Feedback: A Synopsis of Readers' Responses

Cost-benefit analysis

Cost–benefit analysis is important; firstly, since it is widely used to justify or attack the choice of projects and programs, and secondly, as it exemplifies an approach to social decision making which appears to be objective, value-free and neutral.

Daly's discussion of information, randomness and brotherhood raises important ethical issues, particularly regarding the failure, in the usual economic approaches, to incorporate shared communal concerns (community) in decision making. However, while he doesn't assume away the possibility of conflict, he pays minimal attention to it. The religious language he uses, "ultimate end, withinness", also seems to imply ultimate agreement. The difference among people is, after all, where the problem begins.

The idea behind cost–benefit analysis is deceptively simple. The net social benefit (NSB) of a policy is evaluated by quantifying the social advantages and disadvantages in terms of a common monetary unit. For any policy, some people benefit and some people lose. If the people who benefit can compensate those who lose the NSB is positive.

There is a potential Pareto improvement when a change is such that gainers can fully compensate losers. Note that the compensation need not actually take place. Compensation is usually computed in terms of willingness to pay to prevent the loss, or the amount the individual is willing to accept in compensation to put up with a loss. The loss might involve amenities or risk to life (due to pollution, occupational safety, etc.) Aside from technical problems in measurement, there is the obvious point that *willingness* to pay depends upon *ability* to pay, raising questions of equity.

Where accident or loss of life is involved, compensation is often evaluated in terms of an estimate of the value of life. There are various methods. A common one is that of discounting to the present the person's expected future earnings, (sometimes augmented by taking account of the suffering of victim and family).

The possible absurdities of this are highlighted by a recent case, reported in the N.Y. Times on 7/26/80, where a Georgia jury awarded $ 10 for the accidental shooting by the police of a 14 year old boy with mental problems. They argued that his future earnings weren't worth more. If the logic had been fully carried through, the boy's family should have paid the state for relieving them of the costs of caring for the boy!

The point is, the people who benefit are not necessarily those who take the risk. Thus, cost–benefit analysis, unadjusted for 'equity', records preferences in the market place. (Really a surrogate market, in most cases, reflecting preferences and prices which would be recorded if there were a market.) So, social decision making is assimilated by a market. Clearly, the results of such an analysis do not coincide with simple majority voting.

In short, social decisions, which, it can be strongly argued, should properly be made as part of a political process, (which at least in principle is based on one man, one vote) are made by calculations which tend to obscure the fact that certain groups will have stronger input than others. The current calculations of the costs of regulation, (for example, in occupational safety and health, environmental protection, etc.) while seemingly objective, are certainly not neutral.

Daly seems to imply that social decisions should be made in terms of objective ethical standards, of which there can be knowledge and ultimate agreement. This view can certainly be argued and is a perennial philosophical issue. One may sympathize with the notion that there should not be normal disagreements. While there are shared values, it is also a fact that there is disagreement and conflict. It is difficult to see how any approach to social decision making can avoid taking account of this reality.

The idea that there is an objectively right way to make social decisions and that there is expertise in

this area has a long history in western thought. Where ends are agreed on, the only questions left are those of means, and these are not political but technical, and capable of being settled by experts.

This tradition goes back to Plato who believed that knowledge of the good is possible and only a few men can attain it after rigorous training. For the common good, a philosopher should rule, or a ruler should be a philosopher. We go on to Francis Bacon (Solomon's house in New Atlantis), Saint Simon who developed an elitist system with experts at the top working only for the common good and a government to be used purely as a technical neutral instrument of coordinating society. To quote Saint Simon, "replacing the government of persons by the administration of things." Further, we have August Comte who advocated the use of scientific calculations for political decisions. Here again, political and moral problems are turned into technical ones. A more recent example is Skinner in Walden II. Some current approaches in policy science, systems science, and risk–benefit analysis fall in this tradition.

A few more specific comments. Daly's example of consigning unwanted children to foundling hospitals, where the death rate was known to be exceedingly high, isn't only a case of randomness. There would surely have been more concern if the people involved weren't poor.

The steady-state paradigm is also introduced. It raises too many questions to be mentioned as an afterthought. Some of these are,

(1) Will the steady state sharpen conflicts? If it does, won't it make the achievement of the common good more difficult?

(2) Growth, as such, is not the issue, but rather the kind of growth. How should such decisions be made? Does it involve more centralized planning?

(3) The steady state is not necessarily acceptable to the poor and certainly not in underdeveloped countries.

These issues need more careful treatment and his book is a very fine contribution.

Sylvain EHRENFELD

Philosophers make house calls

In a recent address, printed in this journal, Kenneth Hammond laments that there is generally no philosopher in the house when matters of public policy are being discussed. Though technical knowledge abounds in policy-making circles, there is an acute shortage of people trained to express values coherently, describe their relative importance, and map their relations to each other. "Philosophers are needed badly", Hammond writes, "not so much because they know all the answers (they don't) but because they know what the problems are; they can recognize incoherent value systems, and they are familiar with the risks involved in joining fact and value." As a philosopher, I can only be pleased. These are *just* the strengths and skills that those of us concerned with policy decisions ply in the public arena. However, there are two points made in Hammond's paper with which I must take issue. The first concerns what philosophers are up to these days; the second concerns the way fact and value intertwine in policy decisions.

"Philosophers", Hammond claims, "ordinarily deal with the fact/value problem *linguistically*. That is, they deal with the question of separation by analyzing sentences containing the verbs 'is' and 'ought'. However useful such analyses might be for some purposes, they are not useful for public policy formation." Now there was a time, about twenty-five years ago, when Hammond's remarks would have been exactly on target. During the 1950s, and for some years before that, *meta-ethics* — the study of the meaning and use of ethical *words* — was at the center of the philosophical stage. But in the early 1960s that situation began to change. Philosophers began to turn their attention to substantive moral questions and policy issues. By the early 1970s there was enough work in this area to justify the launching of a new journal, *Philosophy and Public Affairs,* by now firmly established as one of the leading philosophical publications in the English-speaking world. In its pages, and in many other publications as well, philosophers have offered detailed analysis and substantive argument on just about every issue of interest to contemporary policy makers: abortion, euthanasia,

homosexuality, recombinant DNA research, nuclear safety, economic justice, women's rights, reverse discrimination, immigration policy, and many more. The dominance of meta-ethics has long been a thing of the past.

One of the many substantive topics scrutinized by recent philosophical writers is the way in which values and empirical facts ought to be integrated in policy decisions. And it is here that my second disagreement with Hammond arises. Though he offers no detailed theory, the picture Hammond suggests is a pretty standard one. Scientists and others with technical expertise should be in the business of uncovering the empirical facts, unvarnished and value-free. These facts should be presented to policy makers, preferably in the form of scientifically based *predictions:* If you adopt policy A, the consequences will be X, Y and Z. Or, if scientific certainty is not to be had, probabilistic predictions should be offered: If you adopt policy B, there is a 0.7 probability of X and Y, and a 0.3 probability of Z. Having done this much the technical adviser's task is at an end. It is for the policy maker to decide which outcome or probabilistic mix of outcomes is to be most highly *valued.* So goes the standard story.

Hammond notes that this account is under attack by philosophers, amateur and professional, who claim that there are no value-free factual arguments, conclusions, or predictions. He is surely right that this view is alarmingly widespread, though it is not, as he asserts, a view widely shared by professional philosophers. More important, Hammond is right in condemning this view as nonsense, and dangerous nonsense to boot. Of course there are value-free scientific and technical predictions. Unfortunately, however, there are problems about the standard story on facts and values that are quite independent of the absurd view that there are no value-free scientific arguments.

Perhaps the most central problem is that in making policy decisions, empirically established, carefully documented scientific and technical facts often do not provide the policy maker with the information he or she needs. Sometimes this is because the facts are not yet in at a time when a decision cannot be postponed. Sometimes it is because the facts are never going to be in — the necessary research being too costly, technically difficult, or morally repugnant. And sometimes it is because there are just no experi-

ments to do; the question that needs answering, though factual, cannot be settled by experimental techniques. A few examples drawn from the recombinant DNA controversy may serve to make the point. In deciding whether, and how stringently, recombinant DNA technology should be regulated, it is important to know how likely it would be that a pathogen accidentaly created and released into the environment would succeed in establishing itself in nature. If such a pathogen did establish itself we would be facing an epidemic, but if it could not compete successfully we would at worst confront an isolated outbreak. But no experiment we would be willing to do is going to tell us the probability we want to know. For a second example, consider the claim that recombinant DNA technology will speed the discovery of the cause(s) and cure(s) for cancer. Surely if this is true it is of enormous importance to the policy maker concerned with risks and benefits. But what *experiment* could we possibly do that would tell us whether it is true or not?

What should a policy maker do if some of the facts he needs haven't been or can't be experimentally determined? Some writers have suggested that he must accept his ignorance and muddle through as best he can. But surely he can *sometimes* do better. For even when there is no experimentally determined knowledge, there is often useful *expert opinion.* If we want to know how likely it is that recombinant DNA research will speed a cure for cancer we can ask the appropriate experts to give us their best guess — their subjective probability, to give it a fancier name. And these subjective probabilities are often of enormous value in making policy decisions. Yet the use of expert opinion or conjecture raises a number of serious problems. What questions are appropriate to ask the experts? Who counts as an expert on which issues? How can we minimize the risk that experts will, consciously or unconsciously, allow their interests and values to affect their guesses? What should we do when experts disagree? Here as elsewhere philosophers do not have all the answers. But they have thought about the problem.

A final note. If there was no philosopher in the house the day Hammond read his paper, it must have been because none was invited. We make house calls.

Stephen P. STICH

Is there a Philosopher in the house?
Or, even an artist?

Kenneth Hammond's [2] provocative note needs to be taken seriously as we build increasingly complex organizations for global problem solving. In this short note I would like to punctuate his remarks.

Not only isn't there a philosopher in the house, there are no artists either. What has happened to them? Along with Hammond, we argue that the 'age of technology' has caused philosophers and artists to become endangered species. It is common folklore to believe that philosphers and artists are dreamers who do not understand, nor are able to deal with hard reality. Hammond has spoken to the need for philosophers. I will speak to the need for artists.

From a problem solving perspective, artists are well accomplished at blending the major methodological approaches of *empiricism, rationalism,* and *intuitionism* in developing solutions. Let us examine this a little further.

An artist, say a painter, is an empiricist at least in the sense that his medium is visually grounded. Yet, it is rational, in the sense that it gives expression of a 3-dimensional reality in two dimensions. Through the use of point perspective artists behave as if they understood projective geometry. That is, they developed rational two-dimensional solutions to the three-dimensional problems.

However, the painter's solution is not totally rational or empirical. Not all data is accurately portrayed. Nor are all relationships logical or consistent. The solution contains an intuitive element that unifies the totality inspite of the omissions of data and logic, because the artist recognizes that structure is in part subjective [3]. Consequently, the artist must go beyond the overt. He must in a sense merge (reduce the psychological distance between himself and the object) with the object. As Anton Ehrenzweig [1] puts it:

Conscious visualization can only deal with one alternative at a time. Hence he (the creative thinker) must rely on unconscious intuition for scanning these many possibilities. I will maintain that unconscious visualization has a wider focus and so is capable of scanning with a single glance all the many ramifications of the way ahead and assists in making the right choice. Hence the assistance of the unconscious mind is not merely needed for greater measure of imagination, as is commonly assumed, but is indispensible for efficient work, owing to the superiority of unconscious scanning over conscious visualization.

Is this not what we mean when we say, "This is what the artist 'sees'."? Feelings and emotions (i.e., the mood of the painting) are also intuitive aspects, as the artist can use a nude (in fact the same model) to represent purity, innocence, Spring, eroticism, power, sexuality, virginity, and so forth.

By analogy, then, the artist uses a decision *Space* (three-methodological dimensions) to formulate and solve his problems. The axes of the space are empiricism, rationalism, and intuitionism. An engineer, on the other hand, would most probably use a decision *Region* (two-methodological dimensions) defined by the empiricism/rationalism axes, while a scientist might use a rationalism/intuitionism region. For both the engineer and the scientist we have a type-three error [5], even though the decision region may represent a mapping of a portion of the total decision space. Add to this that the decision regions will be shaped according to the inquiring systems value structure [4] and the potential for a type-three error grows.

Can everyone be an artist in effect? The answer in a general sense is, 'Yes', but in a specific or pragmatic sense, 'No'. There is no doubt that we need specialists, given that the knowledge required to operate effectively in the various fields of inquiry is so great that one person cannot know everything, and in some cases not even a small portion can be learned by one. The solution, then, becomes, as it has for other global problems, the creation of human organizations.

The organizations we create, however, must contain philosophers and artists as well as engineers and scientists. If we don't include them we will generate two-dimensional solutions to three-dimensional problems. We must have philosophers *and* artists in the house.

Terence A. OLIVA

[1] A. Ehrenzweig, Conscious planning and unconscious scanning, in: Education of Vision (Braziller, New York, 1965) 28.

[2] K. Hammond, Is there a Philosopher in the House?, Human Systems Management 1 (1980) 169–171.

[3] R. Lippold, Illusion as structure, in: Structure in Art and Science (Braziller, New York, 1965) 153.

[4] I. Mitroff and Featheringham, On systematic problem solving and the error of the third kind, Behavioral Sci. 19 (1974) 383–393.

[5] I. Mitroff and F. Betz, Dialectical decision theory: a meta theory of decision-making, Management Sci. 19 (1972) 11–24.

Meaning and purpose in science

Copernicus, Darwin and Freud, it is said, successively denied man what had heretofore been his unique status in the universe. Copernicus displaced man from the center of the physical universe. Darwin reduced him to the chance result of the same evolutionary process that created the other species; and Freud took away what was left: man's mastery of his own mind. This series of psychological evictions are blamed for the lack of meaning in modern life. Science, it is said, sees no purpose in the universe and, by extending its domain to human affairs in economics, management, sociology, and history, is responsible for every conceivable modern malaise. I believe that this is a spinning song written to while away long winter nights in academia.

First, this so-called 'uniqueness' of man was not experienced equally by all members of the human race but rather was concentrated in a few individuals, usually temporal or religious leaders, who arrogated the dignity of man for their own personal glory, generously allowing how they enjoyed their privileges 'on behalf of' the rest of humanity, or at least a favored part of it. The average man never profited from being at the center of the physical, biological, or moral universes. He would have gladly exchanged his 'centerstage' for a warm bed or enough to eat.

More to the point, the lack of purpose in nature is not a finding of science. It is an *attitude* towards the findings of science, an attitude which significantly enough is generally confined to theologians, social philosophers and writers for the Sunday supplements. The scientists themselves seem remarkably cheerful. Their detractors attribute the scientists' refusal to be gloomy to their lack of human sensitivity and gleeful megalomania. In fact, the scientists are cheerful because one can see beauty and meaning in science if one knows how to look. Lack of purpose is seen only when one attempts to find the meaning of things *outside* themselves. Since by definition there is nothing outside the universe, the universe is then necessarily meaningless. This is a *reductio ad absurdum* of nearly all the mournful diatribes written against science.

Those who insist on finding meaning on the outside always end by inventing God, although they may call it by another name. For those who find consolation in conventional religions, God exists no so much as creator but as an observer, generally smiling on one's own tribe and frowning on all others. Doing things, like genocide, in His Name gives life meaning, or at least zest. If, tiring of this external fiction, someone declares that God is dead, all meaning vanishes and the universe is again without purpose.

True meaning is in things themselves, not external to them. Purpose consists in fulfilling one's intrinsic nature. Freedom is obeying *only* internal laws developing without external hindrance. Considered in this light, science reveals being rather than destroying it. The heart and soul of science is the disinterested contemplation of things as they are. Science, while devoted to reason, is based on the faith that the universe is good and wise and that by studying it we ourselves will become good and wise. Like Satan, we can even quote the Bible: "It is the glory of God to conceal things and of Kings to seek them out." This is meaning enough for man.

David H. WEINFLASH

No 'it'

The analysis and explanation of economic phenomena, scholarly as well as popular, are specious. Their fallacy lies not merely in their logic; the very language of economic reasoning is syntactically invalid. It is neither responsive to nor descriptive of economic facts, which here are defined as consensual transactions: contractual agreements between two or more natural or legal persons. Certain contemporary economic theories are internally self-consistent, judged within their own semantics. But these semantics are designed to shut out the real world of economic behavior. The fault lies in positing an imaginary universe of discourse.

The primary technique for creating this imaginary universe is the fallacious intellectual process of reification. Reification is the transformation of a process into a thing that performs the process, an action into an actor, a verb into a noun. Reification is characteristic of all naive, primitive thinking; examples abound in everyday speech, where they may be regarded as vestigal grammatic forms preserved from the intellectual dawn of mankind.

This error is preserved most obviously in expressions refering to natural phenomena: "It is dark", "It is raining", "It is thundering". To what does the pronoun 'it' in these sentences refer? There is no 'it'. 'It' is a pronoun inserted merely to act as the subject of a grammatically correct sentence.

In mythology, 'it' becomes a god. Thunder is then explained as the action of Thor or Zeus. Thunder is now 'understood', 'interpreted', and even 'predicted'. It is not easy to cast the gods off, once they are admitted; error is ever more tenacious than ignorance. But a scientific approach to phenomena cannot begin until the gods are eliminated from the discussion.

Economic theory still has its gods; they rule the thinking of businessman, professor, and layman as surely as the Homeric gods ruled the thinking of the ancient Greeks. Pre-eminent among these gods is 'The Market' — a mythical creature that is no one and everyone. Many swear to have seen its sinuous up-and-down movements, usually accompanied by its whelps Supply and Demand. Others claim that they have been severely mauled by it and offer battered balance sheets as proof.

Rational inquiry, responsive to the realities of economic phenomena, will recognize that 'The Market' does not exist; there are only individual human participants in a game called "Beating the Market". Progress in understanding will begin by throwing out all theories that talk about market forces, supply and demand 'acting on' prices, and dollars 'chasing' goods. Instead there will be the analysis of specific transactions: the rules that apply, the options available to the participants, remedies and recourse when rules are broken, how rules are made and modified. The language will be game theoretic. The mathematics will be discrete.

An avenue of approach will be suggested by electronic digital circuit theory. Risk will be analyzed in terms of failure mode and system default. In this work, the computer itself may be a better model than any program written for the computer. Key concepts will be threshold, activation potential, cutoff, stability. Risk will not be identified with the dispersion of probabilistic results; it will be non-compliance and the laying off of uncertain consequences through various kinds of insurance and underwriting.

David H. WEINFLASH

Quality sorting and social stability

Manfred Kochen's provocative editorial (in the 2nd issue of HSM) implies and suggests several additional points:

Very few people 'reach the top'; fewer remain there; few (if any) who 'reach the top' feel that they have.

To do a job well (whether president, manager, teacher, researcher, doctor, mechanic) one must be competent, knowledgeable, properly motivated. A Utopian society might have just the right number of competent people. Motivations and rewards should be set accordingly, so that appropriate numbers seek the

proper training. People should be advised as to their abilities, and chosen, as wisely as possible, by people who are as able and as competent as possible.

But it is not clear how a pool of competent people should be distributed, so as to benefit society, and themselves, as fully as possible. If every professor wants a chair at Harvard, enormous amounts of time, energy and 'creativity' are spent toward that end, almost all without results. Those researchers who have published the most (or, if any agreement could be reached, the best) papers, or brought in the most grant money, in their departments, quickly become little fish when they view their 'achievements' from the perspective of the whole university, or nationally, or internationally. The manager whose division has won the most awards or brought in the largest profit, the insurance underwriter or used car salesman who has made the largest total sales, indeed almost all of us, are in the same situation. To the extent we are really motivated by the game of winning, we are ever surer, at least underneath, of chiefly gaining experience in losing.

If we could choose the best candidates and elect the best president, one who is present just because she/he really excels the most in just that very unusual range of characteristics in which a president should excel, it might be worth doing that (although it would still be hard to believe that number 2, or even number 1002, would not also be excellent). But we have increasingly good reason to believe that we cannot, and we sigh with relief when we choose somebody not overly dishonest, who appreciates her/his own weaknesses enough to take advice, and has not sold out completely.

Who benefits or loses if MIT squeezes its 'dead-wood' professors enough so that they move to Appalachian State, or if Oregon lures back a farm boy who has made it at Princeton? If the farm boy choses rationally, he will be happier returning to his roots, and therefore more productive. MIT (if it is better and has better students) would be harmed less by dead-wood (if it is dead wood), and society as a whole would be harmed less.

We are all motivated by a variety of influences. But our competitive modern societies have used money, status, power, and the various aspects of 'winning' as the primary motivator, from our earliest days in school. There is little reason to think that these are the most productive motivators; and there are many reasons to question the psychic havoc they wreak on the individual human beings involved. Satisfaction, enjoyment, feelings of being productive and serving real, important purposes — these are some of the 'self-actualizing' motivations Professor Kochen juxtaposes, as in conflict with winning. They can much more commonly be achieved than can winning; and they are far more functional, and valuable, not only to society as a whole but to each individual as well.

Possibly the most important point is this: People excel in far larger numbers when conditions are right. Periclean Athens and Renaissance Florence, communities the size of 20th Century Brindisi, Italy or Madison, Wisconsin, excelled far beyond (almost?) and 20th Century city, or even country. On the one hand, society must value, request, and nurture excellence to keep from stagnating, as one might characterize 20th Century Greece (or is it excellent on a different set of values?). But on the other hand, when a society, or a company, or even a tiny department-oasis, offers a good environment, people grow excellent, rather than dead-weeds. Such environments would give us the excellence within our powers, which still might not be enough but would be the best we could expect.

It's almost mind-boggling to contemplate the amount of time we would all have for productive work if we weren't so often caught up in the game of getting ahead and keeping ahead, and how much more pleasant it would be if we could simply ask‛ "how can I best do what I should do," and how much more productive we would be.

Leonard UHR