# THE AGE OF FANTASY AND THE AGE OF RESPONSIBILITY

Robert L. Kurucz Harvard-Smithsonian Center for Astrophysics

July 4, 2003

# THE AGE OF FANTASY AND THE AGE OF RESPONSIBILITY

# Robert L. Kurucz

Harvard-Smithsonian Center for Astrophysics 60 Garden St, Cambridge, MA 02138

We live in a fantasy world. We have fantasies about nations, fantasies about wars, fantasies about government, fantasies about politics, fantasies about sports, fantasies about science, fantasies about religion, fantasies about ourselves.

Twenty-eight hundred years ago Hesiod wrote about human labor in *Works* and *Days*. He called his era the Age of Iron because life was hard, like iron, and he contrasted the Age of Iron to earlier ages when life was easier and more noble. Following Gayley (1911):

The Age of Gold ... was an age of innocence and happiness. Truth and right prevailed, though not enforced by law, nor was there any in authority to threaten or to punish. The forest had not yet been robbed of its trees to yield timbers for vessels, nor had men built fortifications round their towns. There was no such thing as swords, spears, or helmets. The earth brought forth all things necessary for man, without his labor in plowing or sowing. Perpetual spring reigned, flowers sprang up without seed, the rivers flowed with milk and wine, and yellow honey distilled from the oaks. ... And when these heroes fell asleep in death, they were translated in a pleasant dream to a spiritual existance, in which, unseen by mortal eyes, they still attended men as monitors and guardians.

[The Age of Silver] came next, inferior to the golden. Jupiter shortened the spring and divided the year into seasons. Then, first, men suffered the extremes of heat and cold, and houses became necessary. Caves were their dwelling, — and leafy coverts of the woods, and huts woven of twigs. Crops would no longer grow without planting. The farmer was constrained to sow the seed, and the ox to draw the plow. This was a race of manly men, but insolent and impious. And when they died, Jupiter made them ghosts of the underworld, but withheld the privilege of immortal life.

[The Age of Brass.] Next to the Age of Silver came that of brass, more savage of temper and readier for the strife of arms, yet not altogether wicked.

The Age of Demigods and Heroes. ... The demigods and heroes were of matchless worth and valor. Their adventures are the basis of ... [much classical literature]. ... The Older Heroes especially were endowed with godlike qualities, which they devoted to the service of mankind in the destruction of monsters, the founding of cities, or the introduction of civilization. ... The Younger Heroes were chieftains in the Theban and the Trojan wars and in numerous other military or predatory expeditions.

[The Age of Iron.] Last came the hardest age and worst, — of iron. Crime burst in like a flood; modesty, truth, and honor fled. The gifts of the earth were put only to nefarious uses. Fraud, violence, war at home and abroad were rife. The world was wet with slaughter; and the gods, one by one, abandoned it, Astraea,

following last, goddess of innocence and purity.

Hesiod's was a fantasy treatment of prehistory and early history, except, perhaps, for the Age of Iron which is still a good description of the present time. All cultures have "Ages" to describe their prehistory whether or not they use the word "Age".

Historians make "Ages" to describe whatever they happen to be studying: the Dark Ages, the Middle Ages, the Renaissance, the Enlightenment, etc. However, these new Ages may be as much fantasy as Hesiod's. These examples of Ages are Eurocentric and, even in Europe, the "Age" usually applies to only a small geographic area.

Let us examine humanity as would an objective Observer who has not been immersed in our fantasies. How would the Observer see the development of humanity from the "Golden Age" to the present? Would the Observer see the European Ages as having any significance? How would the Observer divide world human prehistory and history into Ages? The Observer would find no Ages. There has been very little progress over the last forty thousand years. In some ways the fantasy is even stronger now than it was forty thousand years ago. There has been only one age, the Age of Fantasy. We can not be children for ever. The human race must grow up and move into the Age of Responsibility.

# A few fantasies in The Age of Fantasy

#### Gods

Gods are responsible for success or failure. People do not take control of their own lives because they think that only gods have that power.

When one hundred seventy people are killed in the burning of a funicular car at a ski resort the response in the Age of Fantasy is "Why us? Why so many? God is with us in our sadness, in our need and in our pain, and together we will find a way out of our mourning."

The response in the Age of Responsibility is "Why did we not put escape latches on the windows so people could get out? Why did we not install a fire suppression system to put out the fire in the first place?" The adult response to the grief is crying. We should cry until we are cried out. Then we should fix our mistakes and not repeat them, and we should tell everyone else on earth how to avoid that mistake. The accumulation of such knowledge provides an exponentially growing common sense education of the human race that greatly increases its fitness.

The idea of afterlife made some sense when living things had spirits, when trees had spirits, when deer had spirits, when there was an invisible world of spirits representing living beings. Humans had spirits as well. But by the beginning of history, people thought little of killing trees to make houses and ships, or of killing animals in organized hunts as entertainment. Religion and afterlife became a practical political tool.

Afterlife and multiple lives are fantasies for avoiding the reality and responsibility of the present. People are born, they live, and they die. If they

do not live well in this life, they have lost their only chance. If they do not contribute to the fitness of the human species their lives are worthless.

# Growth

In the Age of Fantasy all civilization is predicated on growth, the way cancer grows until the host is killed. The human species is at the top of the food chain. Through blind growth we are capable of exterminating, directly or indirectly, knowingly or unknowingly, every plant and animal species. We are capable of killing the oceans, the rivers, the lakes, the mountains, the forests, the plains, the aquifers, the beaches, the swamps, the wetlands. Humans do not seem to be aware of their own behavior. The only check on growth now is slaughter and plague. Population pressure on formerly remote lands unleashes virulent new diseases that kill millions. We help by killing each other.

Human civilization should be in quasi-equilibrium with rest of the planet. Part of the reason for damage to the earth is that the human population is six times larger than the earth can handle. A population of one billion humans is likely to be near the equilibrium value. Unless one of the new diseases is wildly successful, we need to limit the birth rate by forbidding women or men from having more than one child, except for twins. Once the population drops to one billion, the rule would be changed to matching birth rates to death rates. If the productive lifespan increases, the birthrate must be reduced to compensate.

#### **Doctors and Medicine**

There was a time when doctors cared for, and about, their patients. If a patient was badly burned over much of the body, the morphine dose would relieve the suffering forever. Now doctors boast that they can save a person with burns over 90% of the body. They cover the wounds with patches of newly grown or artificial skin that work to the point of keeping fluids in and bacteria out, but they are delicate and not good for much else. The new skin hurts. The recipients of this medical miracle would rather be dead.

When a patient is brought into an emergency room with an arm torn off by a shark and with a brain without sufficient oxygen for half an hour, the proper treatment is "do not resuscitate" plus a massive narcotic. The brain is damaged. Instead modern doctors use such an opportunity to imitate Dr. Frankenstein. They get the brain and the heart going, and they sew the arm back on, and they get blood to flow through it. They create a zombie with a funny arm who will suffer and cause his family to suffer for fifty years. Why?

The first thing a doctor should ask in these cases is what would it be like if he or she switched places with the patient. Would the doctor want to go on living? If so, why? Why do doctors want to prolong life if all it means is suffering for everybody concerned with no conceivable value. It is worse than that because it wastes resources that could be saved or used constructively. Why has the general public (in the United States) accepted these fantasies?

Another modern innovation by doctors and drug companies is making sure that people die slowly over many years, preferably in nursing homes, after taking thousands, or even tens of thousands, of pills and using all of their savings and insurance. Doctors do this by giving drugs that prevent fatal heart attacks and strokes, and by banning the foods and social drugs and activities that bring joy to life. Instead of dying when still relatively healthy, people die slowly from a series of small strokes or heart attacks spread over years. They frequently end up completely helpless in nursing homes and they pass the time waiting to die. Their families must suffer through it as well. When people die "naturally" there is little profit for the doctor, or for the drug company, or for the hospital. Since there is only a small charge against insurance, there could be enough insurance for everybody. There is less suffering by the patient or the family. People can die knowing that they have worked hard and lived well.

Here is part of an obituary from my local newspaper:

J was known for her strong spirit and she lived an active life until the very end. Between the ages of 80 and 82 she visited family and friends in London, Paris, Berlin, Warsaw, and toured Hong Kong and Micronesia. At the time of her death, she had just visited Budapest and moved on to Banska Bystrica, Slovakia. J was walking across the town square after dinner with her son and grandson when a sudden severe heart attack felled her. [That would have been a perfect death but her children revived her so she could suffer needlessly for two weeks.] She received prompt and skilled care and life signs were restored but her strength declined over the following two weeks, and a second heart attack in the early hours of July 19 caused her death.

Dying is normal and healthy. Common sense tells us not to resuscitate unless the result will be recovery.

# The Fantasy-Entertainment Component in Everything

The basis of almost all civilization is fantasy and entertainment. They provide the actual organizational structure that substitutes for any realistic or responsible behavior. They can create fantasy work that has no real value but keeps people entertained or distracted. For many people entertainment is more important than work. They think that people exist to be entertained. The real purpose of entertainment is to help increase productivity by providing relaxation and by easing tension, or by generating excitement, say through music, to make dull work bearable, or by providing escapist fantasy to counteract the strain of dull work, or by stimulating creative or meaningful thought.

Here are examples of the generally unrecognized fantasy-entertainment component of various human activities.

Newspapers have far more coverage of sports and movies and television and other entertainments than of news and substantive matters. And even the "news" is usually an entertainment of popular crime or disasters that are inflated far beyond their common-sense importance. By comparing different newspapers and different sources of news one finds that the factual information given by newspapers is not reliable. Often they quote officials at face value who are obviously lying and they quote rumors that are most likely false. They do not give enough information for the reader to develop an informed opinion. The reader imagines he or she "knows" more but is actually being misled.

**Television and radio** news are even worse than newspapers because the broadcasts are so abbreviated. Television repeats the same news over and over to fill up the time because it is formatted around the availability of video clips, not real explanatory content. Television and radio do not broadcast news; they broadcast entertainment.

The explicit entertainment content of television and radio also carries on a campaign of trivializing everything that matters in reality. Most radio stations advocate "living for the weekend" and sunshine is good and rain is bad, and work is bad and play is good. Why not play music to work by, to do homework by. Why have all the inane comments by disk jockeys that are distractions from the music that people want to hear. This happens both on classical and on rock stations. Television programs do not show people working, doing homework, producing anything useful. They give the impression that real work does not matter. Children and many adults may not realize that that message is a fantasy.

Science has fallen into an entertainment trap. Research progesses by showing how important the work is to the general public – finding life on other planets, curing cancer, curing heart disease, providing us with cheap energy, etc. It is publicised through press releases, popular newspapers and magazines, and in journal articles. Producing new results every year keeps the funding coming. Most people overlook that a year-old press release or magazine story is usually wrong because it was premature and overplayed. Hyperactive publicity makes the public expect more and flashier results on a regular basis, and that work that does not produce flashy results must not be good science and should not be funded.

Computer manufacturers, computer scientists, and computer programmers have fooled the public into thinking that computers must be difficult to use and that people must adapt to arcane operating systems and languages. In other words, that people must do what the computer wants. This arrangement produces many high-paying jobs and a priesthood of experts. It sells many programs and much hardware that seems to be needed to get the computer to produce results. In many cases, however, it is not obvious that it increases productivity.

In the Age of Responsiblity each person is responsible for her or his own behavior and computers do what the user wants. Any significant computer should be able to carry on a natural language written dialog with the user to find out what he or she wants and what service the computer is capable of providing. The computer should be able to explain in as much detail as desired, and it should be able to illustrate its points with diagrams and pictures and examples, and it should be able to write a personalized manual for the user. Every piece of hardware and software should (appear to) be able to describe itself and should be able to instruct the user. The operating system should be able to install new hardware and software and configure itself and maintain itself. There is no reason for a user to know the technical details.

One of the results of the current bad operating systems is that most people feel inferior to those who have memorized the arcana and can use the system. When computers are easy to use, every person will be empowered and will be able to increase his or her productivity at will.

**Politics** is the art of winning elections to gain power or influence or economic benefit, including jobs. Necessarily it represents the politicians as something they are not — good managers, good leaders, good thinkers, self-sacrificing, working for the commonweal. A few exceptional politicians may actually have those qualities. Observing politics objectively, or subjectively, or even playing it, is quite entertaining and can consume a whole lifetime. Most people do not understand the reality but believe the images.

Government is normally presented as the constitutional embodiment of a philosophical model, such as democracy. The model is taught in schools. Most people think that government follows the model. However when there is a large failure or disaster, the publicity and entertainment machinery are focussed on the problem, and the fraud becomes apparent.

War as entertainment. As long as it is far away and does not affect them personally, most people enjoy watching war on television or in newspapers. It is like following sports. Most of the news is lies or misrepresentations in any case. Sometimes wars are fought purely for entertainment, with a "threatening" "enemy" to distract the public from problems at home.

Willingly or unwillingly, a celebrity entertains by publicizing his or her **Life** and **Death**. Many people enjoy following the details of movie stars, criminals, singers, etc., as an escape from normal life.

**History.** Beginning classes for historians teach that history in books is half about the historical period and half about the historian who wrote the book and his or her historical period. The students read histories written at different times, in different cultures, about the same historical period. The stories and the emphasis are different. Documents and official documents have almost always been lies designed to conceal the real history, as they are now. Primary data may be truthful but they are almost always selected, undersampled, and overinterpreted. Historical predictions of the past are simply not reliable.

**Space exploration and colonization.** Humanity is a cancer that is destroying the earth. Why not metastasize to other planets? We could set up colonies of humans to destroy those planets as we destroy the earth. With modern medicine and technology a colony could grow to 10 billion people in only 1000 years. Then each colony could send out its own colonists to other planets. In only one million years humans could occupy and destroy the whole galaxy.

Some people argue that there is no limit to growth because we can colonize other planets. This fantasy, as *Star Trek* or *Star Wars* or NASA, seems to be taken seriously by many people, but it is just another way of avoiding responsibility for our actions here, now, on this planet. If there is no limit to growth, there is no need to act responsibly in the present. But there is a limit. When other civilizations that occupy the galaxy discover us, either here, or on some other planet that we are exploring, or through our television broadcasts, they will identify us as cancer. They will kill every human in self-defense of the galaxy, just as we try to kill every cancer cell we find in our bodies.

# The Age of Responsibility

It is now the Age of Responsibility. It is time for us to grow out of our childish and adolescent behavior and to take responsibility for our actions, both good and bad, and to take responsibility for the health and improvement of the earth itself of which we are part.

We have the franchise to maintain this planet. Every year the sun sends free energy to the earth. We are required to use that energy to improve the earth so that every year the earth, including ourselves, is better than the year before, allowing for natural disasters and statistical fluctuation. The measure of our performance is the net profit of solar energy, the total solar energy input to the earth that is saved minus any previously saved energy that is used up, divided by the total solar energy input. The earth has been saving solar energy for a billion years without our help. It has made fresh lakes and aquafers, dirt, forests, plants and animals, dead biomass, and it has stored away fossil fuels for use during ice ages or when the sun does not shine because of volcanoes, meteorite impacts, or fires. Even at those times, however, sunshine is still available for use above the atmosphere. The earth can support humans and other forms of life even when it is covered with ice.

The earth has gotten worse every year for the last five thousand years. In the Age of Fantasy we cut down the forests for fuel and now we are trying to destroy the whole supply of fossil fuel as fast as we can. There will be none left. In the Age of Responsibility fossil fuel is not used unless there is an emergency. And we are destroying everything else the earth has put aside: fresh lakes and aquifers, dirt, forests, plants and animals.

In the Age of Fantasy we seem not to be able to plan a few months in advance, let alone a few hundred or a few thousand years as is required to maintain the planet. We think nothing of destroying the future for our descendants through overpopulation and fantasies of growth.

Maintaining the earth does not mean keeping it from evolving. If the earth wants to be warm or cold, let it be warm or cold. Severely changing the climate will cause many extinctions. That is not bad. It also opens ecological niches into which new species will spread. Life is more interesting when there are challenges.

# **Duties**

Every person must be taught our duty to maintain this planet. Every person is responsible for his or her actions. Every person is responsible for his or her successes and failures. Every person must add what they have learned from their successes and failures to the general knowledge so that there will be an exponential improvement in our knowledge and abilities. People must help each other. But people are not expected to work out of saintliness, or nobility, but out of self-interest. People must be well rewarded for improvements, inventions, and successes.

Our great-grandchildren will live in a real civilization in equilibrium with the real world. Each life will matter. They will feel that their lives have meaning. They will live fully and experience much – mostly real. They will know the difference between fantasy and reality. They will make real products and build real buildings. They will die knowing they have lived well.

# **Practical Details**

In order to evolve to a real civilization in the Age of Responsibility, we first have to clean up the mess created in the Age of Fantasy.

We repeat the most important issue: a population of one billion humans is likely to be near the equilibrium value for the earth. Part of the reason for damage to the planet is simply that the human population is six times larger than the earth can handle. For example, instead of catching a sustainable few per cent of a fish stock for food, we catch everything until the stock collapses. We repeat the same mistake over and over again. Population pressure on formerly remote lands releases virulent new diseases that kill millions. We help by killing each other. Unless one of the new diseases, or we, are wildly successful, we need to limit the birth rate by forbidding women or men from having more than one child, except for twins. Once the population drops to one billion, the rule would be changed to matching birth rates to death rates.

At one billion the whole earth can prosper, every person can prosper. Plants and animals can prosper. Worry in the Age of Fantasy is mostly man-made, produced by overpopulation. In the Age of Responsibility there need be no worry about food or jobs or housing. The psychological benefit of that stability is worth a tremendous amount to society in increased productivity, better health, etc. Adults need not live through the life of a child but will have their own lives to experience. Both parents and children will be more secure.

Now when almost everything is found to be fraudulent or misrepresented in science, in government, in religion, in business, we have the opportunity to begin to act like adults. We can develop commonsense rules that promote the commonweal and we can put them into practice. As people become more competent we can phase in more of a town meeting form of government. Most of those people should be capable of understanding the working of government and society, which should be much simplified compared to now.

All previous human knowledge should be accessible to everyone. Computers should appear to the users to have direct instant access to all reference books, dictionaries, encyclopedias, journals, magazines, newspapers, etc. Some public authority must purchase the rights to all this material and must put it in the public domain. Current copyrighted material must also be accessible to everyone but with some charging system to benefit the authors and publishers while maximizing the benefit to the commonweal. Computers should be able to read (input) any language and to speak or to read aloud or to recite (verse) any language. For example, a computer should be able to execute the command "Recite the Aeneid in Latin". Eventually computers should be able to translate any language and to write any language.

The whole financial world is a childish game when examined from the Age of Responsibility. Speculation in stock markets and commodity markets has never benefitted the commonweal. The public and the government end up paying the losses. Why is speculation allowed? Because most people in finance and government and business are dishonest, and because most people have the fantasy that they will be one of the winners. There is no reason for speculation to exist. It distracts people from real problems. It must be banned. Margins must be

banned. Selling short must be banned. Derivatives must be banned. Markets exist to increase productivity by allowing investors to make capital available to companies. Investments are long term. The profit comes from the real increase in productivity. Investment leads to financial stability for all concerned.

Everything should be made well and designed to last. Manufacturing becomes meaningful, satisfying work. Stop making cosmetic changes in products from year to year. Stop changing car bodies unless there is really a new model. Make everything recyclable and recycle everything. Stop making fugitive fashions. Design clothes that last for years. Design buildings to last for centuries. Reuse the old instead of building new.

Stop treating cars as fantasy chariots and more like criminals raping the planet. In the United States raise the gasoline and diesel taxes \$0.01/liter on the first of every month until people stop using gasoline and diesel and switch to renewable fuels.

People should not be discouraged from taking risks. If people had not taken risks, there never would have been exploration. Many people died for each discovery. Death is not a tragedy.

If people want to kill themselves, let them.

If people want to take drugs or alcohol or tobacco, let them. There should not be regulations except to ensure quality. If drugs are not a crime, they are not distributed by criminals, and they do not bring large profits. Half the crime disappears. However threatening others by driving intoxicated is a crime for which people should be sent to prison camps.

Adolescents should learn eating, and drinking, and voting, and driving, and acting responsibly. And the one-baby rule. There should be no age rules. They should become adults as soon as they want to take on adult responsibility.

We must prepare to deal with natural disasters. Every year earthquakes, tsunamis, volcanoes, and typhoons produce a great deal of damage. The repairs limit the solar energy profit. Less often whole cities are smashed and burned or there is widespread destruction. In the Age of Fantasy people often acted as if these disasters do not exist, or as if they were somehow immune. Most of the destruction can be anticipated and planned for. Once the population is reduced, risky sites can be avoided. New construction can be designed to last for centuries and to survive earthquakes. We must also plan for large volcanic eruptions and large meteorite impacts.

In the Age of Fantasy we would not survive once we meet our neighbors in this galaxy, here, or on some other planet. In the Age of Responsibility, we have a chance.

Gayley, C.M. The Classic Myths, Boston: Ginn, 1911.