

ESSAYS

OF JOHN D. BOENKE

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John D. Boenke was born in 1926 in Rossford, Ohio and grew up during the Great Depression. He served in the U. S. Army in 1946 - 47 in the Medical Corps. In 1951 he received a degree of Bachelor of Science in Physics from the University of Michigan. After college, Mr. Boenke worked in research and engineering for the General Electric Company. Later he was the Manager of an engineering test laboratory for Lau Blower Company, then Chief Engineer for Halsey Taylor Water Cooler Corp. and Senior Design Engineer for The Werner Ladder Company. Before retiring in 1989, Mr. Boenke also owned and operated a small motel in Ashtabula, Ohio.

Since retiring, Mr. Boenke has been interested in reading and studying in the areas of Cosmology, Theoretical Physics and Philosophy. In addition, he has an interest in the origins of religions. He has privately published several short stories and some poetry.

DEDICATION

This book is dedicated to those few persons who are interested in understanding and thinking about some of the more engaging ideas concerning life and human relationships.

ACKNOWLEDGMENTS

This book is a result of my involvement in life, and reflects, as best I can, my current thinking in various areas of the living experience. I appreciate the help and critiques offered by my wife, Mary, in working through the concepts in this book. Casual conversations and discussions with friends too numerous to document also helped shape the ideas. Of course, all the errors which may be contained in the text are mine alone.

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INTRODUCTION

In the morass of modern thought which is swamped by irrational beliefs, unsubstantiated opinions, murky pseudo science, emotional notions, misinterpreted experiences, and fuzzy thinking; some persons seek a solid foundation on which to base their approach to the challenges of life. These essays are intended to examine various ideas relative to arriving at a realistic understanding of who we are, where we are, and what is going on. The objective is to help in providing a sound structure on which to base one's perspective of life. These are my beliefs and ideas. They have been gleaned and adopted from multitudinous sources and my life experiences.

Although each essay deals mostly with a particular topic, they are connected together with a common philosophy. The basic idea is that we are involved with a purely physical world. We can experience that world only through our senses. It is up to the human brain to work out the best way of surviving in the real world, and there is no guarantee of success.

My approach has been to find those things which are most believable and build on them in a sensible, reasonable and logical manner. We know our world through our senses. From our senses and through testing our environment we derive facts. Facts must meet strict criteria and must result from repeatable investigations. Only those things which our senses tell us are consistent, predictable, and which operate in a reasonable way can be depended on for justifying our basic beliefs and establishing Truths. These Truths must then be followed to control the way we function in this world in which we find ourselves. Any other course of action runs greater risks of errors which at any time could be the final error. There is no afterlife. This is it, and this life should be lived in the most realistic, satisfying and enjoyable manner possible.

John D. Boenke

REALITY

If the Human Race and the Earth are to be saved from devastation by human beings, they must be saved by the exercise of reason. From the history of wars, civil unrest, mistreatment of minorities, destruction of environment and disregard for the future; the route of using emotions, feelings, religious dogma and intuition have proven over time to be ineffective in finding the most beneficial way to deal with real world problems.

Since the beginning of human history, great harm has been dealt the world and the human race by groups of people with conflicting illogical beliefs confronting each other. These irrational beliefs also fostered callous disregard for individuals and for the planet Earth, which is our only haven in an unimaginably hostile universe.

I would emphasize: Planet Earth is the **only habitable region for human beings in all of the universe we know!**

Planet Earth is only 8000 miles in diameter. It is located 93,000,000 miles from it's life-giving Sun. It's eco-system is maintained in a fragile balance which has varied greatly over it's 4,600,000,000 years of existence. It is currently in a mode which is fortuitous for human life. There is no guarantee we will continue to be so lucky, especially if we are careless with our treatment of the eco-system. There is no other known habitable planet in the Universe, and even if there were, it would be impossibly far away to reach with our known means of travel.

Reality means things the way they really exist, but this has two connotations. One is the idea there is a reality consisting of matter and energy in a four dimensional space-time. Or perhaps, it is simply a system of vibrations in an eleven dimensional space-time. Or even, it may be all energy which takes on many different forms in a variety of dimensions. Whatever the situation, it is difficult to deny the existence of some kind of Reality however it is described. This is because we all experience it.

The second connotation of Reality **is** this individual experience we each enjoy in dealing with physical Reality. It is all we can know about our world, our universe. This personal familiarity with Reality comes about only through our senses. This is the significance which we usually intend when we speak of Reality. It is the Reality we deal with on a daily basis, and it comes from the personal details most of us know about the subject. For human animals, Reality exists only because we have senses which tell us various things about it, and we are aware of our reactions. Indeed if we had not sight, the visual world would not exist for us. If we had not hearing, the world of sound would not exist for us. And if we had not the senses of touch and the related kinesthetic senses, the physical world would not exist for us. So the Reality we use everyday depends on our senses, and we understand it by the way our brains handle these sensations.

Today there is as much or more turmoil than ever, and the human race is not mobilized to deal with it effectively. Everyone has different sets of emotions, feelings, beliefs and intuition. These cultural differences unavoidably result in conflict between Peoples. We must begin to recognize

that Reality does not respond to manipulation by the nebulous functions of human emotions, feelings, beliefs, and intuition, but only to cold hard facts. Facts, not fantasies are the legitimate framework for solving world problems. This may be difficult for emotionally driven persons to accept, but it is the undeniable truth of the situation. Acceptance of Reality is the necessary pre-condition for progress in human relations.

In the modern era, much of the physical world has yielded to analysis and explanation by the scientific community. It has become apparent to many persons that the totality of reality can be, or will be, or is capable of being interpreted by physical laws and descriptions. Yet there are those who still need to invoke a supernatural force to explain their world. This is completely unnecessary in my opinion. In the discipline of Philosophy, there is a proposition known as Occam's razor (William of Occam ca. 1837). It states, "(Occam's Razor is) a scientific and philosophic rule that entities should not be multiplied unnecessarily." This is interpreted as requiring that the simplest of competing theories be preferred to the more complex theories or that explanations of unknown phenomena be sought first in terms of known quantities. Applying Occam's razor, our world, our universe, is explainable in physical terms, and there are no supernatural aspects necessary.

Our brain is in communication with the real world only through our senses. From the moment the brain begins to function, it begins absorbing impressions of the real world. The accumulation of this information lays the ground work for our understanding of reality. We see a table, we feel a table, we hear the word table, and we become aware of how a table is used. As children in our universal exploring, we may even become aware of how a table tastes and smells. These experiences repeat themselves many times, and thus we have a multitude of table experiences which our brain remembers. In this way the table becomes real for us.

It is obvious from this process that "table" means something slightly different for each of us. Our experiences are not identical, therefore our ideas of "table" are different. However they are similar enough that we can all deal with the concept and easily understand what another means by the term "table."

In the same manner, the rest of our world assumes a reality. Our ideas, concepts, and all our everyday exposure to the physical environment becomes what the world is to us. Whether there is anything actually there or not is not the question. All the universe we have contact with may be just a system of forces or other constructs, but this becomes a dilemma only for the philosophers who enjoy playing with conundrums. The rest of us who deal with practical everyday life "know" the real world is a fact. Our senses tell us it is there, and it is the world we experience directly and must attend to as a result.

Our individual reality of many things is similar enough that we can work together and understand each other in many areas. However, there are some realms in which our individual outlook is grossly different. Because of the diverse experiences our cultures, families, and parents impose on us; we hold different kinds of significance to many ideas and to various methods of living.

Our brains learn and accept these distinguishing characteristics by repetition and indoctrination. They become our norm, and through this we

differentiate ourselves from others. By way of this cultural learning we become neat or sloppy, Christian, Jewish or Other religion, high brow, low brow, golf fans and baseball fans. We fish, hunt and/or read and study, we love or dislike the outdoors, we enjoy various forms of art and music, and in general we develop all the differences individuals can exhibit. This wide diversity makes life interesting and keeps presenting new and novel ideas and actions. However, it also allows for wide disparity in our outlooks on life. Herein lies the problem.

As contending individuals or as groups of opposing assemblages, when we try to decide how to proceed on some course of action, we tend to let our emotions, feelings, beliefs and intuition rule. As is discussed in "The Brain" this emotional response is dominant over the reasonable reaction. The facts become secondary in consideration. This is completely backwards from the approach which would produce sensible, credible results. When we throw reason out, the results become unreasonable.

To solve problems in the real world we need to find some common ground. If we contend and argue on the basis of different emotions, and different outlooks, agreement is elusive or impossible because our views and feelings only confound and confuse the issues. If we can achieve agreement on the facts and reality of a situation, usually a fair course of action can be found.

It follows that solving the complex problems of the real world demands setting emotions and beliefs aside and dealing with the valid components and the actual circumstances of the problem. In other words, we must deal with Reality. Reality is interpreted by facts (See Facts and Truth) which can be demonstrated to be true and which are consistent with other facts. It is reproducible time after time, and it is independent of the particular unique outlook of different individuals. Reality is not an absolute, but it is as close to the absolute as we can derive.

Reality must be amenable to testing, and must meet certain standards of consistency and replication. Reality, not emotional attitude, is the route to problem solving in the real world. Dogmatic posturing and pompous righteousness only serve as road blocks to progress in human relations. When human beings fully realize the value of dealing with reality rather than fantasy, it may be possible to begin solving the problems of the world which are threatening the viability of our Earth and the continuing existence of the human race.

FACT and TRUTH

Truth is what we all strive to know. Our personal Truth is our foundation of understanding which we use in guiding ourselves in this journey through life. What many persons do not understand is that Truth is a derived quality. This is why different individuals often end up with various "truths" which they fervently believe even though they are at variance with other people's truths. Does this sound strange to you? Then let us look at the relationship of Truth to the real world.

Reality means things the way they really exist, (See Reality). Facts are something else. A fact is statement about what Reality does to us or how we interpret reality. Let me amplify this with several examples in a little story. Consider two early humans, Alpha and Beta. Alpha met Beta on beautiful day right after they had both evolved sentience. Instead of just reacting to their environment as animals, they were now aware that they could hear and see and feel and were enjoying experimenting with those faculties. Coming to a body of water, Alpha jumped in and began splashing around and playing in the water. Lying out lengthwise, the water supported Alpha who laughed and exclaimed, "Humans float." (For purposes of these examples Alpha and Beta are endowed with the power of communication.) Humans float is a fact. Beta, seeing the fun Alpha was having also jumped into the water. Being a bonier person, Beta immediately sank to the bottom and scrambled to get back to the surface and onto the shore. Spitting out water, Beta sputtered, "Humans sink." That also is a fact.

Later the two were walking and came to a place where the ground dropped suddenly. Beta jumped from a rise of about two feet and landed in the grass. "Whee," he cried, "Jumping is fun." That is a fact. Alpha being farther up on the rise tried it also. However he jumped from about six feet up and landed on bare dirt. He fell and bumped his knee. "Oh!" he exclaimed. "Jumping hurts and is not pleasant." That is a fact.

Farther on Alpha and Beta came to a place where lightning had caused a fire. It was still smoldering and smoking. Alpha approached the fire and stopped near it. As it was a cool day, the warmth of the fire felt good and he said, "Fires are good because they make me feel less cold." That is a fact. Not to be outdone, Beta went running to the fire and even stepped on the edge. "Ow," he yelled, "Fires are hot and hurt me." That is also a fact.

Alpha and Beta continued on their way and eventually came to a quiet glade. They were surprised to see three other humans there relaxing on the grass and conversing. They were greeted cordially and joined the others on the grass. One of the three new persons asked, "Where do you come from, and what have you been doing today?"

Alpha volunteered, "We don't know where we came from as we have just evolved sentience, but we have been exploring the world."

"Great," replied the stranger, "What have you learned?"

Alpha quickly answered, "I learned that humans float in water, and that is the truth."

"No, no" objected Beta, "I tried it, and humans sink in water. That is the real truth."

The stranger smiled, "I would guess you are both speaking from your personal experience. Is that correct?" By nodding their heads, Alpha and Beta assured the stranger that was right. "And what is more reliable than your own experience, right?" the person continued. Alpha and Beta nodded again. "Perhaps I can offer some better perspective for you," the stranger added.

"My name is Archimedes, and I have studied these kinds of events a bit. The two statements you give are facts, but not the whole truth. If you take your weight and divide it by the volume you displace, you get a number which I call density. If your density is greater than water, you will sink. If your density is less than that of water you will float. In fact, this is true for any solids and liquids. If the density of a solid is greater than that of the liquid, the solid sinks and vice versa. That is the truth as best we know it, and that can be called accurately a Truth."

Alpha and Beta looked at each other. It was apparent that one was fatter and the other skinnier. Alpha ventured, "So we are both right, sort of, but the truth is what results from combining all the facts and finding an explanation which fits all of them."

"Correct," reassured Archimedes, "And if you have only partial truth, you could argue all day and not settle anything."

The second stranger looked at them and asked, "So what else have you done since you have come into sentience?"

Beta quickly answered, "I have learned that jumping down is fun. It feels good to fall through the air, and that is the truth."

Alpha looked astounded, "No, no falling through the air is bad. Humans can hurt themselves when they hit the ground. That happened to me and that is the real truth."

The second stranger smiled, "I think the same thing has occurred here. You both have a fact but you cannot call that the Truth. My name is Newton and I know something about this. I admit it feels fun to fall a short distance if you are prepared for it. But the farther you fall the faster you fall, and when you hit the ground much more energy must be absorbed. This can cause your body damage, or even in long falls it can cause you lose your sentience. It happens because there is a force called gravitation operating between all material bodies. The Earth, being so big, exerts a lot of force on us. That is why we fall and even fall faster the farther we fall. You see, you both had only part of the truth. You had facts, but not the whole truth."

Alpha and Beta looked at each other and were silent as they mulled over these ideas. The small group remained quiet as they all considered the recent conversation. Alpha spoke first. "Then the Truth is something that can change. What you say is strange. Something which is true should remain so. Why should it be constantly changing? Why should we trust the truth, if it can change?"

Newton went on, "We have to trust the truth. It is all we have. But usually when the truth changes, it does not completely change. It may only expand what we knew before. Even what I have told you is not the full Truth. It works well in all ordinary situations, but one day you will meet another man who will show you that under certain conditions even what we all know now about gravitation can be incorrect. It will not change what we know now, only expand it to make it work in other places and other times."

Beta looked a little perplexed, "But I know what I know. Today I stepped on a fire and it hurt me, and that is the truth."

"You are wrong," interjected Alpha, "I was by the fire also, but it felt nice to me. It warmed me and made me feel more comfortable." and he added emphatically, "That is the truth." Alpha and Beta looked at each other and then began laughing. They suddenly realized there must be more to this truth also than what they understood individually. Turning to the third stranger, Alpha went on, "Can you help us understand the truth here?"

Eagerly the stranger replied, "As it happens, I can. My name is Boltzmann, and I have studied fire quite a lot. Heat from the fire come to us in waves called electromagnetic waves. The amount of heat depends on the wave length and intensity or the number of wavelets reaching us. In moderation that can be comfortable, but in excess it can hurt us. We have to be careful about our exposure to electromagnetic waves and how we use them. The truth of heat and all electromagnetic radiation is quite involved, but there is much understood about it. Those who study it can elucidate many Truths about it, but it takes time and effort in studying to learn it all.

Alpha and Beta continued talking with their new friends the rest of the day, and they thoroughly enjoyed themselves experiencing Reality.

You see then, Truth is derived from facts and our the interpretation of facts. As our learning of Reality increases, the facts may change and ultimately the Truths we understand may have to change. However, accommodating to all the facts results in the best available "Truth" and is something we can agree on, if we are willing to discuss and reasonably interpret the facts.

Problems arise when facts are misunderstood or misinterpreted. That is why scientists are always questioning, so the facts are clearly seen by all concerned and accurately perceived. Facts are not questioned only to try to disprove them, but to hone their sharpness and verify their correctness. Facts are our interpretation of Reality. Truths are our expression of our understanding of the facts. Truths are derived and must be constantly scrutinized to assure they are they best ideas available and fit the facts most exactly.

THE BRAIN

In his book, "***The Astonishing Hypothesis***", Sir Francis Crick goes into great detail about how the brain works. At one point in a general description, he says:

"There is one fact about the brain that is so obvious it is seldom mentioned: It is attached to the rest of the body and communicates

with it. The nervous system receives information only from the various transducers in the body. (A “transducer” turns a chemical or physical influence, such as light, sound, or pressure, into an electrochemical signal.)

“Some of these transducers respond to signals that come largely from outside the body, as the photoreceptors of the eyes do when they respond to light. They monitor the external milieu. Other transducers respond to activity that is largely inside the body, such as those that react when you have a stomach-ache or are sensitive to the acidity of your blood. They monitor the internal milieu. The motor output of the nervous system controls the many muscles of the body. The brain can also influence the internal release of various chemicals, such as certain hormones. The peripheral nerve cells that are directly concerned with all these inputs and outputs are only a very small fraction of the total. The great majority of nerve cells process information *inside the system*.” (End of Quote)

The phrase “*Inside the system*” means within the body and the various components of the brain. The way I interpret this is that everything we are, and the totality of the reality which we comprehend is contained in our brain. Our brain is the mechanism which we use to interact with the world. Others perceive both our physical being and the expressions of our brain which together communicate our psyche to them. These impressions which their brains glean from these interactions is all that others in the world can know of our psyche, that is, us. According to The Living Webster Encyclopedic Dictionary, published by The English Language Institute of America, 1972, psyche is, “a person’s mental components, both conscious and unconscious.” In a very real sense, our “brain” is who we are. The normal adult brain is a highly refined mechanism whose main purpose is to aid a human being cope with its environment. That environment is now a very complex modern world which is tremendously different from the world in which the brain evolved.

The brain is occupied with everything we do. It is constantly monitoring and controlling our needs. Even in the “sleep” mode it keeps us breathing and our heart pumping. During sleep it also somehow rejuvenates our feelings and rests our body so that it produces a renewed feeling in the morning, preparing us for another day of activity. It even engages in dreaming while we are otherwise inactive which may also serve a useful function. It changes its mode of operation but it never stops working. Were it to stop, we would be dead.

The brain then is the seat of everything we are. We are aware of ourselves and the world because our brain is alive and functioning. It naturally follows that when we are dead and our brain no longer functions, our psyche ceases to exist. All that remains are other person’s impressions of us which endure in their brain, but that is part of their psyche.

The enterprise of this marvelous group of structures known as the brain is the main thing which makes us human beings. This is not the place to enumerate all the parts of the brain and their functions. There are many good text books which cover this in great detail. But of course, we humans like to think we are totally different and far more advanced than the other “animals.” We are more advanced because our brain is more complex and demonstrates far greater activity. Unfortunately, we may not be as far advanced beyond the “other” animals as we would like to believe. The problem with our brains is that we have very poor control over them.

Consider that the human race evolved over a long period of time from somewhere out of the lower primates. We are basically animals and carry along with us all the many traits and abilities which evolved in animals over a great many millennia. The most basic of these are the instinctive and emotional responses to events in the environment such as fear, satisfaction, hunger, lust, self preservation, curiosity, etc. These emotions have had many long years and countless generations to become second nature, and they almost uncontrollably work as the driving forces on us and our lives. Think of all the things you do by habit or as a matter of course. A large part of the time we are on "automatic pilot" and are not consciously controlling our actions. This "unaware" status of operating has been estimated to be upwards of 80 percent of the time. It often takes special effort to stop and say or think, "What am I doing, and what should I be doing?"

Unfortunately this poor control over the intuitive, emotional part of the brain results in many people following emotionally inspired causes with no thought of the reality of them. Riots and mob action are a result of the uncontrolled response of a community of individual brains to some perceived injustice. Action results without any calm deliberation or factual analysis. Even with some deliberation the eons-old emotional responses often win out in the decision making process.

Wars are fought for purported facts. Claims of harm or threat that one group has for another. The actual emotional reasons for the action are those which are usually unspecified or denied to be the motivation for the aggression. It is during these critical times of emotionally charged events that the reasonable aspect of the brain is overwhelmed and the primitive brain takes over. It is precisely these times then, when we should be especially careful of our thought processes, but it is also the time that reason is most difficult.

Our speaking and reasoning abilities are the most recent to evolve, and over the last few thousands of years they have increased in their usefulness. We have been able to use the new ability of reasoning, but in many cases we did not know what we were doing and reasoned from false beginnings. Most people, even today, follow the primitive reasoning process of using premises which are based in emotional experiences as their beginning points. Incorrect premises, of course, lead to unreliable conclusions.

The scientific method of controlled investigation and reasoning has developed relatively recently in the evolution of human beings, and most persons are not conversant in its use or methods, nor do they appreciate the characteristics of those things we call facts (See Fact and Truth). Is it any wonder there is so much fuzzy thinking and perversion of the scientific method when the methods of clear thinking are so poorly understood (See Logic)? We as a world community need to apply the scientific method (See Science) more often to the problems of the world. We also need people to be more educated as to what the brain is and how it functions, so that more of our leaders will realize the factors affecting their decisions and can better evaluate the validity of their responses in critical situations.

One who spends a lot of effort in the area of questioning things as a scientist does, develops among other qualities the perspective of recognizing that the brain often obscures or obfuscates and confuses the reality of situations while it is doing its job. This is because the brain, while trying to find the reality of the world, also must let us feel comfortable and not allow us to be disturbed by our perceptions which may be difficult to

understand. This quirk of the brain causes much confusion in our perceptions.

Either consciously or unconsciously scientists know that the functioning of their brains must be monitored and controlled to keep as near to reality as possible. Probably even in trying to be clear thinking, a scientist may realize their brain has misled them in the past. For this reason scientists become most careful in the areas which naturally interest them the most. Further, they continually rely on other knowledgeable scientists to question and validate their ideas.

Our brain is “us”, but it must be controlled so we may be the person that we have determined by reason we want to be. It can be fooled by not keeping a watchful eye on those things which are presented as fact but which are not. Continual questioning and testing of reasonableness is required to be sure proposed facts are indeed factual and that they relate to the greater Truth.

SCIENCE

Most people do not understand science. They are heard to say, “Oh, that was my worst subject in school.” This is unfortunate and may relate to science subjects not being taught in an interesting fashion or with clear exposition.

There is no mystery about science. From Webster’s Collegiate Dictionary, Fifth Edition a definition of science is, ***a branch of study concerned with observation and classification of facts especially with the establishment of verifiable laws. ALSO, accumulated knowledge systematized and formulated with reference to the discovery of general truths or the operation of general laws.***

In simpler terms, science is only the reasonable, organized solving of problems and puzzles. This is something we all do every day with greater or lesser degrees of precision. The sciences however, demand careful attention to all influences and factors. The scientific method is exacting in demanding attention to detail and all influences. A scientist must be more skilled in recognizing all aspects of a situation. It is required that they adhere rigorously to facts and to repeatable results. Tests must be designed very carefully to avoid extraneous influences. A scientist is also vigilant with their methods to maintain the exactness of the procedures. These concerns for the precise nature of investigations are some of the essential differences of scientific inquiries from our normal every day casual decision making. The term “science” implies and includes all the processes of rigorous testing, analysis, logic and proof necessary to reach reliable conclusions.

Using science or a systematic approach to any problem or question is more complicated and requires more attention and effort than the intuitive approach. Because of this necessity, it is avoided by most people, who want only to feel good about their decision. The brain is well developed to let us feel good about ourselves and our actions, and works easily towards that end, but it must be recognized that following feeling

and emotion can lead to erroneous results.

The human mind has a dualistic nature. The evolution of early brains resulted in a diversity of cells which responded to a variety of stimuli: light, sound, heat, pressure, internal conditions, etc. With increasing complexity in further evolution these several systems interacted with each other and the rest of the body. This interaction produces the multitude of emotions which are experienced by modern humans. These emotions resulting from the senses had millions of years to develop and mature. For this reason they are the strongest forces acting on our mental responses.

In contradistinction to emotional development, it is only in very recent times that the brain has become much more aware of details in life which refute some of the initial emotional responses. This has allowed the growth of the other half of our thinking process, Rational Thinking. Perhaps more precisely we should say Reasonable Thinking. Here rational means a systematic thinking process which does not necessarily concern itself with the ultimate truth of the premises. Reasonable thinking not only follows rational thought, but strives to use verifiable and clear beginnings in the thinking process, that is, reproducible facts and science.

Whether one uses "science" or "intuition" to solve any particular problem, or establish some personal value, or reach any decision, is a matter of our disposition of the moment. The preference of one over the other may be determined by whether it is a casual situation or one which requires precision. Both modes of mental operation can work effectively to arrive at a conclusion. However, the quality of the conclusion will depend on the quality of the input and the validity of the processing.

Science investigations can take the form of accumulation of vast amounts of data which are then studied to find trends and similarities. Science can take the direction of doing many experiments and repeating them again and again with the same and with varying conditions to find the rules governing behavior. Sciences also deal with taking verifiable data and extrapolating it to new areas, then constructing means of testing its validity there. All of the various sciences may use these methods at times.

The underlying considerations for the proper conduct of science are in establishing consistent relationships of new knowledge with other truths, and through repeatability, verifiability, exactness, and reasonableness of the observations which are developing the new knowledge. Science is in stark contrast to dogma. Science is always willing to be tested and changed when new information comes along. It seeks greater knowledge. Dogma is unchanging and stifles human minds in regarding the wonders of the Earth. Dogma is inflexible and resists the acceptance of expanded information.

Science furnishes the basis for using trustworthy information to deal in the best way with the problems which life imposes on us. Science arises from the most sophisticated functioning of our brains. After all, brains evolved by natural selection just as all the rest of our body. Brains, our reasoning mind, help us to cope with our environment in a more effective way by understanding it. Thus, we are better able to survive. The scientific method provides the most effective procedure for doing that.

Some would say that intuition is better than science. That it is somehow more encompassing or broader or more valid. They claim that science cannot deal with questions of value or meaning. They imply that scientists are too wrapped up in the details of their work to have any concern about the value of the work to the human race. I submit the exact opposite is true. I believe most scientific investigators are driven by the idea that greater knowledge is always a better situation for mankind and worth the effort to discover.

It is also claimed that science cannot explain nor help in appreciating aesthetic qualities as found in literature, art, music or even nature. For instance, what can science say about the beauty of the rainbow? I believe as someone who understands some science, that I can enjoy a rainbow to an even greater degree by knowing how and why it is formed. Have you ever seen a full circle rainbow? I have. Having some knowledge of optics, I know that the degree of refraction of an electromagnetic wave depends on its wavelength. This variation determines how the various colors of light are spread out into the rainbow. The fact that I understand more of the “why” of it enhances my appreciation of the phenomenon, and allows me to enjoy it more. Enjoyment of the physical world is discussed and considered further elsewhere (See Values.)

Scientists are maligned for being too scientific. The word “scientism” has been a word developed for this condition. As defined in the Oxford English Dictionary, scientism is used derogatorily for those who insist science and knowledge are the best foundation for undertaking all human activity. How can one be too scientific? Is it better to settle on the Sun being a benign warm ball in the sky, rather than insisting it is a seething nuclear furnace which can be dangerous to us? I don’t think so. And just because someone chooses to define me derogatorily does not mean that is the way I must define myself, nor that it is a true characterization. Being scientific does not negate all the other human qualities. I can laugh, cry, love, hate, fear, enjoy, etc. as well as or better than others. I for one, understand this life must be experienced here and now. There is nothing else. Those who are looking forward to enjoying an afterlife are deluding themselves and others.

I propose that science actually is the last best hope for the human race. It is undeniable that the basic religions, the mystical, and the occult have been controlling human actions and thought for ages. Considering the history of humankind, they have done a remarkably poor job of it. Ever since the beginning of awareness humans have succumbed to the lure of easy or emotionally satisfying answers to the problems of the day. Scientists have been persecuted and Science has had a tough time in overcoming many obstacles to bring closed emotional minds into the clarity of scientific thought. Religions always have and still do resist scientific advance. Anything which may show a flaw in an old accepted fabulous story is denounced as evil or un-whatever.

Strangely enough, most of society accepts the benefits of scientific development while at the same time castigating the scientist for being too scientific. Who does society prefer to have design their cable car, someone who just has “very good intuition” about the design parameters or someone who understands the science of strength of materials? It is most ironic that computers and the Internet are used to spread mythological ideas and faith beliefs. The use of intuition and emotion is not an exact procedure nor consistently correct, and in many cases it can be disastrous. The relatively new but more effective ideas of Science must eventually win over the bulk of society. In an evolutionary sense they will win out, as

they contribute to better survival through natural selection of the knowledgeable.

PERCEPTION

Perception is the process of our senses and nervous system telling us about our environment. It is what our brain ends up with when a set of senses detects something in our surroundings. Being able to perceive the environment is the critical first step in knowing about the world in which we are immersed or even being aware of ourselves.

Our perceptions are limited by the acuity and range of the sensual detectors. Obviously, we are not aware of something if it is beyond the capability of our senses. Our ears detect vibrations of only certain frequencies and above a certain sound level. The minimum sound level necessary to understand what we are hearing increases as the background noise becomes more intense. Similarly, things in the distance or those which are camouflaged may not be discernible by our eyes. The visible range is a very narrow part of the electromagnetic spectrum, but vision is a major input to our brain. Our senses are absolutely essential to us, since the perception of the real world by our senses is the only way we learn things about what is "out there". The signals we receive via our senses are our only contacts with reality (See Reality)

So much then depends on perception that we must be extremely careful that our perceptions are correct. Since perception is a function of the brain, it is one of those things about which our brain can fool us. One of the situations causing inexact perception is the lack of enough attention being paid to the event either from either disinterest or from insufficient time for the observation.

A personal experience occurred when we moved into a newly purchased house which had timer controlled outside lights. One of the bulbs had been burned out for quite a while, so I proceeded to replace it. Upon removing the cast metal cap, I suddenly found the fixture was infested with wasps. In my haste to disassociate myself from it, I threw the cap down, and I observed it break into several pieces on the cement floor. as I retreated from the ladder and the porch. I remember thinking, "D--- now I must buy a new one." After suitably dispatching the wasps, I returned to the lamp problem and found the cap of the fixture lying nearby on the floor completely intact, counter to my impression when it fell. Next to it were several old wasps nests which evidently had been inside the cap. It was they I had seen flying from the cap, but my brain in its haste for an explanation "saw" and "told" me the cap had smashed. Needless to say, I was astonished.

There may be many errors in perception. They range from the vagueness of the sensual input, to the inaccuracy of interpretation and the confusion in memory or the "massaging" of the truth by the brain while processing the information. Consider the large failure rate in "eye witness" identification as a manifestation of that problem.

A similar experience occurred with me recently. While walking with my wife, we met a lady whom we shall call "Ms. X" and whom I knew only on a casual basis. She appeared to me to be "Ms. A" whom I knew better through more extensive social contacts. They both would have been out of context where we met Ms. X, but my initial perception was that it was Ms. A and I operated on that basis. She at that time indeed looked to me like Ms. A. Both Ms. X and Ms. A are persons I recognize when in the context in which I am accustomed to seeing them. Afterward, in conversation with my wife, we realized we each had a different view of with whom we had been talking. Looking back on the conversation, I grasped from the content of what was said that indeed it had been Ms. X, and my brain had fooled me into thinking it was Ms. A. I believe this happened because I have only intermittent contact with either of them. In the urgency of the moment to recognize the person, my brain came up with the wrong answer, and I proceeded with that. Thankfully the content of the conversation was vague enough that my error was not exposed.

Perception is only what we make it to be. All of us have different ranges of capabilities in perceiving and understanding. We are influenced by inheritance and perhaps by training. So the same events probably affect us in distinctly unique ways also. We have greater and lesser degrees of observational skills, we have disparate interests, we have varying biases, we have a great variety of outlooks and mental sets, and we are all "one of a kind" humans. Is it any wonder we cannot always agree on what constitutes reality or our environment?

This highlights the fact that we must all keep an open mind on the possibility that what we may have experienced at any particular time is incorrect and in contradiction to what others may have experienced. We need to rely on objective analysis as the best approach to our differences and the problems in the world. Further, only those things which can be demonstrated to be repeatable and end with the same result consistently are those things on which we ought to agree. They are the data we can use to form a basis for understanding. Again, the scientific method which deals in the best facts available is the soundest foundation on which to resolve conflicts.

LOGIC

The Living Webster Encyclopedic Dictionary, 1972, defines logic as, ***"The science which deals with the canons and criteria of validity in thought and demonstration; the science of normative formal principles of reasoning."*** Logical reasoning is at the very core of the process loosely known as the scientific method. The primary problem with valid logical thinking is in establishing the basic premise. The whole syllogism is only as good as the beginning information.

Facts are those things which have been investigated again and again and always turn up the same. However, they are amenable to change with new and better information which is shown to be consistent and accurate. Truths are ideas developed from facts on which most reasonable persons can agree (See Facts and Truth). Facts are supported by physical evidence, and they are consistent with other facts which fit into a rational working system. For the Logic process to work to the best advantage, the beginning premise must be true.

The logic process cannot increase the validity of the starting premise. If the initial postulate is something which is *assumed*, the result is also an assumption. If however, the beginning idea is something which can be demonstrated to be true, the reasoning process has much higher probability of being correct. Much logical thinking is corrupted because of extremely poor premises, and the term "rational" when it applies only to the logic process can at times become completely irrational.

In making decisions, we each have only one brain to use. Our brains have an inherent dual nature. This duality can be differentiated by the terms the "intuitive" and the "reasonable." The intuitive aspect of the brain is the instinctive part which has developed by following natural impulse. It has evolved over millions of years of interaction with the environment resulting in the survival of the fortuitously advantageous functions. It has matured into a complex multi-component organ characterized as having many subsystems with varying degrees of interconnectedness. Many of its responses are so rapid they may almost be represented as being automatic. (See "The Brain.")

The second part of the duality, the reasonable part of the brain, is a much younger faculty. Only in the last few hundred years have the ideas of measuring and re-measuring; testing and re-testing; taking great care in the interpretation and analysis of the natural world, and an openness to the truth of physical situations led us to the exactitude which allows for the usefulness of scientific knowledge as we know it today. Without the reasonable aspect of the brain, we would not understand our world as we do, nor would we have the abundance of knowledge and the great advantages of all the fields of science which fill our everyday life.

When the average person is faced with a decision, the easiest approach is the intuitive one. This is the one which is most readily available and with which they have the most experience. In actuality, they may not be able to construct an approach to the question which takes advantage of the logical scientific method for solving the problem, since they have not had the occasion to use it extensively.

A point to consider is that many "problems" which we face are of a trivial nature and an intuitive response is as good as any. The decision does not usually get us into trouble, and has no long lasting effects. Does it really matter whether we get a vanilla ice cream cone or a chocolate one? No, unless we are allergic to one or the other, but that may be built into our intuitive response also.

The general process for resolving a question is the same whether we let ourselves be controlled by emotions or by reason. We first recognize the problem, we "think" about, then we reach a decision. The specifics vary greatly, however. An emotional or intuitive response takes little effort. Our emotions are at our constant beck and call and often respond even without consciously being asked to. We can very quickly "know" what should be done. This is the nature of emotional response and has served well in preserving the species for millions of years. In simpler times even wrong conclusions and actions were not always fatal and so were tolerated.

The modern world demands something else. Decisions based on the intuitive response can lead to extremes which, with the aid of modern

facilities, result in disasters of magnitudes not previously possible. An example is: Religious Fundamentalism promoting ideas which cause a person to fly an airplane loaded with innocent people and carrying a large quantity of highly flammable fuel into a building to cause as much destruction as possible. This being done to make a political statement which is none of the business of religion. Further, this irrational act being done with the conviction of the perpetrators that they are subsequently going to a marvelous place where they will be heroes.

The reasoned response is different, and takes more time and effort. That alone makes it less acceptable to most people. It follows a more formal procedure with the caveat that intuition and emotions must be held in check until the facts of the situation have been exposed. The first step is still to define the problem. This is perhaps the most critical step. Once a problem is clearly defined, the steps to its resolution often fall into place.

A next step could be to find as much relevant material about the problem as possible. This may involve reading or other research, perhaps even testing when appropriate. The information must be examined to be sure it is factual and correct. Following that, all the data should be sorted and organized to determine patterns and connections. If a course of action to find the solution is not apparent at that point, it is a good time to stop and just mull over in one's mind all the possibilities. Even taking a break from working on the problem can be useful. How often do we say, "I'll sleep on it, and then decide?"

As pointed out at the beginning of this article, the result of a decision making process is only as good as the beginning information. Throughout this procedure the customary rules of deductive reasoning should be employed. Deductive or formal reasoning goes from the general truth to the specific truth. This results in a reliable conclusion. Inductive or informal reasoning goes from the particular truth or idea to an expanded general idea and is merely a statement of probability. A quick, but comprehensive course on logic procedures is presented in the Appendix of ***Twelve Great Philosophers*** by Wayne P. Pomerleau, 1997, Ardsley House Publishers, Inc.

Logic, combined with the scientific method of investigation, gives the greatest hope for arriving at the most valuable and true conclusions. Other procedures have inherent uncertainties and leave wide open the possibility of harmful results from poor thinking techniques. Our lives are important enough to use the best possible information and procedures to guide and assist us through the complexities which our universe and physical world impose on us. Not just our lives, but for the human race to persevere and thrive, and for the continuing survival of planet Earth, we must approach all major problems with good sense and logical methods.

VALUES

According to the Oxford English Dictionary, values are: ***a person's principles or standards of behavior: one's judgment of what is***

important in life. Similarly from O.E.D. a definition of meaning is: **important or worthwhile quality; purpose.**

We develop our values or principles as we mature. Our experience of the culture in which we live builds into our thoughts and actions those things which are deemed important by that culture. From our definition above, values are the individual's judgment of what is important in life. Since values are generated from our individual experience, and our individual experience comes from our environment and culture, it follows our personal position on values usually reflects the accepted values of the culture.

However, we all have experiences which are not totally identical to other person's experiences, so we have highly individually conditioned brains. Some persons use their ability to compare ideas, to arrive at the positions they feel are the most valid, which in some cases may not be identical to the values espoused by their culture.

Whether a person embraces the current cultural values or their own individual values, the ones which are accepted by that person are those things with which they can then be comfortable. Wherever a person stands in values, their position is the result of the input that person has received from their senses and the further processing of that data by the particular orientation of their brain. This is all a natural process and there is nothing mysterious about it. The input to the brain is natural and the processing of that information is natural. Natural is defined as, **"Pertaining to, in accordance with, or determined by the system of all phenomena in space and time."** The fact that one person's values are different from another person's values is to be expected as an expression of the essential differences between individuals.

I believe personal values can be good or bad depending on how a particular culture looks upon them. Some things considered good in one culture may be bad in another. From as simple as belching in public, bad manners in the USA, to good manners as a comment on the excellence of the meal in China; or the aim of equality of women, from good in the USA; to bad as a religious view in many middle east countries. That there are many values which are commonly accepted as "good" only means that many individuals have had comparable experiences in their lives and can find agreement on them.

These values may range from being inconsequential to being worthy of universal outrage. The disagreements probably arise from considering the values in too narrow a context. Values developed regarding only one group or one aspect of a problem immediately cut out the rest of the world and global views. There may be no one universal frame of reference for establishing the best whole world values, but certainly the attempt to examine the effect of the value on all peoples is a worthwhile exercise. Though it is impossible to be completely fair to everyone, the goal of recognizing and diminishing the deleterious effects of one's values on everyone else should be regarded and pursued.

Values which seem to endure most generally in the world cultures arise from consideration of the basic idea that all persons should be treated equally worthy in esteem. This should be true even if some persons through their actions demonstrate they cannot function in a modern society and need to be removed from it. They do not need to be denigrated, only restrained. This is best expressed by the idea that we should treat all persons

as we ourselves would expect to be treated in the same situation. This is an ancient pragmatic law not a religious one. People respond to being treated with consideration, It is human nature to respect those who appeal to them, and individuals tend to emulate those held in respect. Those who are thoughtful in their relations with others are more pleasing in being easy to deal with. Thus their values tend to be more accepted and deemed more valid for that reason.

Since values arise from all human experience and ideas, some are more well founded than others. Those founded on truths and reason will find greater acceptance among the more thoughtful persons. Those founded on myths and mysticism will find greater acceptance among those who easily believe in ideas not based in reality. I believe that values based on factual premises are more likely to be propagated than those based on mysticism and fictitious ideas, since the facts have to be more generally founded. They have to meet the agreement of a greater number and variety of individual viewpoints, contributing to a broad based acceptance. Because they are backed by truths, they are more easily defended and find easier reception by most persons. Some degree of co-operation seems to be a value common to those cultures which have survived. It seems apparent that greater progress can be made when most everyone agrees, and no one is working counter to the good of the community.

It is possible then for values to vary extensively. But why are some values recognized as more worthwhile than others? (See Morals) I believe it comes back to evolution. Those attitudes which benefited the total society were more easily accepted by the total society. Those holding them were more likely to prosper since they were better supported by the society because they did not lead to divisions and animosity and discomfort among the members of the society. Thus they became the prevailing attitudes and were passed on to the younger generations. If the value was such that everyone shared in society equitably, the society flourished and the value became desirable. If everyone did not share in a reasonable way, the society was basically unstable and eventually disintegrated. Even today, this is an ongoing process as demonstrated by the recent collapse of some communist systems in various countries.

Consider the probable values of the World Trade Center architect. Beyond the interest in efficient business reasons; the concern for beauty, strength, contribution to a better working environment, and usefulness based on facts and modern ideas, were probably some of the guiding forces in the care taken in the design and construction of the twin towers. Additionally, they became to be regarded as symbols of the successfulness of the culture which established them.

Consider the values of those who brought the Trade Towers down: Racial and religious hatred induced by leaders that preyed on gullible persons who were fed a diet of narrow minded views. These views denigrated those who had better control of the environment. Exaltation of their own cultural and religious views, and the desire for a divine, though non existent, reward may have been the motivations of these misled individuals. Also, envy and a desire to promote their own ideas as being better for the entire world may have driven them to demolish the buildings, shock the innocent, and attempt to destroy their enemies. Between the Builder and the Destroyer, which are more constructive values? Which are more conducive to being accepted and promulgated by persons who have any ability whatsoever at careful reasoning? Which values will fit in best with humane and honorable social evolution?

What does one do when faced with the decision of whether or not to blow up the World Trade Center? It obviously depends on the culture from which one arises. In an educated western world the question is essentially nonsense. What possible good could come from such an act? How could that possibly advance the well being of the human race? How does it add to the easing of cultural tensions? And yet in a system controlled by esoteric religious notions, it was possible to indoctrinate certain minds and distort their reality to the point of making the action seem completely justified. These people were victims of mind manipulation which induced them to participate in extreme anti - social behavior.

Value judgments are made on a different basis than the method of searching for truth or new knowledge (See Logic). Value judgments are simple weightings of the perceived worth of various actions to an individual. Their importance may range from the trivial such as "Which movie should I go to" to life altering events such as "Whom should I marry." In either case, one's brain is predisposed to hold certain values as discussed above. These values enter into the decision whether it is a trivial one or a major one.

The deciding process, whether formal or just casual, is the same. The pros and cons are considered and a judgment made. In a casual setting this is practically instantaneous. A formal procedure would be more involved. Following a more rigorous procedure, we might put down on paper two lists. One list would give all the arguments in favor of one direction, and the other would list the reasons against the action. Each item might be weighted as to its importance. By reading over the lists a preponderance of worth might be seen in one direction or the other. If a decision is not possible, the process is repeated more intensely. Or perhaps, the problem is left entirely with the intention of considering it again later.

Whether one is as formal as indicated above or not, the brain is still the controlling element. Whether we are disposed to consider only factual information or whether we include emotional or intuitive inclinations in the decision process, it all comes from the recesses of our brain where the data has been stored by our experiences over time. This is not a supernatural process. It is purely a physical operation and a natural function of the brain. I maintain that those who would introduce a mystical component in making decisions are deluding themselves. They are perhaps frustrating the most efficient operation of the brain's ability to resolve problems.

Another consideration of a value judgment might be the question, "How does a scientist decide what to do science about?" Scientists are basically no different than the rest of the community. Any person pursues those things which for one reason or another have intrigued them.

For whatever reason, whether it is in training, early experience, natural bent, or even imposed circumstance, the scientist is interested in some things more than others. Simply by virtue of being exposed and experienced in certain areas, a greater awareness for those areas develops. Since a particular topic arouses the most curiosity, it follows that it is the subject which needs to be understood the most correctly and accurately for the brain to be satisfied. Whether this comes about by chance or is the result of their particular environment, the decision to follow a certain line of investigation comes about naturally from the scientist's background, and the course of the inquiry is determined by the evolution of the search itself.

The same series of events can happen in determining the pursuits of anyone. We acquire our own particular interests as we grow and learn. By reason of the diversity of our experience and background, we are all different. Thus we can have persons interested in the Arts, Medicine, Industry, Agronomy or any of all the wide variety of activities we need as a culture to continue operating. The point is, we each make our own determinations depending on our experiences and the degree to which we can reason clearly and carefully with our brain.

So there are many different values in the world. Some are self centered, and some are aimed to do greater good for all people. As pointed out above, values when followed, promote the individual in the eyes of the majority are more likely to be accepted and are more likely to continue. These kinds of values are more likely to be based in truth rather than fancy. They are also more likely to evolve socially in future as they have in the past. We can hope they infuse the collective intelligence as the human race continues its maturation in the decades and centuries to come.

ETHICS

The New Oxford American Dictionary says Ethics is, “**The branch of knowledge that deals with moral principles.**” In his book, “*What Evolution Is*”, Ernst Mayr makes the case for the evolution of Human Ethics. He points out that altruistic type behavior arises from the natural activity of cooperation which develops in many successful groups of animals. Altruism goes one step further in being helpful or giving without the expectation of reward and at a cost to the giver. He states, “It requires no argument to defend the statement that such altruism would be favored by natural selection. Anything a parent does to enhance the well-being and survival of its offspring favors its own genotype.”

Ethics then can be regarded as another product of evolution. Ethical codes arise from natural selection and are enhanced by the experiences and requirements of living in groups.

Mayr extends this altruistic proclivity to near relations and ultimately to the larger group since it is still enhancing the group genotype. Perhaps the ethic is applied with less intensity the further removed the relationship, but it can still be operative.

Mayr then points out that the same altruism has not generally been granted to outsiders. However, in modern times there is the pressure to extend altruistic behavior and honorable ethics to those outside the immediate group. Mayr makes the comparison between old testament ethics and new testament ethics in the Christian Bible. In the old testament, outside groups are consistently treated differently than the family group. He points in contrast to the parable of the good Samaritan in the new testament wherein at some cost and inconvenience to himself a Samaritan helps a complete stranger. This behavior is offered as a favorable way to act towards others, even outside your own group.

These stories are separated by thousands of years, and by many generations, but they do demonstrate a growth in the complexity of the ethical outlook. I suggest that evolution has not stopped but even in the present time is being swayed by the influence of the wiser members on the rest of the community. With the accumulation of greater knowledge and the time for consideration of the thought patterns that knowledge spawns, it seems to me that our ethics are even now still evolving.

Mayr's arguments are clear and compelling, however I feel there is more to be considered. As a beginning point, the altruistic behavior of protecting one's own progeny is undoubtedly correct. But once that is established, the reasoning, aware mind enlarges on it.

In trying to grasp why ethics evolved in the human animal, I believe Philosophers make an initial mistake in attempting to isolate a single reason in why individuals adopt a particular behavior. To assert that ethics evolved beyond the family group in the interest of establishing the greatest pleasure or lack of pain for all, is a simplistic notion. We are complex animals. I do not believe we act in any situation for single isolated reasons. We have a mental life experience encompassing complex exposure to many happenings. This mental foundation is constantly influencing us, and it unavoidably enters into every action we take, even in deciding what is ethically correct.

Furthermore, good and evil; right and wrong; and other factors taken into account in deciding what is acceptable for oneself are not dichotomies. There are many shades of gray in all of these. Additionally, they may affect not only oneself but also one's family group and one's extended social group which are also important to individuals. Arriving at an end point of an ethical construction is a complicated and intricate procedure. We probably are not even aware of all the aspects which are evaluated in the process.

This very involved procedure points up the fact that ethics develop in different ways at different times. But they are a result of the evolution of individual and group reaction to life experiences. We adopt our ethical attitudes on the basis of our total experience of sensual input, since this is the only source we have for the information to make these decisions.

By experience and teaching in addition to innate responses, the human race is gradually realizing that the old maxim, "One catches more flies with honey than with vinegar," is actually true. Evolution is slow, but inexorable. Even the evolution of human thought and perception is a protracted process. We assimilate some kinds of knowledge slowly, but perhaps Humans will one day learn to live without war and to treat others fairly and equally as they themselves would like to be treated. It is a noble goal.

MORALS

Ethics lie at the foundation of human interaction. **Morals** are the practical interpretation of the ethics and the efficient application of them to

everyday life. The New Oxford American Dictionary defines moral as, **"concerned with or adhering to the code of interpersonal behavior that is considered right or acceptable in a particular society,"** Morals are nothing more than the codes of behavior which humans have adopted to make their communities work and survive.

Moral behavior has evolved over the eons as has everything else, and has nothing to do with "religion" as such. Moral codes evolved by practicality, and religions adopted them. For the early primitive tribes of primates to survive as extended family groups, there had to be rules of behavior even though they were not articulated but only understood. This is also true for other animals which live in groups or which have dependent young, but the rules in those cases are more primitive. The point is that rules of behavior evolved by necessity and were guided by the ethical standards which were also evolving.

Modern ideas tend to admit the value of each individual human being, whereas in the past this was not always so. Second class citizenship, owning of slaves, and forcing caste differences on others were all considered moral at one time or another, but modern outlooks now consider them immoral. Although women particularly are still treated with condescension if not outright hostility in many modern cultures, this has not always been true. Many ancient cultures placed a high respect on women, making them leaders, priestesses and sages in their own right. I believe the most constructive modern outlook is to consider everyone as equal in deserving respect. One group or type of individual should not held higher or lower than another. This should be the ultimate lesson learned from our cultural evolution, but unfortunately it is still not fully realized.

Moral codes define how people should treat each other and how they should behave to be "moral" in their culture. These actions can be in the realms of business, sex, social rites, age differences, family relationships, etc. The actions are those which the society has perceived to be the most advantageous in their collective experience. I do not believe that morals are absolutes. What may be moral in one culture may not be in another. Since morals are human constructs they may not be universally adoptable. Like everything else, morals have evolved and continue to evolve. In some places, slavery is still accepted as normal and therefore moral by their codes. According to the iAbolish site on the Web Portal of the American Anti-Slavery Group on the Internet, some such places are Haiti, Mauritania, Sudan, Saudi Arabia, Burma, and China. In most parts of the world slavery is immoral.

The biggest obstacles to realizing equality of all are the teachings of most religions. Religions developed in early times and they served to help solidify groups. In the modern world, which makes us all of one group world wide, narrow religious views are counterproductive. Inherently, religions tend to say "our religion is the one true religion." This already implies that everyone else is lesser. Using the same basic philosophical or religious assumptions, various thinkers will arrive at contradictory results. Every group thinks they are right and will literally defend to the death that others are wrong and need correcting. Sometimes the method of correction is in the form of flying airplanes into buildings.

The difficult words here are *assumption* and *right*. Let us consider them one at a time. Scientists may say, "Let us begin with a completely clean slate and make no assumptions." Starting there, they may ask, "What is the problem?" But religious thinkers start with inherent assumptions

in their views about their position. Immediately they thereby have restricted the arena for the analysis. They must assume that any course of action they take has to be in accordance with their unique understanding of the social structure and not be in conflict with their singular position on their god concept. Making an assumption limits the development of the ideas and already gives direction to the evolution of the thought. If there must be an assumption, it should be that all people are equally important.

The term, "*right*" is a very relative idea. Usually it means "what is best for me." The biggest hurdle here is get people in general to accept world views and drop unsophisticated, provincial ones. Once we all get to thinking in terms which take into account what is perceived by most individuals as most advantageous for everyone, we will be on the correct track to solving the world problems. Preserving the Earth for as long as possible as a decent place for people to live comfortably and in peace, should be the "right" we strive for and the ultimate moral goal.

It will probably not be possible to arrive at one universal Moral code. The inhabitants of the Earth would have to understand each other in much more detail than it would be possible to do as a practical matter. However, we must strive to reduce the differences and conflicts as much as we can. It is counterproductive to be in interminable conflict. As we continue to grow and evolve as Humans we must reach a consensus on behavior.

WAR

Apparently, war has been a constant companion of the human race ever since individuals banded together to form small - then larger and larger groups. Why is this? Why does war seem to be the preferred method of conflict resolution? I suggest it is part of the process of evolution. In the grand scheme of things, evolution has not stopped, but it moves inexorably on in such microcosmically slow fashion that it is unnoticeable.

Throughout all of our early history, physical force had been the determining factor in survival. If an animal recognized it needed something, it took it or fought for it or stole it in order to have it and thus have a greater chance of survival. The animal did not reason with other animals for a fair distribution or fair exchange for the item because rational thought was not possible in simple brains. Nor had the complex thought processes necessary for intellectual solutions to problems yet evolved in more complex yet still primitive brains. The use of force is millions of years old and well ingrained in our psyches, but rational thought at best has been around for only a few thousand years. No wonder our initial response to conflict is force.

Consider what war is. War is basically the use of force to make one group do as a more powerful group wishes to be done. This is no different than an expanded use of the basic energy behind natural selection, that is, the appropriation by any means available of anything considered useful and found to be advantageous to survival.

In addition to the practical nature of force making it the preferred method of acquisition, there was also the emotional component in our reactions. Forming into compatible groups aided the early societies in survival by having other trustworthy individuals with whom they could live comfortably. Their group became of primary importance and was much more like-minded, cooperative and mutually supportive than any outside group. They felt more at ease and agreeable in their group. They did not understand intellectually why they felt this way nor did they understand their emotional reactions, but they knew that their way worked for them and their group and their methods were the most desirable. Intellectually they did not have the capacity to perceive or appreciate that their close association built bonds with others in the group. These good feelings did not extend to outside individuals or groups which served to develop the concept that different, outside the group individuals, were thus untrustworthy.

Now, that is, in the last few thousand years, we have evolved to the point of possessing rather complex rational thought. Our best thinkers over the years have pointed out the absurdity of using force for winning over the minds of others, and some leaders have listened, but the bulk of humanity still subscribes to the outmoded use of force for solving problems which leads to much social unrest and ultimately to wars. The inherent nature of individuals and groups to resist the imposition of force results in conflict with death and destruction on both sides.

It is my conviction that not all members of a species are evolved to the same degree. Change, evolution, is an extremely slow but continuous process, and some individuals are more in advance and some lag behind. Unfortunately, at the present moment in our evolution, we are quite spread out in the rational thought characteristic. Those in the forefront who try to negotiate solutions to differences are labeled weak and non-leaders, while those who are eager to take stands and resist any and all change are closed minded obstructionists. It is time to recognize the values of evolving and encourage everyone to use these amazing problem solving qualities of our brains to solve more problems on the local, national and international levels. Put aside the fists, the guns, the rockets, the blockades, and all manner of forces in engaging in solving society's problems. We must speed up this phase of evolution or the world will be destroyed before we have an opportunity to attain the necessary rationality.

LIFE OUTLOOK

The advantage of being aware and knowing much about the physical world carries with it the misfortune of knowing that life ends. This poses a particular problem for the thinking brain. The brain evolved to protect us (see The Brain). It has been able to protect us in many magnificent ways in our daily lives, but the problem of ultimate non existence has produced many strange reactions.

The most common result is for humans to deny death. Most of the basic religions grew up around the idea that there was some sort of afterlife in which we would continue to exist one way or another. Whether it were to be in a situation of paying for sins. or that of enjoying the fruits of behaving correctly, there was still the avoidance of non existence. The concept of non existence is a particularly difficult one for an organism

whose only experience is that of existing. It just does not seem possible to it that it will no longer be alive and aware.

This idea of an afterlife and the religions it spawns becomes the major influence on the way life is perceived. Most people adopt the religion which is imposed on them from birth. This is only natural since it comprises their total experience and they “know” it is correct because the reputable people they are familiar with “know” it is correct also. Although many may change their ideas and religions, the bulk of people stay with their childhood religion. But most religions invoke such forces as might be defined as gods, or a ubiquitous spirit, or the primal force of the universe, etc. In spite of no evidence of these entities, and no need of them to explain the physical world, many people nevertheless believe in them completely and wholeheartedly.

There is no good term for the belief that science is the best way to understand the physical world and that there are no mysterious forces in control of the physical universe. There is one term though, which has been used very often in the past to identify the non believers. It is “Atheist” which means apart from god. It is simply the belief that there is no god. However, the term carries pejorative connotations. It took on such negative meanings that it was often used to describe those who only disagreed with the current popular beliefs even though they might still believe in a god.

Some people dodge being complete social outcasts by calling themselves Agnostics. Agnostic is a word coined by Thomas Henry Huxley and is defined as one who does not know whether there is a god or not, but is still searching, i.e. has good intentions. It also has negative implications though, in that an agnostic can be accused of having no ability to “have faith.” This is negative only because the greater part of our culture considers that “having faith” is a virtue. I believe that whether it is indeed a virtue is open to a good deal of debate.

Another pejorative term used by many to describe those who believe in science as the only source of truth is “scientism.” Originally used in 1877 in Frazer’s Magazine, it was benignly descriptive of the mode of operation of a scientist. Since then, the common culture has attached disparaging meanings and the term “scientism” is generally regarded as scornful.

Perhaps a term which is descriptive yet in good favor with most people would be “Realist. Can there be anything wrong with considering reality as a compelling force for belief? Actually, terms themselves are neutral and carry emotional content only so far as the community wants them to connote anything emotional. So any term, if used to describe something held to be unacceptable by the community, will be forced into meaning something negative.

Regardless of the name applied, there are those of us who like facts and reality. We do not accept mystic mumbo jumbo and irrational ideas in spite of who may be promoting them. This is a healthy outlook. It is a reasonable and consistent outlook. It is a mentally healthful position as described by the Psychotherapist, Albert Ellis, in his book “The Case Against Religion”, (American Atheist Press). It is the position most likely to attain success in dealing with the real world, and it is the position with which we atheist, secular humanist, scientists are most comfortable.

ART AND BEAUTY

Most people enjoy some form of the Arts such as literature, music, painting, etc. They also enjoy many aspects of nature and the natural world or even the edifices and exploits and changes wrought or created by human beings. There is much in the world to excite the senses and please and satisfy our curiosity. Our senses and sensual abilities have evolved far beyond the mere requirements of survival in our environment to the point where they have become an entertainment in themselves.

People do a wide variety of things simply because they are able to do them, and it is pleasing and gratifying to express themselves in many ways. In reading about the Arts, it seems there is much debate and disagreement as to what exactly constitutes Art and Beauty. From Aristotle's belief that the major function of art is to provide human satisfaction, to Kant's proposal that objects are beautiful when they satisfy a disinterested desire (one that does not involve personal interests or needs) to Sartre's seeing art as an expression of the freedom of the individual to choose, there is wide disparity in viewpoints. It appears that the qualities of Art can be stark, harsh and jarring, or serene, placid and pleasing. It can be harmonious or atonal and dissonant. It can be amusing and agreeable or troubling and agitating.

Compton's Encyclopedia lists two problems with Beauty. They are (1) The inability to give a clear and concise definition that everyone can understand and agree upon, and (2) Are there real standards of beauty, or is it only a matter of what the audience thinks? These questions probably apply to Art and Aesthetics, also. It seems from the views of major players that Art, Beauty, Aesthetics all have something to do with intuition.

Thus it is evident that the Arts, Beauty, and Aesthetics relate to emotional responses of our perceptions of objects in the world which we experience through our senses. Since there is so much disagreement as to what the collective "Arts" are, and there are no standards with which to evaluate them, they clearly then cannot be of a factual nature nor fit the designation "reliable information." It feels to me that Aristotle's proposition that art is for human satisfaction is closest to the valid function of Art, Beauty, and Aesthetics.

The value of the "Arts" comes from their qualities of providing human beings with diversion and relaxation. The Arts can enhance our playful nature and serve as a reprieve from the demands of every day life. They can evoke emotional responses which may cause us to be more concerned about other aspects of our world. They certainly enrich our experience of life and help us to enjoy the real world.

The Arts serve as a mechanism for us to interact with each other. To enjoy music, cinema, theater, or other visual displays together allow for an enhancement and deepening of understanding and respect between individuals. Besides prodding our senses and emotions, the Arts embellish

the experience of life and foster an appreciation for the range of adventures and happenings which are the substance and fabric of existence.

Without the Arts, life might become boring and mundane more often and to a greater degree than it does naturally. In a very real sense, the Arts along with the excitement of knowledge, physical perception, and tangible experience in working in interaction with reality ourselves, are the qualities which are what life is all about.

FREE WILL

Whether the human animal has free will or not has been an absorbing and happy problem for many philosophers over the ages. The question is, "Do we have the free ability to choose courses of action, or are we only reacting to situations because of all our prior conditioning and experience?" There are good arguments in both directions. We certainly feel as though we have free will, and because it is claimed that "god" granted us the ability of free will, it is supposedly undeniable. But we also realize we are the product of all that has happened to us in life. Our choices may be only the learned responses we have developed over many years which all impinge on the decision of the moment.

I propose that the idea of free will is a "straw man" which is built to define a position which is not a complete description of the facts and can then be struck down or defended depending on the position of (and at the pleasure of) the protagonist. I suggest that we have neither "free will" nor "restricted will" but only Will. We have a brain which has been working all our lives collecting, sorting, and analyzing information and experiences. We also have a faculty of reasoning and an ability in comparing ideas, which functions to allow us to evaluate various ideas as to their importance. This is neither completely free nor completely a robotic action. By understanding a situation, it is possible that we can operate differently at different times in similar circumstances using both our freedoms and our constraints.

Let me offer an example. Recently while driving, I was on a ramp with two lanes. At the end of the ramp there were only the options of a right turn or a left turn. The lane to my right was stopped and part way up the ramp the lead car was frantically signaling to move left. Evidently she had inadvertently been caught in the wrong lane or realized she needed the other lane too late. I decided to stop and let her make the maneuver to the annoyance of the car behind me. I could see the traffic light ahead was turning red anyway and nothing significant was lost. Thus both lanes could then move freely up to the light. I considered this only common courtesy, although others in the situation were less charitable.

Later on and again in two full lanes moving in the same direction, traffic was moving at a slow but steady speed approaching a green light. A car was attempting to enter from the left into the lane I was in. This time I continued along in my space with the rest of the traffic, as I decided too much time would be lost in stopping to let a car in, and we all would probably not make it through the light. I could see in the rear view mirror that he was easily able to enter the lane after the string of cars had passed. In fact, he passed me also a few blocks further on.

The result was that I reached the conclusion of opposite actions in two similar situations because I was weighing the effect of my actions on the smooth flow of traffic. I exercised my Will. It was used in both manners; as it was conditioned by past experience, and by my considering the circumstances of the present situation. Was it free will then, or was it just conditioned response? My position is that it was only my Will, and whether it was completely free or completely conditioned is of little consequence. The important thing is that it worked effectively to my advantage and to the best advantage of the others involved.

The reality is that we do have the faculty of reason. It is apparent to us in considering the immediate situation how it relates to past experience. This does not mean there is an automatic response to past experience but that it can be considered and weighed in a speedy manner in dealing with the present. As pointed out elsewhere (See The Brain) our brain has a dual nature and it is impossible, if not disadvantageous, to try to completely isolate or separate the two aspects.

Trying to define whether we have free will or not is pointless in my estimation. We have a marvelous organ, our brain, with many complex subsystems which can deal with facts and can reason with them and compare them. This brain can also give us emotional exposure to joy, sorrow, fear, confidence, etc. and by doing so let us experience the fullness of what it means to be alive. We may as well enjoy these things now, and claim free will to whatever extent we feel we have it. When we are dead it will be out of reach, and for us, no longer existing.

BENEFITS

Why bother with all this discussion of science, the scientific method and atheism? It seems to me that to enjoy life to the fullest, we should be aware of what it means to be a sentient creature to the greatest extent possible. It is fascinating to study the process of revealing ourselves and unmasking the wonders of the world as we live every day. We should realize who we are, where we are, and what is going on for the greatest gratification with life. As should be clearly evident by now, I believe we are existing in a purely physical world, and our best tools for charting our way are the facts supplied by our senses and the truths derived by our reason. Both of these must be constantly monitored to keep them in agreement with physical reality and sensible critical analysis. The best truths we can discover should be our guide in life. Nebulous assumptions and fabulous stories are like shifting sands which provide no real support. **There is no need for a god** to make the world and life happen or to keep it going. The god concept only confuses gullible people with its continuing nonsense.

After a thoroughly consistent explanation and outline of the secular humanist or atheist position, we wonder why anyone would hold with the old religious ways. There are many reasons, of course. The most powerful probably is the entrenched thought patterns and ideas in a religious person's brain. These are highly unchangeable because that is the way their brain grew and developed to deal with those sorts of thoughts. In primitive times, survival depended on not changing the mental states and maintaining the reactions which worked. That inflexibility cannot be

helped, but there are other obstacles to change which might be alleviated.

In order for a person to accept something new to replace an outworn old idea, the new must be something which is a very good substitute. Consider that Heaven is a place filled with love and enjoyment forever. That is an appealing idea on the surface, but is that really desirable? Unremitting love might cloy the awareness, so that eventually it became a burden or meaningless. Continual enjoyment might soon reach satiation and the exposure come to be jaded. And forever? How long is forever? The universe is 14 billion or so Earth years old and is still in its infancy. Various estimates range from 100 to 200 billion years as the eventual age at which the universe ends (disperses or collapses). What does one do for diversion after a couple of billion years?

I like the idea that life is the one time to experience love, joy and all the other emotions in doses sufficient to understand and short enough to make precious. Realizing that here and now is the whole ball game ought to give one pause to try and live it fully and completely. Life becomes more valuable with the realization that it ends absolutely. But it can also be viewed as ending with relief. One has lived one's life and then can go to non existence calmly and with a sense of peace that further existence might not offer.

You ask, "Why base a belief by which to live on the foundation that there is no god? Why use the facts developed by the scientists as the most accurate premises for a world view?" I submit there are several reasons.

1.) It makes sense. When the human brain operates at its highest level of capability, all ideas and facts fit together in a consistent, sensible, and logical way. There are recognized methodologies for keeping concepts as near reality as possible. To introduce speculation, conjecture, supposition and fairy tales to the structure of belief is counter productive to maintaining a safe underpinning for life decisions. Important decisions in life must be based on ideas founded in truth and validity.

2.) There is a benefit to rejecting god and mysticism. It is a resulting healthier life outlook which is free of guilt and fears. In his article, ***The Case Against Religion***, American Atheist Press, Albert Ellis makes the point that not believing in God is a healthier mental state than believing in God. There is no irrefutable evidence that a god exists. It is demeaning and an impediment to living a full life to try to satisfy a capricious god and fulfill arbitrary doctrines spelled out and established by other humans of much earlier times when the human race was less well informed than we are now. Using our brain power to find the most reasonable and satisfying methods of living is only using our capacities to their best advantage and is the epitome of judgment and wisdom.

3.) Thinking for oneself frees one from a lot of the control others would set on us. Knowing our own mind and reasoning for ourselves, permits more freedom of action and allows a more suitable understanding of the source of our convictions. In a very real sense we can be in greater control of our own destiny.

4.) Being more aware of the source of our ideas and adopting a scientific attitude which keeps us alert and skeptical has the power to make us much less susceptible to flim flam and to recognize more easily those who would delude us. We can stay a step ahead of the con artists and prevaricators and resist their schemes and nonsense.

5.) Understanding the workings and foibles of the human brain can broaden our outlook and make us more willing to recognize the plight of others. Knowing that everyone struggles with trying to make sense of the world and that our universe is a confusing place, we can sympathize with the problems they face and perhaps appreciate the ways they use to solve them. In comprehending the real world devoid of the obscure and ethereal components which mystical beliefs carry with them, we can adopt a less petty or less narrow-minded viewpoint when considering others.

6.) In adopting a sensible view of life and death, one can be better prepared for the inevitable end. Understanding that life is a very special situation and that death results in oblivion is a realistic position. Accepting this well in advance of it occurring can lead to just as calm an acknowledgment of it when it happens as any other belief system.

These benefits are well worth the effort it takes to obtain them. They are available because the human mind has made great strides forward in understanding the physical world. To deny what we know, and to accept blindly centuries old mystical concepts is very much akin to the proverbial ostrich which buries its head in the sand to avoid Reality. Refusing to use new information but sticking with the status quo leads nowhere. That, to me, seems unfortunate, if not stupid.