

APPLICATIONS OF THE SCIENCE OF AXIOLOGY

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(This discussion seems to have been written in the early 1970s, not too long before Hartman's death. As you read, keep in mind that most of his economic and other examples and illustrations are drawn from that era, and try to envision comparable examples from our own era. This was published as Ch. IX in Rem B. Edwards and John W. Davis, eds., *Forms of Value and Valuation: Theory and Applications*. Lanham, Md., University Press of America, 1991.)

It is my intention, in this lecture, to discuss in detail the application of the Science of Axiology to three fields which will illustrate the *impact* that axiological thinking has, and can have, on contemporary problems of our world. The three fields are: 1) political economy, 2) international political affairs, and 3) personal ethics. The first example, which concerns the economic system, will illustrate the relation between morality and economics. The second, which concerns the political system, especially with respect to war, will illustrate the relation between two different moral values. The third, which concerns the relation between fathers and sons, will illustrate the relation between two different moral values. It is my hope that these examples will provide a concrete view of formal axiology.

The relation between moral and economic value has been discussed in books many times over but always *categorically* rather than *axiomatically*, and, consequently, has failed to lead to a new economic system. The axiom of Axiology shows that moral value has primacy over economic value. The question is how, in the face of economic reality, can this primacy be imposed? If formal axiology is correct then we should be able to observe that, in practice, economic systems function better when they are more moral and worse when they are less moral. Since the function of an economic system is the creation of wealth, then, according to our definition of "good," a good economic system is one that creates wealth and a bad economic system is one that does not create wealth. In other words, a bad economic system gives rise to poverty rather than wealth. In political economy the word "poor" is the counterpart of the word "bad" in formal axiology, and conversely, the word "rich" is the counterpart of the axiological word "good," and "wealth" the counterpart of the axiological word "goodness."

Further, since according to formal axiology, moral value has primacy over economic value, we should be able to observe in economic reality that the *lack* of morality in an economic system leads to impoverishment, while the *existence* of social morality leads to enrichment, economically called wealth.⁽¹⁾

What is the meaning of morality to an economic system? We have defined morality as the application of intrinsic value to persons, and have shown that the human being has literally infinite value. Economic value has been defined as the application of extrinsic value to things, and it was shown that things viewed extrinsically have infinitely less value than persons. Consequently, it is clear that an economic system combined with morality means the combination of the extrinsic value of things with the intrinsic value of persons.

The combination of persons and things in economic activity is called the process of *production*. Defined by John Locke, production is the conjunction of human labor with nature. In a factory, the raw materials enter on one side and get out the other as finished products. What has happened meanwhile? In a special manner, the raw materials have combined with human labor. The moral factor, then, in production, ought to be grafted on to human labor.

In applying the dimensions of *value* to human labor, it will be observed how well they fit the facts and how easily they not only order the facts but also provide an understanding of the core of economic activity.

Systemically, the acts of labor are part of an exact, calculated system in which each act is paid in accordance with its capacity and function within the system. This is labor viewed by the Taylor system which divided work into minute acts calculated to the second and paid in fractions of cents. To this was added the army of indefatigable time-study engineers, efficiency experts and resultant industrial managers. What does may derive from such a system? Considered as no more than a bundle of fragmented elements it is not possible for him to put his heart and soul into his work. In enterprises of this type, when a worker is asked what he is doing, his pathetic and ironical reply is usually: "Nothing, I just work here." It is natural for him not to be interested in the progress of the business, for he only works for his pay which is by the hour, although more accurately by the second, and he will try to do the least work for the most pay. He is alienated both from himself and from the economy, and he rebels against this alienation, by deadening split-up work *a la* Chaplin's "Modern Times" or by strikes, as in the most modern but actually antiquated new Vega factories of General Motors.

As the worker holds back his labor in this kind of work – up to 40% and more of his capacity – so the owners of the industry hold back his wages: both compete in giving as little for as much as the traffic will bear. So we have two diametrically opposed forces, in the deadly struggle of the classes. This is the theory of traditional economics which culminated in Karl Marx and which treats of economic man in two opposing roles, as two opposing classes struggling only for gain; the management side has been described by Adam Smith and Ricardo, the proletarian side by Karl Marx. This is what we call the old capitalist system. It is the application of systemic value to work. Its science is classical economics and its man is *homo oeconomicus*.

In this system there is no room for morality and therefore, according to our formal hypothesis, it should be a relatively poor system.

The application of extrinsic value to labor does not divide work into minute elements but considers work a class of functions executed by workingmen. As such, each worker is a function within a class of workers ("class" in the logical and, hence, social sense), and the fulfillment of his function, using his own skill, is complemented by the functions of other workers using their skills. This system of economy and of labor is characterized by job evaluation, merit systems, and pay not for special, minute fractions of labor but for the worker's skill and ability. What is valued here are not minute acts of labor, but the worker as a member of the class of workers. Man is paid for his work with the consideration of specific jobs, as in the guaranteed annual wage, in job rotation, and the like. This is part of the present capitalistic system and is a more advanced economic system than the former. Man is now considered a social,

rather than merely an economic being. We call the science of this system *social economy* and its man *homo socialis*. In this system there are two opposing classes, labor and management, and the conflict between these classes is on the social rather than economic level: the great collective bodies of unions and industries, and a precise balance between the two.

According to our hypothesis, this system should create more wealth than the former: and it is quite clear today, since the two systems exist side by side, that the old capitalistic system based on the exploitation of labor is poorer than the newer system. The United States and other countries which have advanced in economic development are richer than the countries with economies based on the predatory capitalism of systemic value, such as South Africa, Brazil and the pseudo-federal countries and colonies, where fewer and fewer rich become richer and richer, and more and more poor become poorer and poorer.

More advanced, still, than the second or social stage, of the economic system, is the moral stage: the application of intrinsic value to labor, out of which grows a new science, *moral economics* and its man, *homo moralis*.

The application of intrinsic value to labor means that the laborer is considered not as a Taylorian construction nor as a function within a class of laborers, but as *a moral person of infinite value*. This means that the worker gives his complete self to his work, with a sense of responsibility not only for himself but also for his colleagues, the company, and the total economy. His interest in the business will be as intense as the owner's, who is also a person of infinite moral value; and with the disappearance of the division between capital and labor, we will have a collaboration between individuals which will result in an economy that surpasses anything we know today. To some extent, this has already occurred in North America, especially in the profit-sharing industries which in all economic statistics are the wealthiest and best managed in every country. Moreover, they completely reverse the *division* of labor in a process of *integration* of labor: small groups of workers are responsible for whole assemblies and subassemblies, including their own quality control. The prototype of this new kind of industry is the Lincoln Electric Company in Cleveland, Ohio. Examples in Europe include the Saab automotive works in Sweden.

Labor leaders of this new moral economy, such as the late Walter Reuther and his successors, are more interested in the productivity of the economy than in the fight of wages. For progressive management, in the United States today, high wages – after the revolutionary pioneering of Henry Ford sixty years ago, – the participation of labor in management, job security, and pensions are obvious requirements. Only the old-style businessman in the U.S. is primarily interested in profits and secondarily in supplying the market. His labor counterpart, the old-style labor leader, is primarily interested in wages and the class struggle. What the profit-motive is for the old-style businessman, the struggle between the classes is for the old-style labor leaders. The modern labor leaders and modern businessmen agree that they are economic and social partners with a common interest in high production and high wages, that is, in Prosperity.

This new economic procedure based on mutual interest on the part of labor and management, introduces a community of human relations between management and labor, heretofore unimagined. The human dimensions becomes a new dimension in

administration, as important as skill; and without the understanding of it a modern businessman will not be able to fulfill his task.

This view of human relations in business takes us into a completely new realm, far different from the old theory of industrial management and its calculations, or from viewing the economy as a whole in a mathematically finite manner. It takes us into the realm of intrinsic value whose mathematics is infinite, or, more accurately, transfinite. It can be said that the more finite mathematical calculations are applied to the field of human relations and the more narrowly correct they are, the greater the falseness of the result. The new science of human relations presupposes a transfinite analysis provided by formal axiology.

A number of examples prove this. When the establishment of a ten minute rest period each morning and afternoon was proposed in a factory in Baltimore several years ago, the management engineers got to work with their slide rules and calculating machines in order to determine exactly the loss of productions as a result of these twenty minutes of rest daily, five days a week, twenty times per month, multiplied by twelve per year, for 1,200 workers, paid by the hour. On the basis of these calculations they reported that the production loss would ruin the company. However, the rest periods were established anyway, and instead of loss of production, production increased. With twenty minutes less "work" each day, more was produced than formerly. The same result was recorded in the famous Hawthorne experiments of Elton Mayo and others. The old psychotechnic methods of Taylor, which did not consider man even as a pure economic function but as a fragment of labor subdivided into sub-fragments, without taking into account the man behind these fragments, have brought about results in which the calculations play no part. The object of the Hawthorne experiments was the study of human workers; and it was found, in general although not in particular, that no matter what methods were applied to a group under study, whether higher wages were paid or not, more hours of work required or less, whether working conditions were better or worse, the production of each group increased in every case. The reason was that the workers were being considered as human beings and they responded accordingly. The experiments also indicated that there existed a reserve of energy previously unused, good-will and the desire to cooperate on the part of the workers. Many other examples can be given but one more, concerning a foundry in Ohio, will suffice. This foundry operated on the following formula: 100% minus 50% equals \$170%. The owner said that he stayed awake nights thinking about how he, in his "small way could do something to better the world." He finally decided to give his workers 50% participation in the profits of his company. As a result of their greater cooperation, greater punctuality, less absenteeism, greater savings in materials, less accidents among them, production increased 40% and the profits 340%. These profits were divided in half: 170% for the workers, 170% for the owner who received 70% more than before he gave away 50% of his profits. At the same time, he lowered his price 40%.

What made all of this possible was the inclusion in the equation of the resource of human cooperation. It was an investment made in people, the employment of a previously unused economic resource, the willingness to work. This and other similar formulae are valid for some 120,000 plants in the United States and thousands in Europe, Asia, Australia, and Latin America, which have given the workers a share in the profits. All of these experiments have shown that, if human cooperation is

mobilized, it is the most powerful economic resource at our disposal. Labor, viewed intrinsically, is not a commodity to be bought and sold at a price, wages, but rather the worker's investment of his own self in the company, as a true partner, and his corresponding participation in the success of the firm.

That profit-sharing, a moral system of economics, leads to greater riches than the traditional and social systems, is exemplified by the *trust plan* or *deferred plan* by which a certain percentage of the income of a company is set aside in a trust fund from which an employee receives his share on retirement. Of these, both qualitatively and quantitatively, Sears Roebuck has the most outstanding plan, with more than 200,000 members participating in its trust fund. When a Sears Roebuck employee retires after twenty-five or thirty years of service, a sort of graduation ceremony is held. I was present at a graduation in the old non-inflation years. The employees were divided into three groups: those who had been earning up to two thousand dollars a year, those who had been earning up to three thousand a year, and those who had been earning up to four thousand a year. On this particular occasion, some who had been earning up to two thousand a year received, after twenty five years of service with the company, as much as thirty thousand dollars. Those who had been earning up to three thousand a year, received as much as sixty thousand dollars. And those who had been earning up to four thousand a year received up to \$120,000 – and these were honest to goodness dollars. Today the results are multiplied but the large numbers are less significant. Of course, these amounts are not paid in one lump as the U.S. government and not the retiring employee would get most of it. What makes possible such amounts as these is the increase of the fund by means of interest and investments over the course of time. The average of the individual funds of Sears Roebuck employees in the United States at that time was \$40,000! In Mexico, Sears Roebuck employees had, after a number of years, more money in their individual funds than did the U.S. employees after the same length of time, because of the higher increment of the fund due to higher interest rates. When these employees retire or leave the company and take out their money, they will be, relatively speaking, rich people.

Here is a system, economically good, which creates riches for all and which already exists in many parts of the world. It is based on the infinite value of the human being and the transfinite logic of intrinsic value.

This system has nothing whatever to do with the oppositions within the old systems of capitalism and communism. It is an entirely new system, and both these old systems are developing in its direction. It is an entirely new system, and both these old systems are developing in its direction. The methods, mentioned above, are not limited to the capitalistic system because the line dividing capital and labor no longer exists. All of these methods can be applied and are being applied within the socialist and communist systems. The change had already begun in Russia and is operating on a large scale in Yugoslavia. The difference between Russian Communism and Yugoslav Communism is precisely the difference in the degree to which the workers share in the profits and in the administration of the enterprises. There is little practical, though a legal, difference between a Yugoslav company and a cooperative in the United States in which the workers are the owners, and there are many such companies in both the United States and in other parts of the world. Neither is there much difference between the management of a Russian enterprise and an American company operating within the socio-economic system. "Man does not live by bread

alone,” and the Organization Man of Dudintsev’s book may just as easily be American as Russian. Axiologically, old-style Capitalism and Communism have many characteristics in common and, from different points of view develop in the same direction. Axiologically, we can also see how correct are the revolutionaries when they say that poverty is unnecessary. However, the revolution that will abolish poverty is not a political but a moral revolution. From the axiom of axiology follows the theorem that *the degree of poverty in a society is the measure of its lack of moral and social responsibility; the wealth of a nation is a direct function of its social morality*. It is no accident that during the Nixon Administration with its moral scandals the economy of the United States and its currency hit rock bottom. And the Soviet economy, throughout its 50 year history, has been plagued by crucial shortages, most recently of wheat, so that only massive foreign purchases avoided a famine. These two countries were victors in World War II. Germany and Japan, on the other hand, were the losers. But they went through a crucible of moral regeneration. They are today the most prosperous nations after the two giants-and without suffering their internal contradictions.

Social morality is closely connected with political morality. That morality is the prime factor in the goodness of an economic system, that is, for the creation of wealth, has already been demonstrated. We shall now show the need for morality for the goodness of *apolitical* system. Such a system is called a state. What is a good state? According to the axiological axiom, a good state is a state which fulfills the definition of “state.” But what is the definition of “state” and what are the properties that govern it? It was simple to define the function of an economic system, i.e. to create wealth. The definition of a state appears to be more difficult. Nevertheless, we can arrive at this definition easily if we do *not* recall all that has been written on the subject, but use our common sense and powers of observation, that is, the scientific method in the Galilean sense of observing the phenomena and penetrating to the essence of the subject. What is a state?

When we walk along the street or drive along the highway, it is quite clear to us *what* element in our surroundings belongs to the state. It is found neither in the trees nor the stores, for example, for although there are state trees and stores, they are not *essential* to the state. The element that belongs to the state is found in the organisms or public order, especially the police and the military. The police are in charge of keeping public order; and if I am assaulted by a thief or involved in some other kind of serious emergency, the police will help me. As a rule, we do not think of the police in terms of the function of *assistance* but rather in terms of the function of *arrest*, that is, we consider police from the point of view of the thief and not of the peaceful citizen. From the viewpoint of the peaceful citizen, the police protects him in case of emergencies, disasters, and catastrophes, and for their services he pays through taxes. Curiously enough, the citizen pays for these services in the hope that he will never require them, that never will a situation arise that will make it necessary for him to utilize the services that he pays for throughout his life. He hopes with all his heart that others will benefit by these organisms which he pays for and that neither will he have to make any use of these apparatuses nor will they be concerned with him in any way. In short, he pays in order *not* to receive anything. The State, then, is the maintenance of an apparatus by citizens who want to have as *little* to do with this apparatus as possible. With the money they work so hard for, they finance the less fortunate in cases of emergency, even with the fervent desire of helping them. What is most curious is that this altruistic behavior stems from the most profound

egotistical motives, somewhat like the statement I once read on a house in Bavaria: "Saint Florian, protect our town, don't burn my house, burn others down." This profound egoism leads to a most profound altruistic action in which the state exemplifies this curious situation. The principle behind this, however, is not at all curious, being one that we employ constantly in many different ways in our life. It is the principle of *insurance*. We pay an insurance company for exactly the same reason we pay for the police, with the fervent hope that we will never have to use it; and there is nothing we could like better than to arrive at the end of a year having *lost* our money. We pay the premium for the following year again in the hope that we will lose it. *The principle of the state is the principle of insurance* – a theory of the state rarely found in books devoted to this subject. It is a principle profoundly moral and widely used. For example, another curiosity, it is the same principle as that of lottery, except that in the case of lottery we finance those more fortunate than we. A lottery thus is no more nor less gambling than is insurance.

In what respect is the principle of insurance, one type of which is the state, a moral principle? Simply insofar as all power channeled in the public order is focused on a person in trouble, on a person who is neither part of a system nor member of a class, but himself alone, this human being in adversity. The state and insurance are really the principle of *all for one*. Unfortunately, this simple situation has its contrary, *one for all*, the conformity of one to a group, or being one among many to produce collective unity. The latter is the general theory of the state today, and even the emblem of the United States contains the words *E pluribus unum*, one from many, instead of *Omnes per unum*, all for one. Today, we are living in the epoch of collectivity, and the individual does not firmly exist either in the theory or the practice of the state. Formal axiology should rescue him.

The bitterest consequence of this notion of collective unity with respect to the state is war, which leads to the greatest tension between the intrinsic value of moral man and the systemic value of the immoral state. The *raison d'état*, the Reason of the State, is amoral and usually immoral. In war, values are turned upside down. In time of war, the most honorable man is the one who kills the greatest number of people, while in time of peace if he kills only one he gets the electric chair, is hung or shot, or will spend a lifetime in prison. The war hero is the criminal during peacetime, and *vice versa*. If one contends, as has been done on many occasions, that it is not people but soldiers that are killed in a war, then one simply is saying that soldiers are not people, which happens to be the crux of the problem of war. Unfortunately, soldiers not only kill soldiers, but also murder people, as in My Lai.

The difference between soldiers and people is illustrated by the following little story from "Humor in Uniform" of the *Reader's Digest*.

"We and two other families in our neighborhood gave a party to welcome our new neighbors, a retired Army colonel and his wife. The evening was a great success, and our guests of honor expressed their appreciation over and over. "Really, this has been just *wonderful*," they exclaimed again as they were leaving. "We do these things for each other in the Army, you know, but we didn't know that *people* did."⁽²⁾

People are educated to be good citizens and then, as soldiers, trained by their governments to use the most diabolical instruments of torture, taught by means of sacks filled with straw to slit open the maximum number of abdomens in the

minimum amount of time. Our sons have been in such situations, good young men who until now had never slit open abdomens and hated the very idea – and we ourselves had taught them to hate it. What then is this sinister power that forces good people into this diabolical predicament? *It is the absolute sovereignty of the nation to which we belong.* Sovereignty means “Superiority”: it means that the nation is superior to, above and beyond, the moral law, indeed, that *no* law applies to it except the ones it accepts voluntarily. It is the expression of a jungle of collectives where might is right. This is a principle completely in opposition to all existing morality – the soldier principle against the people principle – and in opposition to all axiological definitions of good. Indeed, it corresponds to the axiological definition of evil. And its consequences are both evil – and insane.

This becomes clear when we compare the behavior of sovereign states with that of states and organizations that lack sovereignty. Each formally structured group is a whole, be it a corporation, a town, a city, or a state. Obviously, it would be considered mad if the state of Montana declared war on Idaho or if Idaho and Montana organized the rest of the states of the Union into opposing confederations with the object of their warring against each other. It would also be considered insane if the citizens of Newark, N.J., were called upon for military service to invade the territory of New York City – but this sort of thing was not considered insane during the Middle Ages when cities made war on each other with the same avidity that nations make war today. It would be equally insane if the General Motors workers in Detroit were given arms in order to conquer the Ford Motor Company. The competition between these two companies is economic and based on co-existence. On the other hand, it is not considered insane, say, for the people of France to be armed to make war against Algiers, the people of Germany to make war against Russia, the people of Russia against the people of America, the people of America against the Indochinese, or the people of Honduras against San Salvador. Nevertheless, as concerns real power, General Motors is more powerful than Algiers, Indochina, Honduras, or San Salvador; its annual production is greater than any of these countries, greater than all of Scandinavia and almost half that of West Germany.

National wars appear *not* insane if one accepts the notion of national sovereignty – as do most people – and it does appear insane if one does not – as does an ever growing group of people. The former do not recognize, the latter do recognize, the moral evil of sovereignty, its being above and beyond the law.

What we have seen in the economic field we now see in the political field: the morally sensitive will extol sovereignty, that is, the military, while the morally sensitive will extol society, that is, the people. The former are impelled by fear, the latter by good will and faith. The division between these attitudes separates, in every nation today, neighbor from neighbor, parents from children, hardhats from teachers, town and gown, and political parties within themselves. Indeed, it split the Nixon Administration straight through the middle.

If the axiological analysis is correct, then a good state, in which the insurance principle, good will, and compassion prevail, will be a better organized, economically richer, and individually more concerned society than a bad state, which is victim to sovereignty, the military, and cuts down social welfare. Again, we have the dramatic examples of Germany and Japan on the one hand, and Russia and the United States on the other. The former two were by the victors constitutionally forbidden to have a

military establishment; that is, their sovereignty was limited. They could channel all their resources into the civil society, and as a result soared ahead in political savvy and economic growth. The victors on the other hand, both the United States and the Soviet Union, suffer from extreme military expenditures, a lethal nuclear race, economic shortages and dislocations, racial strife, a drying up of the civil society – e.g., the United States is in 13th rank among the peoples of the earth in infant mortality – and contradictions which can only lead to chaos.

What is the difference between the insanity of arming General Motors against the Ford Motor Company and the rationality of arming Germany against Russia or Honduras against San Salvador? The reason is that these last are sovereign nations and that sovereignty is something more than mere unity. The nation considered as sovereign is not just seen as a unit but is endowed with that strange kind of power which disregard of the law gives the criminal. The sovereignty of the democratic collectives is a fiction masterfully constructed by Rousseau, as the general will, *la volonté générale*, whose properties are neither more nor less than the same properties that belonged to the absolute monarch. In the great democratic revolutions in France, the United States, Russia and other countries, the absolute sovereignty of the autocratic Sovereign was crushed as far as domestic matters were concerned but remained intact as far as foreign relations were concerned. The new democracies which succeeded the absolute monarch claimed national sovereignty as had their erstwhile King or Emperor. But since there was no longer a sovereign as a single physical person, sovereignty had to be *constructed*, and any connection with concrete reality had to be ignored. Therefore, it remained as a fiction, as a construction, and axiologically it is a systemic value.

As a result, *all* nations today, democratic or totalitarian, have, as refers to their foreign relations, that is, their relations with each other, all the characteristics of the autocratic prince of ancient times. According to the theories of Hobbes and the practice of those times, the prince had totalitarian rights over his subjects. He was above the law, the sole moral judge, and it was sinful for the subject to make judgments based on his own conscience. Further, the sovereign prince had absolute power over all property, and his subjects owed him total obedience. Rousseau transferred all of these characteristics to the prince-less collective, the collective that arose out of the revolution. This being the case, as regards external relations, all the revolutions of the past from the American, French, the African and South American, up to the Russian, were futile; and the international situation is exactly the same as if these revolutions had never taken place.

The natural expression of this state of things is *war*. In time of war, the force that is imposed by a republican, quasi-democratic sovereignty, is the same as that of autocratic and monarchic sovereignty: the citizen owes complete obedience to the collective of the nation as his sovereign, in exactly the same way his forebearers owed obedience to the absolute monarch. What was criminal in terms of his personal and moral life, was heroic in terms of this disobedience and is still, even though the sovereign is no longer a single monarch but a national collective.

Nevertheless, from the point of view of axiology the transference of sovereignty from the person of the prince to the popular will, is of utmost significance; for, as has been said, the popular will is a fiction, a construction, and therefore is subject only to systemic valuation. Axiologically, sovereignty has infinitely less value, in the exact

meaning of our definition of infinite, than the moral value of the individual person. This leads to the inevitable conclusion that the individual person must reject the exigencies of a fiction which works against him and which is contrary to what he is, a moral being, the being which contains the infinite of infinite value. Axiologically, it is infinitely evil to kill another human being or to use violence against him for the sake of an idea, a system, or any other abstraction. This represents the systemic devaluation of intrinsic value as symbolized by the formula IS, which was mentioned earlier. The alternative is, of course, a moral view of sovereignty in which the *volonté générale* is focused on the *moral* person, as in the principle of insurance.

Another extremely important aspect is that to kill a human being for the sake of an idea means that the end justifies the means. This proposition, axiologically, is infinitely bad because the means are concrete and the end is a thought. The concrete, as we have seen, as intrinsic value or even as extrinsic value, is infinitely more valuable than a thought, which has systemic value. What counts exclusively is the means and not the end. This is the doctrine of Ghandi which led to his method of *satyagraha* or non-violence. It is also the doctrine of Jesus Christ: we should conquer evil by good, not by another evil.

Formal axiology helps us understand these often misunderstood words which mean that against one value must be pitted a better value and that only a better value can surpass a worse value. In other words, it means that systemic value must be overcome by extrinsic and intrinsic values. This further means that we should be creative in all situations and perceive the germ of good even in the worst situation. It is precisely what Abraham Lincoln means when, asked why he was so kind to his enemies, he replied: "Am I not annihilating my enemies by making friends of them?" It is the doctrine of Castellio who, when Calvin burned Servet in the name of faith, wrote: "To kill a man in the name of faith is not the defense of faith but the murder of a man." In the same way, axiology obliges us to say today: "To burn men, women, and children in the name of a cause, is not the defense of a cause, but the murder of men, women, and children."

Scientific axiology, based on purely formal equations, thus arrives at truly revolutionary results. It ought to be destined, and I believe it is, to bring forth a new moral world. For the real revolutions are not those fought in the streets but those of the spirit.

Two accounts, one imaginary and one real, will serve to show, respectively, the consequences that could result, on the one hand, from our failure and, on the other, from a method towards moral success in the world. The first account can be found in Nevil Shute's novel, *On the Beach*, in which the beach represents the ocean of time, on whose shores the last waves are lapping and dying in the sand. The beach is that of Melbourne, Australia, the southernmost city of the world, where the people are living out the last weeks and months of their lives. Life on earth is about to disappear due to a short, but devastating, atomic war in the northern hemisphere, and the polluted atmosphere is slowly moving southward with the winds and currents. In latitude after latitude, in city after city, human and animal life is dying as a result of sickness produced by radiation, a kind of cholera which begins with nausea, vomiting, diarrhea, increasingly violent spasms, and, finally, death from exhaustion. Australia, like the other southern nations, distributes cyanide pills to those who want them to help them through their last agonizing hours, so that they may die peacefully

in their beds, the whole earth going to sleep, mankind ending “not with a bang, but a whimper,” as T. S. Eliot says in the motto of the book.

Some ask themselves, as we certainly would, why life on earth must come to such a ridiculous end. The only answer is, “We have been too silly to deserve a world like this.” After poisoning their child and about to swallow their own pills, Lieutenant Holmes and his wife, Mary, ask each other if anyone might have prevented the course of events, and the Lieutenant says: “I don’t know, some kinds of silliness you just can’t stop. If a couple of hundred million people all decide that their national honor requires them to drop cobalt bombs upon their neighbor, well, there’s not much that you or I can do about it. The only possible hope would have been to educate them out of their silliness.”⁽³⁾

Thus, life on Earth ends in a paradox: a race that has reached the acme of intellectual development destroys itself willingly in abysmal stupidity. This paradox must puzzle to the point of mystery any future visitor to this planet, and it does, forty-five thousand years after the catastrophe, the Select Exploratory Mission, whose six-volume report, “The Rise and Annihilation of Earth-Life,” fell, by some spatiotemporal wizardry, into the hands of the managing editor of the *Washington Post and Times Herald*, Alfred Friendly, who reviewed it on June 26, 1955, where you can read it. Forty-five thousand years after the catastrophe, “Earth is once again verdant with forests and grass, with even the once devastated areas hidden under dense foliage. In one sense it is a singularly beautiful planet. But in another, more impressive sense, it is the ultimate horror. Over the face of this planetary paradise there is no free-moving life. There is no eye, no hand, no football, no intelligent thing.” Even greater than the horror is the mystery. The more the Mission “discovered about life on Earth, the less it was able to explain its extinction.”⁽⁴⁾

“Each discovery reported, each deduction substantiated, each piece of the puzzle rightly fitted into place only serves to deepen the mystery: Here was a civilization of great advancement, motivated as all life must be by the burning desire to survive, accomplished in engineering and vastly knowledgeable in science, and esteeming the loftiest philosophical standards—which nevertheless knowingly destroyed itself. “Knowingly” is used advisedly. It is at the root of the enigma. A team headed by the Mission deputy himself makes a brilliant and irrefutable proof (Vol. II, pp. 560-710) that Earth-man could not have escaped knowing that the neutron emission from two hundred and forty-odd macro-fission-fusion reactions would fatally empoison virtually all life then extant on Earth. The proof comes from the fact that the knowledge and techniques necessary to create a giant fission and/or fusion reaction necessarily include the knowledge of the degree of radio-activity that results, and its effects on all life forms.”⁽⁵⁾

So far the Report. That the technically so highly developed Earth-man was morally silly to the point of playing with cosmic devices as a child plays with toys, the Select Exploratory Mission could not imagine. Yet this was the situation.

It is, let us be clear about it, our situation at this very moment. The reason is, again very simply, that there are two entirely different kinds of knowledge, material knowledge and moral knowledge, and that up to this day we have developed the former and neglected the latter. The solution, then, for us humans on Earth, with our destiny still in our hands, our future still wide open, Earth still beckoning to us to

continue the grand adventure of life we share with our brothers in the Universe-the solution is simply to close the time lag between material and moral knowledge and to develop the latter as we have the former. It means the creation of a moral science.

The new science is well on the way and is being taught already. We have found that learning these laws changes the character of the young people, makes them more aware, more awake, more sensitive. In fact, we have found that it changes whole families, bringing them happiness and insight. Let me mention one such case. One of my students told me a week or so before the term papers were due that the writing of that paper was "the most important thing in my life." When I got the paper the title was "Homecoming of a Son." The subject was, in short, that through learning the various value dimensions he had found that he had never loved his parents. He had been ashamed of them for being workers. Learning the true values-what he is-he had seen the injustice he had done them. He wanted to correct it, but the problem was how to do it without showing them that he had never loved them before. The paper was about the method he evolved to overcome this difficulty, how he showed them his love, and how this changed the whole atmosphere in the home from one of indifference and tension to one of love. "Harmony and continual laughter prevailed." He did all this during the Christmas vacation and wrote the paper while he acted out its content. To read it was a thrilling experience, like a miracle consciously wrought. About two weeks later he came to me with a letter from his mother. She wrote that such strange and wonderful things had happened during the vacation, that she and his dad had been thinking and talking about what it was, and they had come to the conclusion-that they had never really loved him. "I have felt for years that somewhere along the line Daddy and I failed you in some way...Life is sure funny, isn't it? You go through the years while life is passing you by thinking you are doing what's right, and yet you are blind to what really is happening around you."

This seems to me a perfect description of our present situation. We are blind to the true values all around and within us. If the whole world would learn the true values the way that young man and his family learned them, our troubles would largely be over, the equilibrium in human affairs would be restored, and the scene on the beach at Melbourne would never take place.

These, then, are the two pictures of the world of the future: a world of life and love, a world of death and desolation. One or the other of these worlds will and must be ours. Either what I have said is fiction and what Nevil Shute has said is prediction, or what Nevil Shute has said is-and will remain-fiction, and what I have said is prediction. The satellites whirling high above us at this moment spell either our doom or our destiny.

This, then, is our extraordinary opportunity. We may go on spending our money to develop the hydrogen and cobalt bombs and make the scene at Melbourne come true and give the men from Outer Space their opportunity to write the six-volume report, or we may use a fraction of this money – hardly more than the cost of some tiny gadget in an intercontinental missile – to concentrate the energies of a dozen or so people on human survival. The choice is ours, and it may be final.

NOTES

1. Robert S. Hartman, *Die Partnerschaft von Kapital und Arbeit: Theorie und Praxis eines neuen Wirtschafts-systems (The Partnership of Capital and Labor: Theory and Practice of a New Economic System)*, Opladen-Cologne: Westdeutscher Verlag, 1958.
2. *Reader's Digest*, April 1973, p. 33.
3. Nevil Shute, *On the Beach*, New York: Morrow, 1957, p. 309.
4. *Washington Post and Times Herald*, June 26, 1955.
5. *Ibid.*