded as pseudobeliefs. Within each religion, it is likely that certain aspects of its explanatory worldview will be found less and less useful and will therefore be less and less utilized, in favor of those aspects that indeed foster the ultimate ethical principle. Certain religions may be more amenable to such improvement or "evolution" than others, of course, but with the passage of time and the cross-fertilization of religious thinking brought about by an increasing ability to engage in discussion and friendly debate, probably all religions will become able to engage in this process of growth. The idea that there is a deity who is imperfect, but is in collaboration with us to become better, found in some "process theology," would be such an example of a religious explanatory worldview becoming more flexible and perhaps more useful.

We might ask how such a transition could occur, since so many of us take our religious explanatory worldviews literally and feel such a strong need to maintain them. I believe that as we continue to move toward recognizing the importance of accuracy of belief in our decision-making, we will simply cease to accept decision-making based upon belief for which there is no evidence or for which the preponderance of evidence seems to be contradictory. On the other hand, we will have no need to try to convince someone that his or her beliefs are erroneous unless it seems that the person is using those beliefs in decision-making (especially if detrimental to others).

Thus, whether a person is a member of a specific religion will be unimportant to others. It might be that certain religions will focus more on certain specific problems faced by our species, or faced by certain geographic groups or groups with certain demographic characteristics. But all of them would be attempting to promote the rational-ethical ultimate ethical principle. Taking this approach, the explanatory world view of a particular religion would be regarded more as art, but art with a purpose, namely, the fostering of deeper understanding about our species, as individuals, as groups, and as a whole.

So we have looked at **three major differences** between the religion of Homo rationalis and that of ourselves.

First, **belief as an act of obedience** would no longer be expected.

Second, **becoming acquainted with many different religions** would be seen as valuable, because doing so would produce greater understanding of ourselves as a species.

Third, each religion would be able to look at various aspects of its explanatory world view with the question as to whether there could be any **improvements** that would enable it to help more in deepening the understanding of our species, while at the same time not needing to believe that the explanatory worldview in question is accurate.

And I believe that the reader will agree that these three changes are already occurring to some extent among certain groups of us on this planet, this being another example of the early acceleration of the third exponential change.

It is interesting to consider the phenomenon of **postmodernism** in this regard. The main thesis of postmodernism is that **agreement is not important**, since there presumably is no such thing as truth other than opinion that works for the individual. This certainly could be said to be true for pseudobelief, and if confined to pseudobelief, then there would be no problem. With regard to belief, however, as we have seen so far throughout this book, accuracy of belief is crucial for good decision-making. And agreement regarding accurate belief is what allows us to accomplish things. Postmodernism, then, would seem to be only a step along the way toward getting away from belief as an act of obedience, but certainly not what should be our final resting place. One should always assume, till proven otherwise, that there is a more accurate belief that could be attained, even though it may not be possible at a given point in time to determine what that more accurate belief is. It is the philosophical assumption that there is indeed a most accurate belief that can be attained that allows for and promotes the search for it, and that therefore **promotes increasing accuracy of belief**. Postmodernism is an understandable development, but certainly not an ultimate answer.

So for Homo rationalis, religion will not only promote accuracy of belief (and awareness of the importance of science) and optimal decision-making (through accurate ethical belief), but will also provide a milieu in which pseudobelief is explored for the purpose of optimizing subjective feeling and enhancing mental hygiene, and for the purpose of promoting empathy, mutual understanding of all individuals and cultures, and good quality of life for everyone, and it will be in this context that all religious explanatory worldviews will have potential value, when used wisely, in promoting the good life for everyone.

We have looked at **two major functions** that have so far been performed by religion, namely, the **optimization of ethical belief** and the **acquisition and provision of an explanatory worldview**. And we have discussed how "Homo rationalis" will cease to expect religion to perform this second function. But religious organizations have always had **even other functions**, and I predict the same will be true during the time of "Homo rationalis."

Another function already provided by religious organizations is the extension of **community**. Family or household groups and neighborhood groups consist of a relatively small number of individuals that any one individual might have from which to form significant-other relationships. And in some parts of our world currently, there is very little left of geographic communities of individuals who get to know each other well. My prediction is that the religious organizations will increasingly serve this purpose of providing an extended community for the individual. I believe that the religious organizations will be a primary (but not the only) resource for the individual's need for a community of acquaintances. I would predict that the religious organizations will be a major source of **recreation, entertainment, artistic fulfillment, and social interaction** (including **social support** during distressing times and crises), these being functions indeed already carried out to some extent by religious organizations.

Another function of religion, consistent with the ultimate ethical principle, will be the identification of individuals and groups that somehow are at a **disadvantage** with respect to the majority of others, and will be the development of ideas as to how to bring about **improvement** for them. Making the world a better place for everyone would be the goal, consistent with the rational-ethical ultimate ethical proposition. And it would be by virtue of accuracy of belief about the way the world really is that optimal decisions would be arrived at as to how to achieve this goal. So religion, again, would make use of belief consistent with that obtained through science in its efforts to be of help to the disadvantaged. Probably the development of discussion groups within each religious organization would be the most basic method, with then communication between those groups and other such groups in other religious organizations for stimulation of ideas and for coordination and enhancement of effort. Also, efforts to understand better the disadvantaged would be promoted by specific interaction with them. The ideas developed through such efforts would be fostered and implemented through appeal to volunteerism (within and outside of the religious organization), private enterprise, and government. And again, we already see this function being present in current religious organizations, at least to some extent.

Another function of religion would be the **optimization of culture**, or the reduction and eventual elimination of **cultural victimization**.

Cultures are built around and maintain ethical beliefs about how to live life. Such beliefs can be expected to vary from culture to culture, and to vary within a culture over time. It is not surprising, or inconsistent with our observations, that cultures can indeed cause pain, suffering, disability, and early death. In fact, the extent to which this is true currently is enormous. I use the term, "**cultural victimization**," to refer to the processes whereby individuals do indeed undergo pain, suffering, disability, and early death because the culture contains beliefs that foster decision-making that produces such outcomes, while also causing those individuals to fail to recognize that they are victims, because the **culture defines the behaviors** that produce these bad outcomes as **appropriate** and even at times **heroic**.

Not only do our current cultures tend to **reduce our ability to empathize with members of other cultures**, but each culture therefore tends to promote the belief in its members that other cultures represent a **threat** to the survival and well-being of the individuals within the culture, promoting thereby a tendency toward "**culture wars**," or **war in general**. Thus, the individuals who undergo pain, suffering, disability, and early death because of these "wars" are therefore victims of those cultures.

But victimization also occurs **within** a given culture.

Note that, in looking for examples of cultural victimization, usually one has to look inside other cultures than one's own. It is relatively easy to see cultural victimization in other cultures, but one's own culture has made such behavior an accepted and even valued way of life. In my own culture, it is relatively easy for someone watching wide-eyed children being indoctrinated with the heroism involved in their one day becoming a suicide bomber, or for someone hearing about young girls' demands for sometimes even fatal genital mutilation, to regard with sorrow what is happening to those individuals. But within my culture, it is very difficult for anyone to take seriously the enormous pain, suffering, disability, and early death brought about by the adding of pure fat to almost everything we eat.

It seems that some religions have an unusually strong tendency to victimize their adherents (though the individuals would never regard themselves as victimized). Many religions are very **judgmental**, having strong beliefs about how bad certain natural behaviors, and even characteristics, are, causing the individuals adhering to the religion to experience terrible **guilt and self-loathing**, as well as to experience extreme **fear** about how a deity, or the cultural representatives of that deity, or other adherents to the religion's explanatory world view, will treat the individual. There are many individuals who suffer tremendously because of their religiously incurred guilt and shame in response to their own naturally-occurring, harmless thoughts. Many individuals avoid serious relationships with others who have different religious beliefs, and relationships that could otherwise be fulfilling and health-promoting are at times eroded or simply destroyed by such differences. And our religions pressure individuals into situations that almost predictably will be problematic, as for instance the expectation that two individuals getting married will promise to feel the same way toward each other for the rest of their lives and to remain married to each other till death, no matter how unsatisfying the relationship has become.

And this is true despite the fact that many religions also do much to promote harmony and benevolence toward others. (The same religion, though, that can be immensely supportive to its own adherents can be quite distancing and hostile to outsiders.)

Such problems are the legacy of our nonrational past. However, we are slowly but surely beginning to gain control over such nonrationality. We are beginning to get beyond our own cultures and are beginning to see ourselves as a **unified species**, unified against those things that come naturally but are not good for us, such as certain kinds of nonrationality and certain other aspects of our basic animal nature that have been focused on in this book.

Of interest currently is the great debate that takes place regarding whether religion should be a part of government or not. I believe the reader can see that "Homo rationalis" would see religion as just as necessary a component as science in the decision-making that government performs. Religion would help determine what we should do, and science would show us how we can do it. But this is because "Homo rationalis" will no longer have nonrational religious beliefs that divide our species and turn us against rationality and against each other.

"Homo rationalis" will look at religion as the societal institution that most raises us **above** our basic chimpanzee nature, such that we are able to promote not just our own survival but also, at long last, the **good life for everyone**.

I wish now to predict how "Homo rationalis" will respond to two highly valued concepts, or sets of beliefs, that exist in many of our religions today, namely, **spirituality** and **faith**.

Within my culture, there is a fairly strong preoccupation with the concept of "**spirituality**." The word itself is one that is believed by almost everyone to pertain to a good thing, even though there is not agreement as to what it actually means. Many regard themselves to have it, and they see themselves as better off than others who don't have it. It appears primarily to refer to an outlook, or set of beliefs, that produce some **highly valued feelings**, the outlook having to do with the way the world happens to be, at least according to the beliefs of the individual using the term.

Frequently, what the word refers to is the belief in the existence of a set of phenomena **not yet identified by science**, but presumably having quite an effect on the quality of life of the individual.

The **most important component** of what is called "spirituality," I believe, is some set of beliefs that cause the individual to **feel less existentially alone**. There may be the belief that **people that one has cared about** but have died, or are no longer present, are indeed **still present** and even **thinking** about the individual. Another belief is that the individual is being **paid attention to** by a **deity**, usually that is benevolently concerned about the individual. Some spirituality involves a feeling of **merging** with either all other individuals or with all that is, such that feelings of separateness and loneliness are avoided and a feeling of euphoria is usually attained.

Another aspect of "spirituality" may be **appreciation**, used here to mean the recognition that one's welfare, good feeling, or quality of life has been or is contributed to by that which is appreciated, producing gratitude or its equivalent positive feeling. This feeling of appreciation may extend to the gratitude that there is something rather than nothing at all, and that one has had a chance to be a part of that something, that is, a chance to "be alive."

I believe that "Homo rationalis" may use the term primarily to refer to our potential for **concern and caring about each other and about doing the right thing**, as well as our feeling of **appreciation** that we are indeed participating in this wonderful existence. Thus, the meaning of the word would have more to do with what we mean by "spirit" in "the human spirit," or "a spirited discussion." Spirituality may come to mean attention to the optimization of one's attitude toward life, perhaps not distinguishable from "mental hygiene."

The reader should note that, as was clarified in the chapter on "Basic Methods in This Book," there is a tendency to assume that if there is a word, then there must be an entity in the world to correspond to it. Indeed, there is a very strong tendency to believe that there is an entity, "spirituality," that actually exists, at least in some people, and a tendency to be judgmental with regard to whether individuals have it, rather than it simply being a word that has been long used to refer to many different, somewhat difficult to describe phenomena. There is thus indeed a tendency for the word to be a part of a kind of cultural victimization, as individuals feel coerced and judged according to whether they can have the word applied to themselves or not. I believe

"Homo rationalis" will have learned how not to engage in such victimization, while retaining the obvious good that is inherent in many of the meanings of the word.

Faith seems almost universally to be regarded as a good thing. It appears to be a particular subset of belief that people are urged to engage in. If one looks very carefully, however, at what is being referred to, it seems to be the very opposite of what "Homo rationalis" would believe was the right thing to do. Faith appears to be **belief in the face of evidence to the contrary, sometimes as an act of obedience, maintained by closure of the mind**. And we have a history of requiring that individuals give evidence of their compliance with the mandate to have faith, reinforced by the severest of punishments, even death. Let us take a look at each of the parts of the proposed definition of faith above.

That faith is belief **in the face of evidence to the contrary** is indicated by the fact that **effort** seems to be required to engage in it. The more that there is evidence for a particular belief, namely, examples of predictions produced by the belief turning out to be correct, the more likely are we to have that belief. When predictions produced by a belief turn out to be different than what happens, this being "evidence to the contrary," confidence in (the strength of) the belief tends to diminish. However, as we have already considered, there is another major determinant of what we believe, namely, how the belief makes us feel to have it. We tend to believe that which makes us feel good, or less bad. As we covered in the chapter on belief management, our species has always had the **two** major criteria for legitimization of belief, **accuracy** and **comfort**. And it is the second criterion that is not only the obvious source of much good, but also, unfortunately, the most prominent source of most of the bad that our species creates by virtue of decisions that turn out to be mistakes. So, as the reader knows, I am making the assumption that "Homo rationalis" will make use only of the first criterion for the legitimization of belief. (They will, I predict, make use of the second criterion for the choice of pseudobelief, but they will avoid making decisions on the basis of pseudobelief, this avoidance being a very poorly developed skill so far for our species.)

Now, as I mentioned earlier, many would currently say that the **domain of the beliefs** that are maintained through faith are ones for which there is **no evidence one way or the other**, and for this reason we should **feel free to have such beliefs**. However, we can ask whether there really is no evidence to the contrary. If no prediction at all can be made on the basis of the belief, then according to the definition of belief used in this book, the belief would seem to be without meaning. However, if predictions can be made on the basis of the belief, even if there has not yet been found a way of testing those predictions, then the belief would have some degree of meaning. A simple example would be to look at the belief, "The first time I flip a coin tomorrow, it will turn up heads." Until tomorrow, there would be no way of testing the belief (other than looking at whether it is logically consistent with other beliefs for which there is indeed evidence). But what we say in such a case is that the **odds** of the belief being correct are one divided by the number of possibilities, in this case two. Thus, the odds of the belief in question being correct are only 0.5. Now what about the odds when there are more than two possibilities? If the odds are less than 0.5, surely we would say that the belief was **more likely to be incorrect** than correct. And of the beliefs that we are talking about when we refer to faith, there are generally many different possibilities to choose from (perhaps essentially an almost infinite number). So in such a case the odds of just one of these many alternative beliefs being accurate are very low, and thus this "lack of evidence one way or the other" is really "evidence to the contrary."

Faith sometimes being belief as **an act of obedience** is I believe evident if we take a look at what actually happens. Faith, being considered good by those advocating it, is often proposed as an ethical responsibility. In other words, not having faith is sometimes disapproved of by those advocating it. We are all to some extent sensitive to disapproval, an unpleasant experience. (The belief that others disapprove of oneself usually produces an unpleasant motivational state.) Thus, there is some motivation to "engage in having faith" (activate a particular belief) simply because of the wish to conform to the wishes of others (what others want one to do). Beliefs of the nature we are talking about, that involve "faith," are generally ones proposed to the individual that he or she "try to believe," and are ones important to that particular culture or subculture. But if an individual does not believe what is being proposed, this is to some extent evidence (certainly of low quality, of course) to others that the belief may not be accurate. This evidence to the contrary tends to reduce the confidence that the others have in the belief. Since the belief is being maintained and advocated by these others usually for **comfort**, then the reduction of confidence in the belief tends to produce **discomfort**. The individual providing such evidence is then seen as **causing others discomfort**, and this discomfort often results in the others in turn causing discomfort in the non-believer. In some cases, we know that the individuals in a given culture can engage in markedly **punitive** behavior toward the non-believer, sometimes even murder or execution, so that there is indeed sometimes strong motivation to activate certain beliefs as an act of obedience.

That faith is maintained by **closure of the mind** is evident when we look at what the effort is that is involved in the maintenance of faith. As we have noted, evidence against the belief, either the failure of predictions to turn out to be what actually happens or the logical inconsistency of the belief with other beliefs considered to be accurate, must be avoided, that is, not experienced. So the individual often must **actively inhibit** the activation of beliefs to the contrary, and therefore must **avoid the experiencing of situations that activate such beliefs to the contrary**. It is not at all unusual for the advocates of acceptance of a belief "on faith" to recommend to the individual that he or she avoid interaction with those that do not have the same belief, or at least avoid discussion of the belief with such persons. Such non-believing persons are sometimes shunned, and even have been considered enemies that need to be fought, driven away, or killed. And sometimes the individual is encouraged to **avoid even thinking about** the issue (contemplating or activating alternative beliefs for the sake of comparison). The phrase "leap of faith" is generally referring to belief without thought (without consideration of the alternatives). The phrase, "closure of the mind," usually refers to any such inhibitory and/or avoidant activity.

There is a widespread belief among us currently that the giving up of faith is not only a **bad** thing, but an **impossible** thing for most people, and certainly an **inappropriate** expectation of the population in general. The primary reason for this is the prediction of the amount of **suffering** that this would produce. All of the comfort produced by faith would be lost, and for many the discomfort would presumably be intolerable, perhaps even leading to suicide. And whether this is so or not is certainly not immediately evident.

As I write this, I even consider the question as to whether it is ethical to raise such questions. Certainly, if what I am proposing as a good thing will actually ultimately cause more suffering than not doing so, then proposing it would be unethical. However, I look at certain things that are reassuring to me.

For instance, when I look at the amount of bad (pain, suffering, disability, and early death) that is produced by decisions based upon beliefs maintained by closure of the mind, simply by reading the newspapers or viewing the news, and making observations of those around me, **I cannot believe that the amount of benefit of such closure of the mind at all compensates for the enormous amount of bad that the same phenomenon produces**.

If only there were ways in which to identify those examples of faith that produced only good, and to identify and avoid closure of the mind that resulted in bad, a very great problem would be solved. However, as far as I can tell, there is no way to make such a distinction. We have seen that even religious organizations themselves have at times promoted faith that ultimately has had terrible effects. There is no authoritative source for knowledge as to which faith is good and which faith is bad. An individual might look at the beliefs of another person, and compare them to his or her own, and say that it is obvious that the other person's beliefs (faith) are bad, because of the consequences of having that faith. However, as we all know, the other person would be maintaining that the apparent bad consequences of his or her own faith are not actually bad, but simply necessary accompaniments of the ultimate good produced by his or her own faith. So here are two different opinions, or beliefs, which, unless subjected to the criterion of accuracy, can both be equally legitimized. This is why "Homo rationalis" will decide, I predict, that only the criterion of accuracy should be utilized to legitimize belief (remembering, of course, that the criterion of comfort can still be utilized for pseudobelief).

But the question remains as to whether giving up of faith is even **possible**. Is it perhaps true that the problem is insoluble? Are we perhaps always going to have much pain, suffering, disability, and early death due to inaccurate beliefs that people are simply unable to give up?

Again however, I look with some reassurance at the evidence that there are some of us who apparently do not require faith in order to feel okay, at least according to what they report. (There is indeed a problem with this evidence, however, in that just because an individual states that he or she does not have a faith, as usually defined, does not mean that the individual is not, in order to maintain comfort, maintaining at least some beliefs in the face of evidence to the contrary.)

But as far as I can tell, the most difficult of all beliefs to contemplate having is the belief that when one dies one ceases to exist. An enormous amount of comfort is derived from the belief that one will continue to be consciously aware after death, and, secondarily, that others that one has known and cared about will still maintain some sort of awareness of oneself, and vice versa.

And yet again my observation is that many individuals indeed have lived much of their lives without such a belief. I know personally that I have felt bad by virtue of my belief that there is no "afterlife," but I do believe that I have accepted this as most likely, and doing so has not interfered with my being extremely grateful for my experience of living, nor has it interfered with my joy, appreciation, and contentment, or my productivity. If anything, I believe that I appreciate this opportunity of existing even more because of my recognition as to how temporary, conditional, and arbitrary it probably is. And I believe it has made me feel even more the importance of doing it right.

And one has to wonder to what extent the extreme importance to an individual of belief in an afterlife is dependent upon having been **so confidently taught** this belief in **childhood**, by adults

to whom the belief was so important also. Is it possible that, in a culture that did not contain a belief in an afterlife, children could get through childhood satisfactorily without such a belief, and could become adults who felt quite comfortable not so believing?

The question certainly could be asked as to whether the belief in an afterlife really does make things better. I believe that it is possible that if we did not have such a belief, we would have **more** tendency to make life as good as possible for one another. For instance, perhaps we would feel a **greater obligation** to let a person who was dying know that he or she was valued by us and that we were not going to forget about him or her, either before or after his or her death. There might indeed be a **greater closeness** accomplished between the dying individual and those who are important in that individual's life, prior to the person's death, if the current life were not somewhat devalued by the comparison of it to some even better afterlife. One wonders, also, whether at times the belief in an afterlife helps those who are remaining to feel less guilty about an insufficient effort to treat the person well during his or her life.

But I certainly do not believe that there is a reason for me to try to convince others, who derive much comfort from their belief in an afterlife, etc., that they are incorrect. It would only be if I were to come to believe that there was a direct connection between their belief in an afterlife and some result that was detrimental to the good life for them and/or for others that I would feel any obligation to discuss the issue with them. If they were to try to convince me, I would be grateful for the effort, and would listen for the evidence in favor of the belief.

My best bet is that as time goes on, and as the valuing of accuracy of belief grows stronger, fewer and fewer individuals will feel the necessity to have beliefs maintained by closure of the mind.

I have at this point given my best guesses about how "spirituality" and "faith," two key concepts or words that are associated with religion today, will be viewed by "Homo rationalis." These are guesses logically derived from my prediction as to the main, defining characteristics of "Homo rationalis," especially their extreme valuing of (ethical belief in) the seeking of accuracy of belief. Language, of course, changes over time, and words acquire different meanings. I have mentioned that "spirituality" may persist as a word, having a somewhat different meaning, consistent with the values and ways of thinking of "Homo rationalis." It may be that "faith" will persist, also, and rather than continuing to refer to a phenomenon that may become regarded as non-optimal, perhaps it will increasingly be used to refer to pseudobelief. The word certainly sounds a little better. So it might come to pass that everyone would acknowledge and accept that most individuals would have some sort of faith, but there would also be the understanding that faith would not enter into any decision-making.

At the beginning of this chapter, I said that I would be looking at **how** "Homo rationalis" would, within their religion, work toward **optimization of ethical belief**. In other words, what would be the set of activities or procedures within their religious institutions that would specifically be designed to achieve this goal?

It is very difficult for the brain to change itself from within. In other words, what is so important in the development of more and more optimal and accurate beliefs is the provision to the brain of **experience** that opens up new pathways or stimulates new thinking. And what therefore most promotes the development of more and more accurate belief is the effective **sharing and**

comparing of beliefs that two or more individuals have who have **different beliefs**. We are, of course, referring in part to "**friendly debate**," described earlier in this book. It therefore seems obvious that an important part of any religious institution would be the provision of **discussion groups**, dialogue among and between individuals, involving individuals both within the organization and from other organizations, designed to involve friendly debate. Of course, this is a very poorly developed skill on the part of our species currently. To a great extent, we specifically avoid sharing and comparing of ideas, except for very specific times and places designated for doing so, and then those discussions usually are rather disorganized and disappointing, often with the impression being that nothing useful was accomplished, especially since no one changed his or her mind. And indeed, one seldom sees individuals changing their minds in such discussions.

However, as our species continues to undergo the third exponential change, to rational ethics, the experience of **children** within their **families** will increasingly involve sharing and comparing of ideas in a friendly manner, as opposed to the naturally occurring tendency toward simple promotion of obedience, reinforced by punishment and reward, and they will therefore grow up with the **skills** necessary to be involved productively in such discussions. My prediction, therefore, is that the religious organizations of "Homo rationalis" will have many ongoing discussion groups involving friendly debate.

Of course, this process will be aided by the increasing availability of information, and the increasing ease with which individuals can find others with whom to have a meaningful discussion. Our **information and communication technology** will play a very important role in religious optimization, just as it will in optimization of government.

And of course the religious professionals will, as they provide "**services**" for the members in their organizations, promote through teaching and modeling for identification the extreme value of **openness of the mind** and the valuing of **accurate understanding** of the nature of the world as a necessity for good decision-making in the effort to make the world a better place.

But more than any other factor, promoting this optimization of ethical belief, will be the strong **ethical sense** associated with the **belief** that **we should do the right thing** in behalf of **everyone**, of our **species**. According to my vision of (set of predictions about) the time of "Homo rationalis," everyone will be familiar with the rational-ethical ultimate ethical principle, and although there will be an openness to acquiring one that is even better, my prediction is that none other will ever be found. I myself can imagine no better one, though I wait to hear of one.

I would now like to discuss some issues regarding the **transition** to rational-ethical religion.

We tend to think that favorable change is brought about by conflict, battle, and winning. It would be tempting to imagine a new religion starting up in competition with all of those that are currently present, with this new religion gradually demonstrating its superiority to all the rest, and putting all the rest out of business. I do not believe that that is a viable or optimal process. Instead, I believe that **all religious organizations** will increasingly have members who are more prone to understand and value rational-ethical religion. I think that such individuals will gradually bring about the above-described changes **within** their own religious organizations. Of course, some may migrate to other religious organizations, but this would not be the normal process.

Furthermore, I believe that the primary locus of change will actually be **within families of individuals** who have become interested in and have come to value these concepts, not within the religious organizations. Especially, I would expect to see **children** growing up more and more prone to being dedicated to rational ethics. And so religious organizations will primarily be changed from within, by their adult and child members. Of course, however, the religious organizations in turn would be of help to those within the organization who were having greater difficulty with the transition, and so, in this way, the religions would be promoting the third exponential change. This reverberation between individuals and organizations is part of what will cause the **exponential** nature of such change, I believe.

I believe that this transition is **already occurring**. I note fairly frequently people commenting that many individuals in a fairly fundamentalist religious organization simply go along with the formalities and rituals of the organization, only privately giving evidence of not sharing some of the beliefs expected by the organization. Thus, perhaps any religious organization ultimately will allow individuals to be members, even though such individuals are at varying points along the road to rational-ethical religion. There may be a gradually shifting emphasis upon "doing good works," rather than obediently believing. As this process occurs, I believe there will be less tendency for individuals within religious organizations to be critical of those that, privately, are found not to adhere rigidly to the "creed" of the organization. Increasing emphasis will be placed upon how the individuals live their lives, rather than what they believe with regard to their specific religious explanatory worldview.

At present, I believe the process representing the third exponential change will be occurring primarily **among scattered individuals**. It will yet be some time before any processes within religious organizations begin in any obvious manner to reflect this change in culture. It is possible that such changes will be more likely to occur in the more liberal religious organizations first. I believe that the first changes that will be observable in religious organizations will be an increased tendency to discuss and debate issues related to the traditional beliefs maintained and encouraged by such organizations, with increasing tolerance of such discussions within those organizations.

But I wish to call to the reader's attention what a **drastic change in religion** this transition will have involved. Nevertheless, the third exponential change has already been accelerating significantly, and although we still see people getting killed for their religious beliefs, and although we still see religious beliefs motivating individuals to kill each other, if we compare the world now to the world over the past few hundred years, we see the beginning growth of religious tolerance, benevolence, and desire for mutuality.

It will be by virtue of the reader, and others like him or her, increasingly **advocating** for the transition to rational-ethical religion that such a transition will occur. And it will be by virtue of the reader's advocacy, and that of others like him or her, that the change will occur earlier rather than later, and that, since the change is **exponential**, perhaps millions of people will be spared pain, suffering, disability, and early death by such advocacy. The reader is faced with the decision as to whether to be one of those who advocate for the transition and therefore potentially have that kind of impact, or to be one of those that will wait for someone else to do the work.

I, for one, am doing my part, out of tremendous gratitude for what my species has done for me.

WHAT THE READER SHOULD DO

Up until well into the writing of this chapter, I had assumed that its title would be "What the Reader Can Do." However, I have come to realize that this chapter is stating more than an existential belief about what is possible, but instead is advocating for what I believe we **should** do. This book is basically a religious book, concerned with how we should live our lives. Therefore, I have changed the title to the above.

If the reader has indeed read this book in the order in which it is written, and has now arrived at this chapter, I believe the reader is quite special. The reason that I believe this is that I have had the experience for several years of offering this developing book to individuals to read, with very little success. The reasons they have given for not reading the book have been quite varied and creative, but unconvincing. But why should this book indeed be so avoided that I have at times said humorously to others that I have created "the unreadable book"?

To me, the reason seems obvious. This book is saying something that few want to believe, namely, that we, including these non-readers, are just talking, hi-tech, angry chimpanzees, if we look at our potential, at who we can and should become, and at how awful our existence is compared to what it could be, and that the answer does not lie in getting **others** to live like **us**, but in getting **ourselves** to live like we really **should**.

In other words, this book is calling the reader to **action**, but that action is not to strive to change others, but to strive **to change the self**. The ultimate goal is for everyone to change, but we are talking about all of us changing **to what we have never been**.

The reader might well ask, "Well what is so hard to accept about that?"

I have found that the hardest part to accept of what I am writing about is **the idea that we can indeed become drastically better than we are now**, that we can stop doing all these terrible things, that we can indeed live much, much more optimally. I am told repeatedly that we will always be the way we are, because that is our "human nature." And why is it so **important** for people to have this seemingly rather **pessimistic** belief? I believe that the problem is what happens to us when we see something about ourselves as being less than optimal. In the terms of this book, to behave in a manner less than optimal is to make a **mistake**. And for us, making a mistake is often quite **painful**.

And we know **why making a mistake is so painful**. As pointed out in the chapter on Rational-Ethical Child Rearing, in our natural (authoritarian-ethical) model of child rearing, we **punish** children when they make mistakes, the idea being that if we make the making of mistakes adequately painful for the child, the child will avoid making them. The problem is that we are left with a strong tendency to feel pain, that is, to **punish ourselves**, when we believe that we have made a mistake. And the best way to avoid feeling that pain is to **avoid believing that we have made a mistake**. I assume that the reader has already observed the difficulty of attempting to help another person see that he or she has made a mistake, and has also observed the almost universal response to the acceptance of having made a mistake, namely, some verbalization of the fact that the person is experiencing some **pain**.

And as this book has attempted to convey, we humans have a **second criterion for the legitimization of belief** (in addition to accuracy), and that is **comfort**. So it is more comfortable to believe that, yes, we (especially "they") do indeed make mistakes, but that is our "human nature" ("to err is human"), and that **since we can't do any better, we really don't have any reason to focus on the mistakes**.

In other words, we use the depressive defense. We say that we will never be basically any better, so why distress ourselves by trying to make ourselves better? "This is as good as it gets." "We shouldn't be so hard on ourselves." "Nobody is perfect." So let's just not try.

And then we help each other out by agreeing with each other with regard to the beliefs that are most comforting. That set of agreed-upon beliefs is a part of our culture. We know the "right" way to live, the "right" things to believe. And we know that we have to protect our culture from outsiders who might try to change us, to destroy what we cherish. So we have to be loyal to our culture, and not do anything to weaken it. Those who choose to question it may be helped to see the error of their ways, but if they persist, then perhaps they should be avoided, ostracized, or even killed.

Of course, we see a **gradual change toward "respect for diversity."** We are seeing that we all have to **share** this planet, and that we are going to have to find ways to **work together** for the benefit of all of us, rather than continuing to fight for the ascendancy of our own cultures. So there is a growing tendency toward "live and let live." And in fact some of us are saying that we can indeed benefit by **comparing our cultures** to see what the basically good things are, without making the assumption that our own culture is the best. But this change is fairly recent and fairly small. And we tend to allow this kind of thinking primarily in those areas that do not encroach on our own sets of comforting beliefs too much.

So if the reader has indeed read this book in the order in which it is written, he or she has been willing to challenge all of his or her ideas at least to a certain extent, and in so doing is questioning his or her culture; and that, in my opinion, makes the reader special, certainly unusual.

But if the reader is really understanding how wonderful a future our species conceivably has, if it can accomplish getting beyond its basic animal nature, then I am assuming the reader is experiencing some **obligation to try to bring this future about**, even if he or she will not be around to see it. That certainly is my motivation in writing this "unreadable" book. If I can do anything at all to help our species achieve this better way of life any sooner, then I may be helping a large number of people experience much more joy, appreciation, and contentment, with much less pain, suffering, disability, and early death.

But the first question is whether the book is correct or not. The fact that I believe it is certainly is not much evidence that it is. As has been noted, we humans can believe essentially anything (and frequently do). So **what should be done**? Obviously, the ideas of the book should be subjected to the rules of logic and the rules of evidence. The brain being the way it is, thinking about something over a long period of time makes it easier and easier to do so. My brain has been thinking about all this for a very long time. So fresh brains are needed. The reader has one of these, and I hope that I am convincing him or her to become interested in this project.

So the reader is asked whether this book seems to make sense, that is, appears to be logical and seems consistent with what the reader has come to learn are the findings of our most meticulous examinations of the world, examinations that utilize the rules of logic and the rules of evidence.

If so, the reader can do **two things** that will help make the world a better place.

First, the reader can **work on making his or her own living (decision-making) more optimal**, utilizing the approaches given in the chapters on anger prevention, child rearing, and belief management (or any approaches that seem better). By doing so, the reader is not only directly making the world a better place for those within his or her sphere of influence, but is also modeling for identification such effort, making it easier for others to do likewise. To do so means repeatedly reading those chapters and devoting some effort to utilizing the concepts in them in order to understand, from a different perspective, our day-to-day problems and the solutions to them.

If the reader does do this, I believe he or she will notice certain **changes** in his or her personality. I believe that the most prominent and important change will be that of becoming **less hostile and prone to anger**. He or she will not take things as personally, so to speak, but will instead try to understand where the other person is coming from (what beliefs the other person has and what motivational states the other person has had to deal with). Thus, the reader will become much **more understanding** and much **less judgmental**. In addition, the reader will become much more **accepting of criticism**, and will indeed **value and ask for feedback from others**. And the reader will become much more able to engage in **friendly debate**, as described in this book, rather than avoiding discussion with others about certain topics and accompanying the exchange of ideas with hostility.

Second, the reader can **advocate for the ideas in the book**, and request others to help in the evaluation of those ideas by discussing them in small group situations. Setting up small groups for that purpose would be a way to do this, or mentioning the book and its ideas in appropriate, already ongoing small groups.

Asking others to review the book who are in especially important positions and are positively regarded by large numbers of people also would be increasing the likelihood that still others would do so.

Now if the ideas in the book do seem to make sense to small groups engaging in friendly debate, it is possible that communication between those groups could begin occurring, such as to initiate a "**movement**." And such a movement could indeed be exponential.

I wish to be clear about something, however. This "movement" could not at this time be a "political" one. What this book is about is **how one lives one's personal life**. It will only be much later, and only if such a "movement" really does catch on and continue to grow, that it will start affecting political processes. Political processes involve high level, societal decision-making, about which there is rightly much divided opinion. This book does not offer the answers to those questions. But it does offer some ideas about how to go about arriving at those answers and making those decisions, and as more and more people come to value those methods, then political processes will change.

This book in no way asks the reader to give up any political activity that seems right to him or her. This book asks the reader to take on an additional set of activities, if they make sense to the reader. This book first advocates that the reader develop his or her basic ethical philosophy and implement it through optimal living. This book then advocates that the reader advocate for such living, if indeed the reader believes that it is optimal. In these ways, the reader will be doing his or her part to make the world a better place within his or her sphere of influence and within the limitations of his or her capabilities. In this way, he or she will be promoting not only the survival of our species, but also the good life, for everyone, now and in the future.

I think that it is also important to keep in mind that if the above "movement" were to take place, it would only be a **small part of a much larger movement, the third exponential change, that has already been occurring**. This book is not advocating something brand new. It is not an attempt to start a new religion or a new government. It is **an effort to call attention to something good that is already happening, and to invite individuals to join in**. It is not a movement to confront evil in the world; it is a movement to become better and better, and to make things better and better. It is really a movement to make **more explicit and understandable** what it is that is happening, so that we can **facilitate the process**. The more precisely we can model a process with our symbols, the more effectively we can influence that process. And that is the effort of this book.

I do ask the reader what he or she wants to make of his or her life. At the end of his or her life, will the reader be pleased with what he or she has done with his or her life? I cannot imagine any better satisfaction than that which would come from my believing that, within the limits of my capabilities, I had done what I could to make the world a better place for everyone who was within my sphere of influence. I would have to acknowledge that, being imperfect, and having emerged from an infancy little different from that of a chimpanzee, I would have made many mistakes along the way. I would have to acknowledge that, being human, I had been formed by a culture that, itself, is still only a toddler, compared to what it may ultimately become. And although I recognize I will never see that mature culture that is being predicted in this book, and although I recognize that it might not even ever come to pass, I would at least believe that if it does indeed come to pass, I would have done my part to make it so. I cannot imagine a more satisfying way to conclude my life.

So now it is the reader's turn.