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The Editor’s Page

You all know, I’m afraid, about the traumatic second semester Boston University survived this year. One effect of the faculty-staff-librarian strike was a picket line across which truckers would not pass — hence an unconscionable delay for Volume 9, Number 3.

The many delays we have suffered over the past three years caused me to seek permission from the Board of AGLS to begin to process a freeing ourselves from Boston University — to some extent. When more options are available to me, I will be more comfortable in aiming for (and achieving) regular publication. More on this topic as events develop.

Send Mss. — I know that I promised not to do this again. But this time I mean “Send Mss. that conform with our policies: no footnotes; references in the text; carefully proof-read; double-spaced; if based on a speech, re-written for a reader.” As you can see, I could continue with examples of Mss. that cannot achieve publication because of such superficial deficiencies. My first request to any would-be contributor is “Be careful in presenting your Ms. for consideration.”

My second request to would-be contributors: “Please tell us something specific, sensible, sensitive, and applicable.” One more defense of general education, or praise of a discipline, without consideration of the first word in our title, Interdisciplinary, will drive the Editorial Board to mass resignation.

But keep those cards, letters, and Mss. coming, folks, and the little journal you hold will grow and flourish — I hope.

G.F.E.
The primary intent of this paper is not to advance or defend any novel philosophic theses. Rather, the purpose is to provide what I will call a "philosophic service" for undergraduate teachers of philosophy. More specifically, I am concerned both with the continued decline of interest in the liberal arts (philosophy in particular) among undergraduates and with the apparent inability of many teachers of the liberal arts to articulate satisfactorily a rationale for the pursuit of the liberal arts. In this paper I cannot analyze all the complex economic and socio-cultural factors that have conspired to minimize the importance of the liberal arts. But I can contribute to the articulation of an adequate rationale for the continued pursuit of the liberal arts, and I can do so in a way that will resonate with some of the dominant concerns of our contemporary undergraduates. Specifically, my contention is that a radical articulation of the function of the liberal arts is required, radical in the sense of going to the roots of the liberal arts. There we find that the liberal arts are liberal precisely to the extent that they contribute to the liberation of persons. The way in which each of the arts effects human liberation is something unique to that art. In this paper I shall concentrate on the way philosophy effects human liberation. Furthermore, I wish to situate my comments in the context of the introductory philosophy course, for I think that it is a mistake to believe that the liberal arts are somehow intrinsically liberating. How the liberal arts are conveyed will determine quite as much as their content whether or not they are humanly liberating.
I.

In inquiring of my students why they thought the liberal arts should be an integral part of a college education, I found that they tended to subscribe to one or another of four theories of the function of the liberal arts. They may be conveniently labelled as: (1) The Gourmand Theory (“We should study the liberal arts because it’s good for us to have a taste of everything”); (2) The Cocktail Theory (“We should study the liberal arts because we’ll be able to talk with more people from different backgrounds at parties and other such social affairs”) (3) The Bangles and Baubles Theory (“We should study the liberal arts because it’s part of being cultured and we should have some culture (just as we should have a snazzy sportcoat or a frilly dress for special occasions); and (4) The Cogito, ergoCogito Theory (“We should study the liberal arts because the liberal arts help us to think”).

It should be noted that these theories are rarely presented by students with conviction, as philosophers are prone to present their theories. Rather, the dominant tone is one of resignation and acceptance. That is, they have been given reasons by their parents and teachers for studying the liberal arts, and, upon request, they will dutifully pass along these reasons to whoever asks the appropriate question. Clearly, however, these reasons are not an integral part of their thought or existence. Their existential relationship to these reasons is analogous to that of an airline information clerk to the information he dispenses.

What I would suggest is that the superficiality of this relationship is indicative of the superficiality of the reasons themselves. That is, the reasons advanced in connection with each of the theories mentioned above fail to make connection with the depths of an individual’s being. They fail to exhibit the liberal arts as literally vital to man’s being as man. Instead, they tend to suggest that the liberal arts are little more than cultural costuming. Certainly from a sociological perspective it is probably true that this latter claim more accurately represents present cultural attitudes than does the former. And that is precisely where the problem lies. The fashions in cultural costuming are changing. No longer is it necessary to include in one’s mental wardrobe historical, philosophical, literary, and artistic suits. A few good business suits and sports outfits will do just fine.

Unfortunately, in responding to this challenge many defenders of the liberal arts have often been their own worst enemies. For they are ultimately responsible for advancing the superficial reasons referred to above, the reasons that have just enough truth in them to tranquilize the critical faculties. By way of illustration, consider the Gourmand Theory. The truth contained in the Gourmand Theory is that the liberal arts provide us with comprehensiveness of experience and knowledge. One of its chief deficiencies is its suggestion that significant comprehensiveness of experience and knowledge is attainable apart from depth and connectedness of experience and knowledge. To be liberally educated requires merely that one taste many different courses. What is involved here is a confusion between the well-informed man and the wise man.

Another deficiency of this theory is that it fails to offer any fundamental explanation of why comprehensiveness of experience and knowledge are valuable. I would contend that this explanation must be sought in the function of comprehensiveness of experience and knowledge in the attainment of human liberation. We are born creatures of necessity — physical, psychological, and cultural necessity. The process of liberating ourselves from these necessities by achieving a comprehensive knowledge of their workings in our lives
is an integral part of the process of our own humanization. It is precisely in this connection between the processes of liberation and humanization that we find a fundamental, practical, existential explanation of why comprehensiveness of experience and knowledge is valuable. This is the sort of explanation that transcends shifts in cultural fashions and that provides an enduring ground for the liberal arts.

Turning next to the Cocktail Theory, it contains the truth that by means of the liberal arts we can augment our ability to communicate effectively with others. No doubt this is a valuable skill, especially in connection with some occupations. But herein lies the main defect of this theory. It fails to explain in any fundamental way the role of communication in the constitution of human life. That is, it fails to indicate the connections that bind into an organic totality the processes of communication, liberation, and humanization. It suggests that communication is accidental rather than essential to human existence.

As in the case of the two preceding theories, the Bangles and Baubles Theory has an element of truth in it. Briefly, it is that the liberal arts provide one of the chief instruments for the transmission of culture from one generation to another. The chief failing of this theory is that it trivializes culture (as well as the liberal arts) by its suggestion that culture is a matter of personal, inner ornamentation, something ultimately inessential for the development of the human person. Furthermore, carried to its logical conclusion this theory is a source of social division and dehumanization in that culture becomes a barrier that divides economic, social, and political classes. Thus, culture, instead of being "the capacity for constantly expanding the range and accuracy of one's perception of meanings," as Dewey puts it, and instead of being a source of free and full communication (and hence, liberation), becomes an insurmountable obstacle to communication and a tool for effecting the submission of one social class to another.

The last of the theories to be considered is what I have dubbed the Cogito, ergo Cogito Theory. The truth in this theory is that one of the primary functions of the liberal arts is to augment and refine our abilities to think. A critical deficiency of this theory is that it loses sight of the instrumental function of thinking. It tends to make thinking into an end in itself, the result being a degeneration of the liberal arts into a sterile intellectualism. Certainly this is a common view among those in our culture who are not committed by faith alone to believe in the value of the liberal arts. But it seems to me that the liberal arts ought to make a fundamental, practical difference in the quality of our living, a difference as demonstrable as those made by business and science. I would suggest that such a difference may be specified in terms of the liberating function of the liberal arts in our thought and action. This point will be elaborated upon in the next section of this paper.

Before moving on to the next section though, a response is in order to the possible charge that I have been guilty of caricaturing otherwise reputable positions. I will readily grant that more defensible versions of all the theories I have mentioned have been put forth, and by reputable thinkers. But the views of these thinkers have not been the object of my criticism. Rather, my object has been the popular views that circulate among undergraduates, and even their teachers. For this is where the practical problem lies and the point at which a suitable response must be directed. I shall now turn to the task of formulating that response.

II.

As I indicated in my opening remarks, the remainder of this paper will be given over to a discussion of the liberating function specific to philosophy as one of the liberal arts. Furthermore, the context for these remarks will be that of an introductory philosophy course.

The beginning of wisdom is an accurate knowledge of one's own present condition. Herbert Marcuse, following the lead of Hegel and Marx, has remarked: "All liberation
depends on the consciousness of servitude, and the emergence of this consciousness is always hampered by the predominance of needs and satisfactions which, to a great extent, have become the individual's own. If the liberal arts in general and philosophy in particular are going to be recognized by students as having a liberating role to play in their lives, then they will first have to become conscious of their own servitude. This is by no means an easy task, for the vast majority of students recognize only overt forms of political repression as servitude. They are almost totally insensitive to non-political, covert forms of servitude. This may be explained in part by the fact that we live in an affluent, highly mobile (socially and physically), highly democratic society. We have so many liberties and opportunities that it is difficult to imagine what further liberation might consist in. It is even more difficult to believe that this further liberation could be more fundamental and more necessary for living a good life than the specific liberties we already possess. This, then, is the problem with which I, as an undergraduate teacher of philosophy, must cope.

In my teaching I approach this problem by trying to make evident to my students four specific modes of philosophic servitude and four corresponding modes of philosophic liberation. I usually begin by acknowledging my own philosophic commitments. Briefly, these may be covered by the label 'symbolic interactionism.' John Dewey and George Herbert Mead are generally taken to be the sources of this position. Roughly speaking, one of the defining tenets of symbolic interactionism is that the symbols we employ for purposes of representing reality are in fact constitutive of reality. The world that we as human beings inhabit is a socio-symbolic construct. That is, man’s world is a world of objects, things that have been invested with social meaning. Among the significant objects in this world are selves. They are first and foremost products of social interaction. Only much later in their development do they acquire the capacity for determining their own being. But even then the exercise of the capacity for self-determination is severely restricted by the particular world (i.e., an organized system of social beliefs, social values, and social institutions) into which a self is born.

This brings us to our first form of servitude, cultural servitude. The social world into which we are born does not present itself to us as a world, but rather, as the world, the natural world, the right world, reality as it is and must be. In this connection Whitehead writes: "In each period there is a general form of the forms of thought; and, like the air we breathe, such a form is so translucent, and so pervading, and so seemingly necessary, that only by extreme effort can we become aware of it." Whitehead, of course, is referring to the philosophy that defines an age or culture. Theodore Roszak in his book The Making of a Counter Culture supplies us with one contemporary example of Whitehead’s point. His concern is with the subtle and pervasive way in which technocracy has become the ruling force in our lives. He observes that "it is characteristic of the technocracy to render itself ideologically invisible. Its assumptions about reality and its values become as unobtrusively pervasive as the air we breathe." The servitude involved in the situation described by Roszak and Whitehead is really of a twofold sort. First, there is the servitude of having no options or severely restricted options. To the extent that we are restricted to the perspective of our culture, we are restricted to the options permitted by the beliefs, values, and institutions of our culture. To the extent that a single philosophy shapes that culture, our servitude is as fundamental and as encompassing as it can possibly be. I make this point explicitly for purposes of emphasizing the incomparable significance of both philosophic servitude and philosophic liberation. No other dimension of human thought or existence has the breadth or depth or intricacy and multiplicity of implications that characterize philosophy.
The second form of servitude suggested by the remarks of Roszak and Whitehead is that associated with the lack of certain conceptual sensibilities. By the phrase 'conceptual sensibilities' I mean the various languages or conceptual frameworks appropriate to the various disciplines, languages which we must internalize if we are going to be sensitive to or aware of the objects that comprise a particular dimension of reality. For example, most of us do not possess the conceptual sensibilities of an entomologist; and consequently, we are satisfied to divide the world of insects into crawling insects and flying insects. That is all we need to know in order to buy the right kind of bug spray. But for the dedicated entomologist his insect-world is infinitely richer than this crude division would suggest. The point of these remarks is that to the extent that we lack certain conceptual sensibilities our lives will be necessarily determined by the objects and events that comprise the corresponding dimension of reality. If we lack the conceptual sensibilities of an entomologist and are bitten by an African bee, then we will probably die shortly without being aware of the need to seek medical attention. Likewise, to the extent that we lack meteorological, political, economic, or philosophic sensibilities we will be unable to respond intelligently to these dimensions of our world. Instead, our lives in these respects will be subjected to the workings of necessity, both physical and social necessities. And in the case of a lack of philosophic sensibilities, our lives will be subjected to a necessity of the most fundamental and pervasive sort possible.

What then is required of an introductory philosophy course if it is to effect any significant degree of philosophic liberation? First, it ought to present a variety of philosophic viewpoints in as sympathetic a way as possible. Such an approach is usually enough to free an individual from enslavement to the pre-reflective "natural" philosophy of his culture or social group. Second, an introductory philosophy course ought to help an individual begin the process of acquiring as broad and complex a set of philosophic sensibilities as possible in order that he might begin to respond in a free and intelligent way to the philosophic dimension of his world. I emphasize the word 'respond' because I wish to bring out the ultimately practical end of the development of these sensibilities. They liberate action in that they suggest new ends for action and new means for achieving these ends, the result being greater control over our environment.

Perhaps nowhere is the practical import of these sensibilities exhibited more clearly than in the history of the development of science and technology. Unfortunately, as Dewey so often lamented, our philosophic sensibilities have not kept pace with our scientific sensibilities. Hence, today we have a twentieth-century science and technology interpreted and responded to in the light of a seventeenth-century philosophy. If a philosophy were merely a personal set of beliefs and values toted about by individuals in their heads, then perhaps we could tolerate this disparity. But a philosophy determines the ultimate possibilities of social action within a culture. It determines the kinds of social and political and economic institutions that can be conceived and constructed within a culture. If the sinews and muscles of a culture are constituted by its political and economic organization and its technological capacities, then the central nervous system of that culture is its philosophy. It determines in a fundamental way the range and refinement of all the responses of that culture. It is the communications systems of a culture. It determines in a basic way both the form and the content of what is communicable. As Dewey writes, communication is uniquely instrumental "as liberating us from the otherwise overwhelming pressure of events and enabling us to live in a world of things that have meaning." Thus, the liberality of a philosophy, its capacity to create free and full communication at the deepest levels, is the best index of the liberality of a culture and its institutions. Likewise, the illiberality of a philosophy will be a good index of the depth
of servitude within a given culture. In either case, failure on the part of an individual to acquire the requisite philosophic sensibilities will mean servitude of the profoundest sort, for he will be able to neither recognize his condition nor to fashion the instruments needed to remedy it. Thus, the provision of these sensibilities is the first liberating function of philosophy.

The second liberating function of philosophy has to do with giving a student the ability to recognize and analyze the functioning of paradigms within his thought and within his culture. By a 'paradigm' I mean a metaphor that structures in a fundamental way our patterns of thinking and acting with respect to a particular field of experience or inquiry. What makes paradigms of special interest to philosophers is that they structure a field of thought and action in a fundamental way. What makes paradigms especially relevant to this paper is that they usually operate at a pre-reflective level. That is, we often think and act in accord with them without self-consciously recognizing that we are doing so. For this reason I think it fair to say that we are enslaved by such paradigms.

One of the more controversial cases of paradigm recognition and rejection in recent years revolves around a book entitled *The Myth of Mental Illness* by a psychiatrist, Thomas Szasz. Szasz does not doubt that there are all sorts of people who suffer from delusions, hallucinations, and the inability to establish satisfactory interpersonal relationships. What he does doubt, however, is our ability to respond effectively and intelligently to these people so long as our institutional patterns of response are governed by the medical paradigm which requires that we respond to these problems in the same general way as we would to any physical illness. I cannot argue the merits of Szasz's case here. The point is that for a long time this paradigm governed a broad range of social responses, apparently without anyone being critically aware of this fact.

Another critical example of the functioning of paradigms may be gleaned from a speech four years ago by Senator "Scoop" Jackson during the Mid-East oil crisis. He spoke then of oil as "the lifeblood of the nation." If this is literally true, then the moral implications are nothing short of astonishing. For we would be warranted on grounds of self-defense in waging an atomic war against the Arabs to guarantee our oil supply. On the other hand, if oil is just a very important commodity for an industrialized nation, and if we could survive as a nation with a reduced oil supply and a reduced G.N.P., then the moral grounds for waging war against the Arabs would be non-existent. Again, my point is that this paradigm has governed, and continues to govern, in a pre-reflective way our political responses. To the extent that this is true, we are enslaved by this paradigm. I take it then that another of the practical, fundamental ways in which philosophy can contribute to human liberation is by sensitizing us to the existence and operation of paradigms in our culture.

A third source of philosophic servitude is to be found in the philosophic presuppositions that govern our thought and action. Like paradigms, they tend to govern our thought in a pre-reflective way. Hence, they are not obviously available for critical scrutiny. Moreover, since these presuppositions are of a philosophic sort, their influence tends to be pervasive. A simple example that I use in class to illustrate the enslaving features of unscrutinized philosophic presuppositions is the question, "Who made the world?" The very asking of the question presupposes that we accept as true at least three claims, namely, that the world had a beginning, that the world was made, and that a personal being was responsible for making the world. All of these claims may well be true. But the point is that if we have not explicitly recognized these presuppositions we will unknowingly be locked into certain modes of questioning, thinking, and acting which may or may not prove fruitful. In short, our lives will be necessarily rather than freely determined in the relevant respects. A third important respect, then, in which philosophy contributes to human liberation is by providing us with the critical tools we
need for recognizing and analyzing the operative philosophic presuppositions in our individual and collective thought and action. Furthermore, this third form of liberation is not just a liberation from our old presuppositions, but it is a liberation for asking new questions. Philosophic presuppositions constitute the horizons of our thoughts. In the very act of recognizing them we move beyond them. We cannot hope to get beyond all such horizons, for they are logically among the conditions of rationality and freedom. But we can hope to push those horizons back as far as possible.

A fourth form of servitude which it is the task of philosophy to save us from is the isolatedness of concrete immediacy. We are too enamoured by facts, data, tidbits of information. We fear theories and abstractions unless they are severely controlled by facts. But if we examine the history of ideas, what we find is that the great liberators of human thought and action have not been the fact-gatherers primarily but the men of speculative vision. In this regard Whitehead writes: "Human life is driven forward by its dim apprehension of notions too general for its existing language. Such ideas cannot be grasped singly, one by one in isolation. They require that mankind advances in its apprehension of the general nature of things, so as to conceive systems of ideas elucidating each other." In a similar vein Dewey writes:

As long as we worship science and are afraid of philosophy we shall have no great science; we shall have a lagging and halting continuation of what is thought and said elsewhere. As far as any plea is implicit in what has been said, it is, then, a plea for the casting off of that intellectual timidity which hampers the wings of imagination, a plea for speculative audacity, for more faith in ideas, sloughing off a cowardly reliance upon those partial ideas to which we are wont to give the name of facts.

Two of the liberating characteristics of philosophy are its generality and its comprehensive systematicity. The generality of philosophy is what saves us from being trapped within the circle of beliefs that are tribal, sectarian, and provincial. It keeps alive our ideals by suggesting that the present embodiment of our ideals need not be their final embodiment. This point is well documented by Whitehead in his Adventures of Ideas with respect to the ideal of freedom. He shows how this ideal first emerged among the Greeks at the time of Plato, received concrete but inadequate embodiment in the feeble democratic institutions of the Greeks, and was judged as an appropriate ideal of life for only some few men. The history of the West has been the history of the growth of this ideal in the form of more and more adequate embodiment in our political, social, and economic institutions. But the point is that even now the ideal of freedom serves to liberate us by its suggestion of the inadequacy of its present institutional embodiments. We realize that merely giving women the vote did not adequately effect their liberation, nor did merely repealing segregation laws adequately effect the liberation of blacks. But we can have this realization only because we operate with an ideal of freedom that is abstract enough that it can never be perfectly embodied. Without such ideals we would be enslaved to the status quo.

The other point suggested by Whitehead and Dewey is that liberation is a function of the comprehensive systematicity of our thinking. In the passage from Whitehead quoted at the beginning of this paper he said that freedom was to be found wherever ideas are effective. But as he observes later, ideas have to be coordinated in order to be effective. The task of philosophy is to provide us with the most encompassing forms of coordination possible for our ideas. Again, wherever we find a revolution occurring in thought, a liberation from old ways of thinking, we never find that a single fact brought about that revolution. Rather, it was a massive coordination of ideas.
In trying to convince my students of the importance of having a self-conscious philosophic perspective of their own, I often play for them the old Beatles’ song *Nowhere Man*. The relevant lyrics are:

Doesn’t have a point of view,
knows not where he’s going to,
 isn’t he a bit like you and me?
Nowhere Man please listen,
you don’t know what you’re missing,
Nowhere Man, the world is at your command.\(^\text{1.}\)

The Nowhere Man is very much like a piece of desert tumbleweed. He does not seem to be confined at all. He seems to possess absolute freedom. He has the world at his command. But this is meant to be ironic. The Nowhere Man, far from being absolutely free, is absolutely enslaved by whatever forces, fads, or fashions are creating a stir in his environment. And the same situation obtains for an individual who has not thought out his own philosophic viewpoint. He will be forced to move with whatever moral and social pressures happen to be dominating his environment. But to the extent that an individual does have a reflective philosophic point of view, and not just an uncoordinated assortment of beliefs, he can resist these environmental pressures and choose for himself the direction in which he wishes to move. In short, philosophy, by virtue of its comprehensive systematicity, is a fundamental source of human liberation.

In this concluding section I wish to develop a point I made in my introductory remarks. It is that while philosophy possesses a liberating potentiality, whether or not that potentiality is brought to actualization in the classroom is as much a function of factors intrinsic to philosophy as it is a function of how philosophy is presented. Philosophy must be presented in a liberating way if it is to be an effective source of liberation.

Paolo Freire in his book *Pedagogy of the Oppressed* distinguishes between two methods of education which he refers to as the “banking” and “problem-posing” methods of education. The banking method identifies education with information dissemination. Students are treated essentially as things to be stocked with information. Students are expected to be passive, manageable, adaptable beings. As Freire observes: “The more completely they [students] accept the passive role imposed on them, the more they tend simply to adapt to the world as it is and to the fragmented view of reality deposited in them.”\(^\text{13}\) For Freire this is educational oppression, for it involves turning men into automatons by negating their ontological vocation to be more fully human, to develop themselves as free beings. By way of contrast, the problem-posing method of education rests on the assumption that “knowledge emerges only through invention and re-invention, through the restless, impatient, continuing, hopeful inquiry men pursue in the world, with the world, and with each other.”\(^\text{14}\) The problem-posing method of education insists that cognition be an act of inquiry rather than a transferral of information; for that is more consistent with the fact that man is an unfinished, incomplete being living in an incomplete world, that man is a historical being, a creative being, a free being, a being always capable of transcending himself.

By way of illustrating the problem-posing method of education I would like to describe briefly the project that students in my introductory philosophy courses presently work on. The project involves the construction of a “utopian society,” by which I mean, not some pie-in-the-sky utterly unrealistic society, but a society that is better in specifiable
respects than our present society. The project itself is divided into fifteen practical problem areas, e.g., problems related to human sexuality, abortion and euthanasia as means of population control, biological and psychological engineering, capital punishment, the distribution of wealth, the function of government, the function of laws, natural rights, civil disobedience, the nature of education, and so on. The class is divided into groups of seven, each of which is responsible for constructing its own utopia. Each group as a group writes a ten-page paper outlining their utopia and defining and justifying the ultimate goals and values of that society. Each member of the group must in addition write two five-page papers dealing with two of the remaining fourteen problem areas in the project. All problem areas are covered by each group. Moreover, these problems are discussed in the light of the ultimate goals and values that each group has committed itself to, so that what should emerge is a comprehensive and consistent vision of that society. At the end of the semester each group presents and defends its group paper before the rest of the class.

What I take to be the specifically liberating features of this project are as follows. (1) It encourages comprehensive, systematic thinking, for a variety of problems have to be dealt with in the light of the ultimate goals and values of a given society. (2) It requires students to make their own inquiries. No "right" answers are imposed on them. Moreover, this inquiry is carried on as a community, thus emphasizing that knowledge and liberation are primarily social affairs. (3) It encourages the development of critical thinking since the student must recognize the deficiencies of their own society before they can construct a better society. (4) The presentations at the end of the semester and the discussion during the semester within each group make evident the variety of viable philosophic options available. (5) This project enables students to see the ultimately practical thrust of philosophy. They recognize that philosophy makes a difference in the sort of social institutions we have, whether or not we may be aware of it. (6) Through the recognition of the philosophic dimension of our present social institutions students begin to develop the philosophic sensibilities that I mentioned earlier as a necessary component of philosophic liberation. Lastly, (7) students begin to recognize that they have been in a state of servitude, a very fundamental form of servitude, a very subtle but nevertheless real form of servitude. And they begin to realize that philosophy in particular, and the liberal arts in general, have a very practical function in human life, namely, that of human liberation.

NOTES

2 The reader will find the work of Marshall McLuhan quite enlightening on the general point of this remark. See especially his *Understanding Media: The Extensions of Man* (New York: New American Library, 1964).
6 Whitehead, p. 12.


14. Freire, in Ogilvy, p. 441.
AESTHETIC GAME-RULES
FOR THE ARTS IN
GENERAL EDUCATION

Gary R. Sudano

I.

Aesthetics is commonly known as the philosophical study of the nature and function of art. As such, it is considered to be a theoretical enterprise of interest to some philosophers and, perhaps, to some arts historians. But, as such, it is not thought to have a great deal of relevance or usefulness to teachers and students in general education arts courses. That this is not the case is the first point of this paper. The second point is that while aesthetics is sometimes a weary and cumbersome subject, there are several important principles to be gleaned from its literature which need not be presented to students in a weary and cumbersome way. I will deal with the second point initially, and hold my comments about the first point for the conclusion of this paper.

I want to consider games for a moment. When we think about games as a class of things and activities, we can find general agreement about what I am going to call "game-rules." One of these is that games are not designed to have practical value in the real world. That is, games are not played for real-world stakes and games are not played by real-world rules. Another game-rule is that we expect each game to have its own specialized language which each of the players must know. Generally, the better players are those most familiar with all the techniques and nuances of that specialized language. Another is that each game has its own specialized techniques for doing. Each demands the development of some kind of skill or knowledge on the part of the players. And, as is generally true in the case of the specialized language, the most skilled players are those who have best mastered the special techniques of the game. Another game-rule is that each game has some type of reward for the successful player. This one is most serious because the game will not be played if the reward is not valuable enough.
These are simple, but I think accurate, game-rules. Each of us who plays any kind of game accepts and plays under them. The literature of aesthetics provides the same kind of game-rules for those who work in the arts. In fact, the four game-rules above can be translated easily into four primary “aesthetic game-rules” which, I submit, are essential to an understanding of the art process and thus are essential components of any arts in general education course. I will translate each of the four now, and then I will interpret each of the four aesthetic game-rules and account for its function in the arts in general education setting.

Game-Rule I: A game does not have any practical value in the real world; a game is not played for real-world stakes; a game is not played by real-world rules.

Aesthetic Game-Rule I: A work of art exists and makes sense only in the aesthetic world, the aesthetic domain. The only usefulness and practicality to either come from or be exhibited by the art activity is derived from or is characterized as being in the aesthetic domain.

Game-Rule II: Each game has its own specialized language which each of the players must know.

Aesthetic Game-Rule II: A work of art is “understood” only by those who understand the language of the art form.

Game-Rule III: Each game has its own specialized techniques for doing. Each part of the game contributes to the whole game, and the function of each part must be understood by the players.

Aesthetic Game-Rule III: Each part of a work of art contributes to the whole both in creation and perception. Thus, the creator and the perceiver must attend to the processes by which artistic ingredients are formulated into the final art product.

Game-Rule IV: Each game has some type of reward available to the successful player. The value of the reward serves as the motivation for playing the game.

Aesthetic Game-Rule IV: The reward for a successful encounter with art is the aesthetic experience, the highest-ordered perceptual value experience available to human beings.

II.

The first aesthetic game-rule — a work of art exists and makes sense only in the aesthetic domain — is surely the most difficult of the four for the teacher to explain and the general student to understand. Saying that a work of art exists and makes sense in the aesthetic domain is like saying that numbers exist and make sense in the world of mathematics. Both are obviously true, but both demand a lot of backing and filling before they make sense simply because their frames of reference are highly conceptual. I have put together a chart which might help in identifying just what this aesthetic domain is.

<table>
<thead>
<tr>
<th>1. Real Objects (We)</th>
<th>can exist in</th>
<th>Real Time (now)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Real Objects (We)</td>
<td>cannot exist in</td>
<td>Imagined Time (before eternity)</td>
</tr>
<tr>
<td>3. Imagined Objects (Gods)</td>
<td>cannot exist in</td>
<td>Imagined Time (before eternity)</td>
</tr>
<tr>
<td>4. Imagined Objects (Gods)</td>
<td>can exist in</td>
<td>Imagined Time (before eternity)</td>
</tr>
<tr>
<td>Imagined Objects (Gods)</td>
<td>cannot occupy</td>
<td>Imagined Space (Valhalla)</td>
</tr>
<tr>
<td>Real Objects (We)</td>
<td>cannot occupy</td>
<td>Imagined Space (Valhalla)</td>
</tr>
<tr>
<td>Real Objects (We)</td>
<td>can occupy</td>
<td>Real Space (Earth)</td>
</tr>
<tr>
<td>Imagined Objects (Gods)</td>
<td>can occupy</td>
<td>Imagined Space (Valhalla)</td>
</tr>
<tr>
<td></td>
<td>Imagined Objects (Gods)</td>
<td>can perform</td>
</tr>
<tr>
<td>---</td>
<td>------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>3.</td>
<td>Imagined Objects (Gods)</td>
<td>cannot perform</td>
</tr>
<tr>
<td>2.</td>
<td>Real Objects (We)</td>
<td>cannot perform</td>
</tr>
<tr>
<td>1.</td>
<td>Real Objects (We)</td>
<td>can perform</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Imagined Objects (Gods)</th>
<th>can have</th>
<th>Imagined Properties (are incorporeal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.</td>
<td>Imagined Objects (Gods)</td>
<td>cannot have</td>
<td>Real Properties (are corporeal)</td>
</tr>
<tr>
<td>2.</td>
<td>Real Objects (We)</td>
<td>cannot have</td>
<td>Imagined Properties (are incorporeal)</td>
</tr>
<tr>
<td>1.</td>
<td>Real Objects (We)</td>
<td>can have</td>
<td>Real Properties (are corporeal)</td>
</tr>
</tbody>
</table>

Notice that each line in the four sets of the chart is numbered. All of the lines preceded by the number 1 describe ordinary reality; that is, real objects or events existing in real space and time. All of the lines preceded by the number 4 describe objects and events in non-ordinary reality. This is the world of fantasies and dreams, images, and ideas. We are familiar with both of these worlds and they offer no problems in our attempt to understand the aesthetic domain.

The lines preceded by the number 3 indicate where the process of artistic creation occurs. As these lines are now stated they indicate true situations. Imagined objects do not occupy real space, do not exist in real time, do not perform real acts, and do not have real properties. But this is not to say that they cannot be transformed in such a way as to exist in the real world. The process of artistic creation is just this process of transformation, where imagined objects are brought forth into reality and are given the attributes or abilities to do the things that all the number 3 lines say they cannot do. The sculptor thrusts an imagined object into the real world, and so do the poet and the composer. All artists "can" the "cannots" of the number 3 lines; they transform non-ordinary images, dreams, fantasies, conceptions, and ideas into ordinary reality. Thus, an imagined object transformed to occupy real space is a piece of sculpture. An imagined object transformed to exist in real time is a piece of music. An imagined object transformed to perform real acts occurs in dance or theater or film. And all of these are examples of imagined objects transformed to have real properties, i.e., sound, color, movement, form, physical presence.

The lines preceded by the number 2 indicate where the process of artistic perception occurs. As in the case of the number 3 lines, transformation must take place: the "cannots" on the chart must again be "canned." But in this case the perceiver, and not the artist, must do the transforming. As the artist moved his conceptions and imaginings into reality ("canning" the 3's on the chart), the perceiver must allow bits of reality to be transformed through imaginative perception ("canning" the 2's on the chart). The perceiver, through this imaginative perception, allows real objects to occupy imagined space: the color pigment (real object) is transformed to become a part of the "apple" in the still life. Real objects (sounds) are transformed to exist in imagined time (the "beginning" of a sonata); real objects (actors) are transformed to performed imagined acts ("wait for Godot"); and real objects (ballerinas) are transformed to have imagined properties (are "weightless"). Without this special process of perceptual transformation (which I will describe more fully in IV below), real objects remain real objects — outside the aesthetic domain. And without the special process of creative transformation, imagined objects remain imagined objects — also outside the aesthetic domain.

So the aesthetic domain is where special processes allow ideas and conceptions to be realized into objects and events in the real world (the act of creation), and where these
objects and events are then perceived through a special imaginative vision which changes them into something they are not in the real world (the act of artistic perception). In the language of the chart, this is movement from the 4's to the "canned" 3's for the artist, and from the 1's to the "canned" 2's for the perceiver. The aesthetic domain is certainly a part of the real world, but it is a special slice of real-world life where imagination and reality mingle and cooperate to give an extra charge to objects and events which, on their own outside this domain, just do not have the same kind of energy. The aesthetic domain is where objects and events are created and perceived according to aesthetic, and not real-world, rules and techniques. Like games, works of art exist in their own domain, and make sense only within the conceptual framework of that domain. And, like games, works of art demand that the players — perceivers as well as creators — contribute something of themselves in the process.

III.

Aesthetic game-rule II — a work of art is “understood” only by those who understand the language of the art form — is simple to put and understand in terms of analogies. We human beings have invented all kinds of languages. C_{6}H_{12}O_{2} is a formulation in one of them; 2 + 2 = 4 in another; A iff B in another; PV = nRT is another; and Brancusi’s Bird in Space in still another. One simple fact of human existence is that people become acculturated to a variety of languages through experiences and education. Another is that some languages are more complex and difficult to learn than others.

The genus of the arts language might be the thoughts contained in section II above. The species of that language might be the various branches of the fine arts. And there are subspecies like pre-Columbian Mayan sculpture, New England Transcendentalist poetry, Bauhaus architecture, and aleatory music. Following these are sub-subspecies consisting of the works of individual artists in all of these movements. Most of our efforts in general education arts courses are directed toward familiarizing students with paradigm examples of as many languages as time will allow. But the point I want to make here is that there are always two components to any single artistic language, and the functions of both must be understood by students before the language is truly understood. The first component might be called artistic agent language features, and the second artistic genre language features.

The distinction between these two components is that artistic agent language features are the products of a single artist’s creative imagination and skill, while artistic genre language features derive from the development of an art form in a social-historical-cultural climate. The first deals with the conventions stemming from the artist’s personal creativity; the second deals with the artist’s personal creativity within the conventions of a larger milieu, i.e., a style or genre. If we switch back to the world of games for a moment, perhaps this will become more clear.

We all know the game of tennis, and we all know that there is Arthur Ashe’s game of tennis. Similarly, there is golf and then there is the Jack Nicklaus brand of golf. In the arts, rather than considering specific games we talk about movements or styles. There is cubism and then there is Braque’s cubism; surrealism and Ernst’s surrealism; baroque concerti grossi and Corelli’s concerti grossi; modern dance and the Pilobolus Dance Theater’s modern dance, and so forth. Despite the fact that throughout history there have been some artistic figures who were hard to place within a style or genre, we are always more successful when we have students try to perceive individual artistic agent language features within the context of artistic genre language features. The language of the Pilobolus Dance Theater will certainly not make sense when perceived through the eyes.
of a square dancer (although it would probably make more sense than it would if perceived through the eyes of a physicist). There are always two things to be learned: the language of modern dance and the language of Pilobolus.

Each of the two components of the arts language has its own set of rules and conventions. The rules and conventions of modern dance are the stylized and collectively-held and collectively-practiced features generated by all the individual artistic agents who were or are a part of the modern dance tradition. The rules and conventions of Pilobolus are a combination of the styles of the modern dance tradition and the styles produced by the artistic imaginations of the group or the imagination of its choreographer. Pilobolus adds new words to an artistic language which has already been established. Braque, Ernst, and Corelli also added new words to further expand the languages in which they worked.

If we chart the thoughts presented to this point in this section, they look like this:

<table>
<thead>
<tr>
<th>Genus</th>
<th>The Arts Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>Species</td>
<td>Painting</td>
</tr>
<tr>
<td>Subspecies</td>
<td>Surrealism (artistic genre language features)</td>
</tr>
<tr>
<td>Sub-subspecies</td>
<td>Max Ernst’s Surrealism (artistic agent language features)</td>
</tr>
<tr>
<td></td>
<td>or</td>
</tr>
<tr>
<td>Genus</td>
<td>The Arts Language</td>
</tr>
<tr>
<td>Species</td>
<td>Music</td>
</tr>
<tr>
<td>Subspecies</td>
<td>Baroque Instrumental Music (artistic genre language features)</td>
</tr>
<tr>
<td>Sub-subspecies</td>
<td>Corelli’s Concerti Grossi (artistic agent language features)</td>
</tr>
</tbody>
</table>

Two further points need to be made. The first is that there is a category of sub-sub-subspecies consisting of individual works. Under Max Ernst, for example, we could list Napoleon in the Wilderness, and under Arcangelo Corelli we could list Op. 6 No. 7 in D Major. But I will not go further, and will say only that an exhaustive knowledge of the language of art would include insights into how the artistic agent language features are manifested in particular ways in particular works of art. The second point is that, when thus considered, the task of learning an arts language appears to be formidable indeed. And it would be overbearingly so save for two things: first, human beings learn quickly, and second, as I stated earlier, most people in a society have become acculturated at least to some extent to the artistic genre language features of that society before serious formal training begins in a general education course. For better or worse, students have an idea about what they are going to get before we give it to them in the classroom.

Aesthetic game-rule III states that “each part of a work of art contributes to the whole both in creation and perception. Thus, the creator and the perceiver must attend to the processes by which artistic ingredients are formulated into the final art product.”

Kant spent a good deal of time establishing a distinction between noumena — things as they really are in the world — and phenomena — things as they appear to us. It was his contention that human beings do not know noumena, but live in a world of phenomena. Leaving the problems of his metaphysics aside, we can use his distinctions in a slightly altered form to further analyze the processes of the art game.

Let us suppose, for example, that when an artist is creating a work of art, the work is a
collection of aesthetic noumena — that is, an arrangement of forms, colors, sounds, movements, shapes, or words in space or time. Let us further suppose that, when the noumena are properly arranged into a finished product, the product ceases to be just a collection of ingredients, but becomes instead a phenomenal whole capable of expressing or evoking some kind of human feeling. Most of us would agree, I think, that art functions in this way. Most of us would also agree that a comprehensive knowledge of the work of art would include attention to both the phenomenal object and to its noumenal makeup or, in the language of section III of this paper, the phenomenal object and its characteristic artistic agent language features.

Of course, the best way to have students attend to both noumenal and phenomenal features of a work of art would be to have them look over the artist's shoulder during the entire creative act. Since this is not possible, there is an alternative which calls for the teacher to play the role of the artist in the classroom. This method of instruction is based on phenomenological reduction, a variation of the old synthesis-analysis-synthesis approach to teaching. That approach, as you recall, maintained that students should first be allowed to perceive an entire work of art (synthesis). Then the work of art would be taken apart and analyzed before it was put back together in the final synthesis. Phenomenological reduction is the analysis part of the synthesis-analysis-synthesis scheme, but it means something more than just analysis.

Analysis of a work of art consists of breaking the work down into its component parts. Hence, the first big category to be derived from breaking down, say, a movement of a symphony might be its form — an ABA structure. The next might be the use of themes in each section of the structure. Themes might be broken down into an analysis of key relationships or rhythms or instrumentation. It might be discovered at the end of the analysis that the entire movement is built around one or two germinal motives. And there the analysis would end.

Phenomenological reduction does this and more. The secret to the "more" lies in the fact that the process is called "phenomenological" reduction rather than "noumenal" reduction. Simple analysis, as mentioned above, might be noumenal reduction. But when philosophers use the term phenomena they are always referring to essences. Thus phenomenological reduction is analysis plus a concentration on how the various elements of the work of art carry their own essences — emotional or feelingful essences — and how these individual essences all contribute to the total essence of the work of art. The process is predicated on the simple belief that if a work of art has an essence or an emotional charge, then its individual components must all have essences and emotional charges which contribute to the whole and, further, that these essences can be discerned — in fact, they cannot remain hidden — when the work of art is reduced.

If we reduced the movement of the symphony I mentioned before in this way, we would find something like the following. The form of the movement is again a simple ABA structure. The first and last sections are the same, the middle section is different. The tempo of the movement is very slow, largo, deathlike. The meter is a resigned 4-4, and the key is a somber G minor. A trance-like rhythm forms the slow background. The rhythm is repeated over and over in the lower brass and timpani while the color woodwinds and muted horns play a dark, descending melody which lies in the middle-to-low registers. The dynamic level is always extremely soft; it rises to a wail occasionally in the B section, but returns to soft in the last section. The harmonies are almost static; they change infrequently, but when they do it is almost always from the dark tonic to the dominant and back, giving the feeling of a sigh. And so on.

Without hesitation, we all say "What tragic music!" Why tragic? Well, because all the elements of the piece have dark, somber, soft, deathlike, slow, sighing, and trance-like essences. And all of these essences contribute to the tragic essence of the piece. But in one
sense this is begging the question. To say that "tragic" music is made up of "tragic" elements is to say practically nothing. In another sense, to say that music can be tragic at all is absurd. Music is nothing more than sounds and silence organized in some scheme. How can sounds be tragic? The answer is (and here things get metaphysically and phenomenologically sticky) that, as noumena, sounds are not tragic. As phenomena, they can seem to have tragic essences about them. The secret is that we ascribe the essences, the phenomena of tragic qualities, to sounds through a process known as empathy, or "feeling into."

Theodore Lipps (1851-1914), a German psychologist and aesthetician, fully dealt with the concept of empathy. Arnulf Zweig wrote a concise piece about Lipps' empathy in the Encyclopedia of Philosophy.

Empathy, according to Lipps, is an act of sympathetic projection into objects or persons distinct from the agent. He defined it as "the objectified enjoyment of self," and meant by this that the agent discovers and identifies himself with "something psychical" in the actual qualities of an object of aesthetic contemplation or in another human being. The subject experiences his own activity, striving, and power in the object, and this is the key to aesthetic experience and to aesthetic production.1

This act of sympathetic projection, this "feeling into" is what I was talking about in the second section of this paper when I mentioned "weightless" ballerinas and actors "waiting for Godot." This is the special process of perceptual transformation which I called "canning" the 2's on the chart. Without empathic projection, the ballerinas are merely people moving about in various ways on the stage and actors are just people delivering lines of dialogue and engaging in silly actions. But let's return to Zweig for a moment to get further clarification on empathy.

Lipps distinguished four main types of empathy. General apperceptive empathy is shown when we animate the forms of common objects, for example, when we see a line as movement. Empirical empathy, or empathy in nature, manifests itself when we humanize natural objects, as when we speak of a howling storm, the groaning of trees, a murmuring brook. Mood empathy (Stimmungseinflübung) projects our feelings into colors and music (yellow is joyful, dark blue is serious, music is full of rejoicing, struggle, tears). Empathy for the sensible appearance of living beings is shown when we take other people's gestures, tones of voice, and other characteristics as symptomatic of their inner lives. All four types of empathy are exploited by the artist and utilized by the spectator of a work of art.2

Notice Zweig's last line. This, I think, is the heart of the entire art process. I have already mentioned perceiver or spectator empathy in terms of "canning" the 2's on the chart and the resulting "weightless" ballerinas. But now we must focus on the creator of the work of art and his function in "canning" the 3's on the chart. We can do this with our piece of tragic music.

Why tragic? For us, the perceivers, it is tragic because of our empathic projections of the qualities of tragedy into the aesthetic ingredients of the work. But beneath this is the artist's manipulation of these ingredients according to what he knew their empathic capabilities to be. And he knew their empathic capabilities because he perceived them himself during the act of creation. He canned the 3's all right, but in a way determined by his function as both creator and sensitive spectator or perceiver at the same time. That rhythm, that tempo, that melody, that instrumentation, and that key all worked together for him. They had to. If an element in the compositional process did not work, it was quickly replaced by one which did. And the composer knew which worked and which
didn’t because he too was an empathic perceiver.

Near the beginning of this section, I mentioned that the teacher had to play the role of the artist in the classroom. In the absence of the artist, the teacher is the one with the knowledge, the perceptual skills, and the artistic sensitivity necessary to reduce a work of art into its components and show students how aesthetic game-rule III works. Students must be allowed to “see” the work — all of it — before they can render it fully alive. “Seeing” all of the work is what phenomenological reduction is about. “Rendering it fully alive” is a result of empathy.

V.

At this point, aesthetic game-rule IV needs very little interpretation. It states that “the reward for a successful encounter with art is the aesthetic experience, the highest-ordered perceptual value experience available to human beings.” Only two points have to be made.

First, the activity of encountering a work of art or a natural object and projecting emphatically into it, of feeling oneself into it, of “humanizing” it, is called the aesthetic experience. Second, the aesthetic experience is the highest-ordered perceptual value experience because its value is intrinsic rather than instrumental. The kind of perception I have been describing is the only kind which leads nowhere in the world of everyday affairs. There is no use or function attached to it. The value of the experience is a detached value, removed from want or gain, winning or losing, the push and pull of life. It is always there, available, and valuable for its own sake alongside the other intrinsic value experiences which make human life worthwhile: the religious or cosmic experience, the moral experience, the social experience, and the intellectual experience.

The aesthetic experience is a celebration of that aspect of human nature through which we are fascinated with the appearance of the world. As a result of our capacity to have aesthetic experiences, the world and all its objects serve potentially as works of art, as objects transformed by our delighted contemplation.

VI.

It seems to me that the preceding discussion allows two conclusions to be made about the usefulness and relevance of aesthetic theory in general education arts courses. The first is that aesthetic theory provides an interpretive dimension to the arts enterprise. Concepts such as art and language or communication and the aesthetic experience are central to that enterprise, and yet the arts themselves provide no interpretive discourse about them. Aesthetic theory is a meta-language for the arts in the same way that the philosophy of science is a meta-language for science: it is not science; it is about science. It is an attempt to codify, explain, evaluate, and make logical the constructs of central importance to science. The authors of the literature of formal aesthetics — philosophers, psychologists, and historians as well as artists and critics — have endeavored over the years to do the same with the arts. Their task has been to talk about and interpret art in an attempt to make logical thoughts and beliefs about its capabilities, functions, and values.

When we attend to the business of aesthetics, we do so not as artistic creators or perceivers, but as seekers of philosophical truths about the arts. And, as is the case with most philosophical endeavors, the truth usually turns out to be something we already know, have known, in our souls but not in our minds. True knowledge, of course, consists of both parts.

The second conclusion is that aesthetic theory should be used to generate introductory teaching and learning activities in the arts. Those aesthetic principles I have treated and
others should be presented to students as a first activity in general education arts courses. Obviously, the level of instruction will determine the extent to which each principle must be translated, but students should be given opportunities to understand and make sense of them before we can expect them to understand and make sense of art. Through a combination of these game-rules and the usual sort of activities associated with general education arts classes, our students will come to know the arts as a very special game, one with a potential for life-long consequences.

2 Ibid., p. 486.
MOVING A LIBERAL EDUCATION PROGRAM FROM ADOPTION TO IMPLEMENTATION: NEW FORCES AND NEW ISSUES

L. Jackson Newell

At the Boston meeting of the Association of General and Liberal Studies in 1976, I had the privilege of reporting on the two-year process by which the University of Utah assessed its general education program, planned major revisions in it, and saw them adopted by the University Senate. It is now my task to report on the less glamorous, but probably more crucial, process by which a formally adopted program is implemented. The research of John Pratt and Tyrrell Burgess,¹ which has assessed major educational policy changes in Great Britain, suggests that scholars and educational policy makers generally focus on the problems of adopting major reforms, but ignore the vital stage that follows. Their studies reveal that what is gained by formal adoption is more often than not lost through a series of compromises in the years that follow. Rather than relaxing with a sense of achievement when reforms are adopted, they remind us, educational reformers should redouble their efforts for the real test.

The body of this paper will be divided into two major sections. Part I, a case history, will describe the reform process, concentrating on the implementation phase. Part II will analyze forces and issues in the implementation phase, noting the influence of both national and local events.
PART I, A CASE HISTORY

From Initiation to Adoption: A Brief Summary

In 1974, a major effort to reassess general education at the University of Utah was initiated by the Academic Vice President and University Senate. The Senate mandated the appointment of a Liberal Education dean and staff and the establishment of a Liberal Education Council, consisting of eight faculty and three students, to guide the effort.

During the 1974-75 academic year, the Liberal Education Council and staff studied student, faculty, and alumni reactions to the previous program, examined data about the institution and its students, considered alternative models of general education, and recommended a major new program. In May, 1975, the Senate approved the recommended program in principle, but called for a year of pilot testing prior to a final decision to change undergraduate requirements. In June, 1976, the results of the pilot project were submitted to the Senate and the program was approved. 2

Program Structure

The Liberal Education Program at the University of Utah offers core and distribution courses in four areas of emphasis: Fine Arts, Humanities, Science, and Social Science. Students are required to take one core course and two distribution courses in each of the three areas outside their major. While distribution courses are departmental offerings selected by the Liberal Education Council because of particular relevance to general education, core courses are created especially for the program. Most are multidisciplinary, recognizing that the intellectual curiosity of students crosses departmental lines and that personal and societal problems do not fall neatly within disciplinary boundaries. Core courses are taught by faculty who have a record of excellence in the classroom, and enrollments are generally between 25-40 students per section to allow for the free exchange of ideas.

Major Achievements of the New Program

The Liberal Education Council extended an invitation to faculty across the University to develop core courses. Proposals were reviewed (approved, rejected, or modified) by the Council and pilot tested for one year before being made a permanent part of the curriculum. This decentralized approach to course development has produced twenty-eight original core courses.

In addition to the key effort to develop a core curriculum, other achievements since 1975 include:

- Awards of University course development grants to faculty working on curricular or teaching innovations related to liberal education. (Awards range from $500 to $2,500).
- Implementation of a University Professor program which honors, and provides opportunity for, one of the University's most distinguished scholar teachers each year. The selected professor is released from other duties to create and teach new liberal education courses and serve as a model of excellence in undergraduate instruction. (Kenneth E. Eble and James L. Clayton are the first two recipients of this special academic rank.)
- Improvement of communication with faculty, students, and administrators by holding out-of-classroom retreats, receptions, special seminars, and distributing quarterly Liberal Education Reports, and annual bulletins.

- Creation of a Writing Skills Center and overhaul of the English Composition Program in cooperation with the Department of English.
From the outset, the Liberal Education Council and Dean planned to address the usual peril associated with general education reform efforts — namely, that they move in boom and bust cycles approximately five years in length. Hoping to avoid this pitfall, a process-oriented theme was used from the outset; "Liberal Education: An Evolving Approach at the University of Utah" became a kind of logo for the program. Following this idea, during the second year that the new program and requirements were in effect (1977-78), both the Liberal Education Council and the central administration concluded that enough experience had been gained with the new program to assess its strengths and weaknesses and plan needed adjustments. Issues that required serious attention included:

1. Whether some core courses were too much concerned with contemporary social issues, and too little concerned with the origins of enduring ideas, to provide students with appropriate cultural perspectives and analytical skills.
2. Whether the process of selecting courses for the distribution list (a cooperative venture involving the departments and the Liberal Education Council) had become so politicized by concerns for student credit hour production and interdepartmental competition that bona fide educational issues were being shunted aside.
3. Whether the core and distribution courses fit together to provide a cumulative learning effect or left students with no more than a patchwork of knowledge. Were the specifically designed core classes adequately linked to the distribution courses offered by regular academic departments?

These dilemmas posed challenges to the Liberal Education Program that loomed as major threats to its future. As a result, the Liberal Education Council and Dean initiated a program review and interviewed every faculty member who had taught a core course during the first two years. The purpose of these conversations was to gain insights about the strengths and weaknesses of individual courses (as judged by the instructors themselves) and acquire faculty ideas concerning ways in which the program as a whole might be strengthened. The internal review also included extensive conversations with academic advisors and students in an intensive look at program and institutional data. Though time-consuming, this undertaking proved a worthy investment.

Parallel to the self-review done by the Liberal Education Council and staff was an external review presided over by the Graduate Council. Three nationally known scholars and authorities on liberal education, James L. Jarrett, Professor of Philosophy at the University of California at Berkeley; Warren Bryan Martin, Vice President of the Danforth Foundation; and Elof Axel Carlson, Distinguished Teaching Professor, State University of New York at Stony Brook, made independent visits to the campus and submitted written reports. Their assessments were encouraging and their recommendations have proved extremely helpful in shaping plans for the future. They stimulated a great deal of discussion among faculty and students and focused needed attention on the ideal of liberal education.

Goal Refinement

During the winter and spring of 1978, the Liberal Education Council synthesized what it had learned from both the internal and external reviews and set out to refine its goals and plan the next phase of program development. A refinement of the 1975 charter documents, the 1978 goals statement reads as follows:

A. Goals that are the responsibility of every faculty member who teaches undergraduates. These objectives are basic to a student's development as both scholar and citizen.

1. Teaching students to think, speak, and write clearly, including the use of quantitative methods, and a mastery of a second language if feasible.
2. Encouraging students to consider the ethical and moral implications of the knowledge they acquire and the values they hold.
3. Urging students to discover and develop their own creative potential in their chosen fields of endeavor.
4. Inspiring students with a love of learning and a respect for intellectual discourse.

B. Goals for which specific faculty groups are expected to provide leadership and instruction. Students should gain an understanding and appreciation of the human experience from the following perspectives.
1. The progress of human culture through prehistorical and historical time. (Humanities and Social Science Areas).
2. The place of humans in the natural order. (Science Area).
3. Human beings as social, political, and economic creatures. (Social Science Area).
4. The reaction to and shaping of the environment through literature and the arts. (Humanities and Fine Arts Areas).
5. The universal quest to understand natural phenomena and to apply that knowledge for the benefit of society. (Science Area).

Implicit in these goals is the assumption that we are preparing students to live in a highly diverse world culture, to cope with the ambiguities and complexities of an industrial society, and to contribute to the development of social and public policy within the framework of free institutions.

Learning objectives for students, and, therefore, specific guidelines used in course and curriculum development, emphasize:
1. Developing the ability to think across areas of specialization and integrate ideas and information from different academic disciplines and applied fields.
2. Increasing the frequency and quality of interaction between students and faculty.
3. Helping students to develop a sense of what a university is and how to use its many resources.
4. Encouraging students to set learning objectives for themselves and pace their own progress, thereby establishing patterns that will endure beyond graduation.

Thomas Jefferson’s concept of a free mind is the prevailing ideal among those responsible for the Liberal Education Program at the University of Utah. Captive of no doctrine, the truly educated person should judge every issue, public or private, on the basis of available evidence and clear reason and act freely on his or her convictions. Responsibility for both thought and action is assumed.

New Program Directions

In pursuit of its refined goals, the Liberal Education Council seeks during the 1978-80 period to create three-course sequences to replace the existing core-plus-distribution model. The new sequences are to be based on existing core courses, but they will include selected distribution offerings and some totally new courses. The purpose of the new model is to enhance further the ability of students to integrate knowledge as citizens and scholars. While much of the flavor and character of the present program will be retained, the proposed sequences should provide more continuity in the curriculum and more opportunity for students to consider the ties between intellectual achievements and ordinary human affairs.

Area Committees: A Rationale

While the Liberal Education Program exists as a central academic entity to provide
campus-wide leadership and coordination for undergraduate teaching, and counterbal-
ance the power of the disciplines in designing the curriculum, a central dean and faculty
commitee cannot make substantive decisions regarding scholarly content in every part of
the curriculum. To increase faculty participation in guiding the proposed sequences
courses, four “area advisory committees” have been established. Committees for the
Science, Social Science, Humanities, and Fine Arts areas are now functioning and have
been charged with submitting their recommendations to the Liberal Education Council
by March 1, 1979. To coordinate the efforts of the area committees, and provide an avenue
for ongoing negotiation with the Liberal Education Council, a member of the Council and
a member of the Dean’s staff will serve as ex officio members of each committee.
The Liberal Education Council will attempt to synthesize the four area reports with its
own ideas and produce a master plan for the development of the program as a total entity.

PART II: ANALYSIS OF IMPLEMENTATION
ISSUES AND PROBLEMS

With the foregoing case study as the context, it is now possible to describe some of the
intellectual and political forces that have emerged since the adoption of the program in
1976. The identification and analysis of campus forces, unfortunately, is complicated by
obvious national trends in academe that have manifested themselves during this same
period. As a result, internal processes that may be characteristic of post-adoption de-
velopments cannot be treated in isolation.

The Effect of National Trends on Local Events

National trends that appear to have direct bearing on liberal education reform efforts on
individual campuses might be characterized as follows:

1. The revival of a sense of authority among college and university professors. Follow-
ing a decade of intense self-doubt caused by the student movement and public
criticism, faculty are now exercising judgment more confidently over everything
from the curriculum to peer reviews.

2. The socio-economic situation which has brought the era of steady-state budgets
(even declining ones in some cases) has tended to make reform more difficult
because it can arise only from the reallocation of existing resources. In cases where
liberal education is administered and funded as a separate entity, reform efforts are
pitted against well-established academic departments for scarce resources.

3. With the publication of major articles on the general education reform movement in
such intellectual journals as Saturday Review and The Atlantic Monthly, and such
popular magazines as Time and Newsweek, faculty and administrators are under
some pressure to respond. In my opinion, the biting Saturday Review article about
the reform process at Harvard3 was no small factor in the adoption of the reform
proposal there.

4. The adoption of the reform proposal at Harvard, regardless of its inadequacies, has
placed considerable pressure (or provided considerable incentive) for colleges and
universities everywhere. Happily, it has again become fashionable to dig in and
take general education seriously as a faculty and institutional responsibility.

Observations Arising from the Utah Implementation Experience

If efforts to breathe new life into liberal education often proceed in institutional cycles
of five or so years, and I believe this is the case, then several explanations for the
phenomena can be suggested. First, liberal education programs raise a number of irreconcilable conflicts between idealism and pragmatism which pertain not only to program philosophy but also curriculum structure and instructional content. Second, virtually all efforts to improve the quality of undergraduate instruction, particularly liberal education, run counter to the basic organizational model and reward system of major universities. Any effort to implement liberal education reforms and sustain the health of liberal education programs must recognize these two conditions and design organizational mechanisms to assure constant and conscious efforts to deal with them.

Let me be more specific about each of these problems. The interplay between idealism and pragmatism is manifest in a variety of ways. Philosophically, it crosses the spectrum from Eric Ashby's ideal which links knowledge of intellectual systems with an understanding of human systems (thus, connecting the realm of ideas with the changing demands of human societies and individual lives) to a narrow concern with intellectual systems alone. The plan that was adopted at Utah in 1976 thoroughly stressed the connection of intellectual and human systems. It has been evident during the implementation stage, however, that the linkage to human systems is of less importance to the policy committee and general faculty at this time.

In terms of program structure, it is also possible to identify a polarity between an approach which allows a good measure of student choice among courses or course sequences and one that specifically identifies knowledge essential to educated living and intelligent discourse and sets it before undergraduates on a take-it-or-leave-it basis. As the Utah program has moved more toward a concern for intellectual systems alone, it has also moved from a program structure that provides considerable latitude for students to one that is increasingly prescribed. Allowing students to choose among core courses is now considered a "patchwork approach," whereas requiring the selection of a series of courses (all of which must be completed once started) is said to provide curricular continuity and progression for students.

Associated with the two problems described above is another one along a third axis. Should course content be organized around significant themes such as enduring social issues or human dilemmas that express themselves in any era, or is a more classical approach preferable — one which traces the development of knowledge from classical antiquity to the present time. When the Utah Liberal Education Program was adopted in 1976, the charter document was tempered in the direction of themes rather than chronology. But policy decisions of the implementation stage have moved our program in the direction of a more classical orientation.

The trends which have manifest themselves during the period following formal adoption of the Liberal Education Program at the University of Utah have reflected the growing sense of authority among faculty. The program provides less latitude for students and is less concerned about the utility of what they learn or the extent to which their learning is self-motivated. The resurgence of faculty authority, a most heartening development for academic life generally, may have some detrimental consequences for liberal education and for students. This conclusion is illustrated by the three problems discussed above. Instructional content is becoming a more dominant concern, while the quality of the teaching process and the excitement of the classroom environment seem to be of decreasing concern.

The distressing thing about the three problems of philosophy, structure, and content is that they do tend to manifest themselves as dichotomies. A classical, chronological approach to the study of civilization is not necessarily antithetical to the Socratic method of instruction or the linking of great ideas with personal-level concerns. It does seem to me, however, that methodological approaches often follow content decisions — a most serious problem for those of us concerned with the quality of liberal education. I do not
take exception to the trends that have become evident in implementing our program at Utah. But I do see danger signals that accepting these trends (a more structured curriculum and a more classical approach to content) may inadvertently bring others (considering intellectual systems in isolation from human ones, and de-emphasizing the importance of the teaching-learning process itself).

Universities are structured more to help faculty conduct research than to expedite undergraduate teaching. The association of specialist with specialist in academic departments maximizes interaction among people with similar or related expertise and assists them in their trek to the frontiers of knowledge. But personal and societal problems are not neatly packaged within disciplinary boundaries, and the act of teaching requires a synthesis of knowledge from diverse sources. The relationship of ideas and information from various sources must be discerned by the teacher and learner, and real problems must be seen in their entirety. The organization of academic departments facilitates research, but often inhibits quality instruction. If this conclusion is correct, liberal education reform efforts are in constant tension with departmental forces. Interdepartmental core courses that look at human as well as intellectual dimensions, and consider personal and societal problems in holistic terms, require constant attention or they revert back to a form more compatible with the style and methods of academic departments.

Another dimension along which there is a constant ebb and flow of forces is the degree to which academic politics dictate policy and administrative decisions affecting liberal education. Along these lines, I see neither an increase or decrease as the program has moved from initiation to adoption and implementation. Professional school faculty in particular still wish to influence the program and its requirements to benefit their major students. And among the arts and science faculty, academic concerns for the philosophy of liberal education are continually compromised by department-based anxieties about student credit hour production and competition for scarce budget resources. We who would strengthen liberal education must recognize these practical realities and work constantly to counterbalance politics with reasonable idealism.

Conclusion

The implementation stage of the Liberal Education Program at Utah has seen some definite trends emerge, most of which seemed to be predictable on the basis of past experience in American colleges and universities. In some important respects, the quality of the program is improving, while other directions suggest a return to entrenched faculty attitudes and rising departmentalism. The use of internal and external review processes, new and constantly changing means of involving faculty and students in the direction of the program (such as the area committees), and a conscious attempt to keep the program at the center of campus debate are strategies being pursued to keep the program healthy and free of debilitating compromise or stifling apathy. A program theme that stresses continual change and adjustment has proven very useful.

As we grapple with ways to strengthen liberal education, and serve the genuine academic and intellectual needs of our students, we must be aware of the perils that attend our task. Observers of the liberal education revival note that politics is crippling the movement. Academic politics. Genuine philosophical debate and curricular development cannot take place in an atmosphere shot through with SCH's, FTE's, and petty boundary disputes. A kind of Gresham's Law exists here: political issues will drive out intellectual ones. I may be an incurable optimist, but I do believe our survival is assured better by sticking with academic principles than by chasing acronyms.

If the strengthening of liberal education is to continue at Utah, and on the national
scene, it is necessary for us to raise the level of debate. Faculty who serve in policy or administrative capacities must view themselves not as representatives of their departments or colleges but as trustees of liberal education — trustees of an idea central to academic life for centuries. If we can exert our energy and intelligence in the debate of real academic issues, then we may not only strengthen liberal education programs and benefit our students, but we will also regenerate a sense of community among ourselves and with others who have devoted their professional lives to the quest for new knowledge and the preservation of human culture.


2 The history capsulized here in two paragraphs was the basis of my 1976 AGLS paper, "Establishing A New Liberal Education Program: The Politics of Academic Reform." Copies are available upon request.


Editor's Note:
The following articles are printed here as they should have appeared in Volume 9, Number 3. My apologies have already gone to the authors. I now extend them to our patient readers. Both printer and compositor assure me that such errors as appeared earlier will not happen again.
G.F.E.

HUMANISTIC BIOLOGY: A GENERAL EDUCATION APPROACH

Alwynelle S. Ahl, Helen B. Hiscoe
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INTRODUCTION

In modern man's attempt to understand human nature, two major modes of perceiving human experience, the humanistic and scientific, have often been in conflict. C.P. Snow labelled this dichotomy "the two cultures." As the power of science and accompanying technology have grown in the past forty years, the distance between the two cultures has widened. Reflecting concern about this cleavage, some scientists have attempted to incorporate humanistic perspectives and goals into science. In the area of biology, this humanistic concern is demonstrated by such groups as the Institute of Society, Ethics, and the Life Sciences (Hastings-on-Hudson) and its highly successful Hastings Center Reports. In addition, new journals such as the Journal of Medical Ethics indicate increasing concern with the problem of humanizing science. A plethora of books emphasizing ethical implications of applied biology include Taylor's The Biological Time Bomb (1968), Augustin's Come Let Us Play God (1969), Potter's Bioethics: Bridge to the Future, (1971), Fletcher's The Ethics of Genetic Control: Ending Reproductive Roulette, (1974), and Goodfield's Playing God: Genetic Engineering and the Manipulation of Life (1977). However, as with many things which seem quite new, inspection shows that these books represent only a new awareness of concerns which have long been of interest to mankind. For example, Goodfield reports that in the 17th century, more than one-third of the papers of the Royal Society were about social problems and the relationship of science to them."
Medical and nursing school curricula often include courses or units on ethics. Humanistic approaches to biology have been incorporated into courses for undergraduates as well, both for the biology major and the non-major.

At Michigan State University some of the faculty teaching General Education Natural Science have developed a cluster of courses which address these humanistic concerns. These courses are briefly described in Table I.

### TABLE I. HUMANISTIC BIOLOGY COURSES IN THE DEPARTMENT OF NATURAL SCIENCE AT MICHIGAN STATE UNIVERSITY

**Biotechnology of Health** deals with this issue: contemporary scientific insights have produced a technology with increasing power to alter the human system and may have the potential to completely redesign it. How can we learn to use this ability in a humanistic way?

**Biological and Social Aspects of Human Reproduction** focuses on the ways we are able to modify our reproductive processes. The problem of iatrogenesis, the ethics of developing new scientific knowledge, the criteria of humanhood, and the conflicts between social and individual rights are considered.

**Bioecology of Health** asks a pervasive human question: what is health? It suggests that biological science, particularly ecology and evolution helps us to answer this question. The course then considers the human implications of these answers.

**Drugs and Society** is concerned with the unique human characteristic of alteration of consciousness obtained by the use of certain chemical substances.

**Biosocial Evolution of Man** explores the fundamental question of what it means to be human. Principles of evolutionary biology are applied to the study of human behavior and to our relationship to other species.

**The New Genetics and Society** considers the social and ethical issues related to our increasing control of heredity.

**Brain, Mind, and Culture** studies the human brain from an evolutionary perspective and analyzes conflicts that arise from its history.

**Chemicals, Health, and the Consumer** provides an examination of the scientific basis for decisions affecting individual and public health. It emphasizes the use of scientific principles to make rational judgments in these areas.

### CHARACTERISTICS OF HUMANISTIC BIOLOGY

Our humanistic biology courses address both broad philosophical and personal issues. Not all of our courses address all equally, but all courses stress some of the issues listed in Table II. Our classes stress that science, like all human activities, is rooted in and draws upon basic value judgments concerning ourselves and the world. The Reverend Theodore M. Hesburgh has stated that:

> it is the value judgments that ultimately bring the social sciences to life and make them more meaningful in liberating those who study
them. The bursting knowledge of the [natural] sciences is really power to liberate mankind and the price of this liberation is value: The value to use the power of science for the humanization rather than the destruction of mankind.6

This quotation, in contrast to C.P. Snow’s view, suggests to us that science and values are closely linked and that each is dependent upon the other for its impact. We are suggesting that general education science courses should emphasize the humanistic tradition, which places man and his accomplishments and ideals in a central position. For example, a humanistic biology course should concern itself with the life of man in socio-cultural and biological contexts. A humanistic approach is holistic and should explore specific characteristics and qualities of man that can be dealt with through science as well as those that transcend it (beliefs, faith, values, morals, and ethics). These cannot be empirically or statistically verified any more than the sense of beauty can be dealt with scientifically.

New developments in science continually force philosophers and theologians to reexamine the nature of man and morality. We believe that there is a fine line between science and philosophy and that the humanistic biologist can link biology and philosophy by probing the theological and ethical implications of scientific discoveries. Humanistic biology differs from specialized biology by its broad horizons, stressing the interrelatedness of science, art, religion, and literature. The inclusion of such humanistic emphasis in science courses might help to counteract the criticism leveled at science and scientists for being amoral.

TABLE II. HUMANISTIC BIOLOGY: CONCERNS AND GOALS

A. To Increase Perception, Knowledge and Understanding of:

1. Man as part of the natural world
2. Man as part of a continuum, beginning in the distant past and continuing into the indefinite future
3. Man as more than the sum of his parts - reductionism versus hierarchical organization
4. Man’s genetic heritage
5. Man’s environmental heritage (the ecosystem)
6. The interaction of man’s genetics and environment - we are partially deterministic and partially indeterministic
7. Man’s technology and how it modifies human existence
8. Self-understanding, awareness and the nature of humanness and personhood

B. To Use This Knowledge as a Basis for Examining Values and Making Decisions Regarding:

1. Personal health
2. Reproduction
3. Man’s place in nature
4. Adaptation and coping with stress (lifestyles)
5. Technology as it modifies and creates human values
6. "Permissible" scientific activities
7. The meaning of humanness and personhood
8. Human social and political behavior

ISSUES IN HUMANISTIC BIOLOGY

Man's ever more successful pursuit of insights into his own nature and that of the world around him has given him ever greater power to intervene. While this capacity has solved some problems, it has also created new ones. In a finite system, alteration of one part produces sometimes unforeseen perturbations in other parts of the system. Exploration of the impact of human intervention based on scientific knowledge reveals several issues: iatrogenesis (unforeseen problems arising from well-intentioned use of technology), the tension between self and society, the frustrations of halfway technologies, the problems raised by our ability to change human nature itself, and the conflict between biological nature and cultural environment.

Iatrogenesis

The problem of iatrogenesis which confronts humanistic biology might be avoided or lessened if we could predict the effects of new technologies when introduced into biocultural systems. For example, the lowering of infant mortality, and the reduction of deaths from infectious diseases worldwide, have brought in their wake the population crisis which threatens the survival of the species. Humanitarian motives have also spurred great progress in the correction of birth defects, so that the afflicted can lead relatively normal lives, and bear children of their own. The iatrogenic effect is a threat to the quality of the human gene pool. Other examples include the development of cancers and birth defects as a consequence of the growth of modern industry. We must learn to innovate with minimal biological disruption.

Self and Society

Many of the tensions dealt with in our humanistic biology courses are really problems of self versus society. Should individuals have the right to produce offspring which will be malformed, even though this presents a burden to society and to the offspring themselves? Should one have the right to smoke, in spite of evidence that cancer may result with its disruptive consequences for society? Does society have the right to employ behavior control measures in the name of the common good? A cherished Western value is the freedom of the individual to choose his own course of action. On the other hand, in most species individual interests are typically subservient to those of the group; to be otherwise would be disruptive of group survival. Science can help illuminate self-society conflicts, and may show how and why they have arisen.

Halfway Technologies

Sometimes science presents us with partial solutions that, by becoming
entrenched as palliatives, actually interfere with the needed progress toward prevention or cure. Kidney dialysis and coronary by-pass surgery are examples of such halfway technologies, for they absorb such vast resources that little money and energy are left to pursue the greater goal of complete solutions.

Changing Ideas of Human Nature

Science has provided us with certain capabilities for altering our own evolutionary future. It has also given us enough insight to foresee some of the risks of using those powers, as well as the risks of not using them. Refusal to act when action is possible constitutes a decision in itself. Increasingly, biotechnologies such as genetic screening, drugs, life support systems, organ replacement, altered mechanisms of reproduction, and possibly the laboratory creation of human life, all have placed god-like power into human hands. However, we cannot find in science alone the wisdom we need to evaluate all the alternatives. This dilemma is one of the most important and one of the hardest to solve of all the problems faced in our courses.

Biological and Cultural Evolution

Although the precise course of evolution is indeterminate, evolution has been marked by a gradual increase in the complexity of living things, regarding both structure and function. One result of this trend has been the emergence of extra-somatic or cultural evolution, a process derived from the older biological evolution, but with properties unlike those of its parent. The innovations of cultural evolution have changed and accumulated much more rapidly than has been the case for the organic structures created through biological evolution. One consequence of this unevenness in evolutionary rates is that certain biologically evolved attributes of human nature seem to become dysfunctional, even disruptive, when they are placed in cultural environments. Several examples are addressed in our courses. Assuming that biologically derived behavior patterns such as aggression, pair-bonding and territoriality do exist, they may be maladaptive for modern societies. Also, those biological drives which lead to excess number of offspring served as a vital component of natural selection in our early evolutionary history, but now may be anachronistic in a modern society which has the power to save lives, no matter how detrimental to the species.

THE ROLE OF HUMANISTIC BIOLOGY IN THE UNIVERSITY

Scientific knowledge and its application have thrust upon each of us the necessity of making informed choices, thereby greatly enlarging our sphere of moral responsibility. Biology majors as well as non-majors can qualify for their degrees without ever being exposed to the social, legal, moral, and ethical issues which modern biology has created. Abell speaks of the need for... restructuring undergraduate biology programs to meet the needs of a society which is looking increasingly to the academic community "for the kinds of knowledge that translate into practical decisions on social, political, environmental and economic matters, for the kind of technical and professional training that translates into meaningful vocations in a biosocial context and for a kind of
scientific literacy that translates into a more involved and responsi-
ble public."\textsuperscript{8}

Humanistic biology courses can offer a valuable educational experience to all
students and to concerned citizens in continuing education and extension
programs. Though many colleges and universities have a course or two in this
area,\textsuperscript{9} we believe this cluster of humanistic biology courses for undergraduate
education is unique.

\textsuperscript{1} June Goodfield, "Humanity in Science: "A Perspective and A Plea,"
\textsuperscript{2} Robert M. Veatch and D. Fenner, "The Teaching of Medical Ethics in the
\textsuperscript{3} Sheldon F. Gottlieb, "Teaching Ethical Issues in Biology," The American

\textsuperscript{8} D. Fenner, "The Teaching of Medical Ethics in the
\textsuperscript{9} Sheldon F. Gottlieb, "Teaching Ethical Issues in Biology," The American

and

Betty B. Hoskins, "Raising Bioethical Consciousness in an Introductory Life
Sciences Course," The American Biology Teacher 38 (December, 1976): 533-536,

\textsuperscript{3} Sheldon F. Gottlieb, "Teaching Ethical Issues in Biology," The American

\textsuperscript{4} Elof A. Carlson, "Biology: A Humanities Approach," Journal of College
Science Teaching 3 (December, 1973): 139

and

Bruce Wallace, "An Overture: Biology and Society and Sociobiology," The

\textsuperscript{5} H. Tristram Englehardt, Jr., "The Roots of Science and Ethics," Hastings

\textsuperscript{6} Theodore M. Hesburgh, Rockefeller Foundation Illustrated Newsletter, 1973, 1: 8.

\textsuperscript{7} Thomas R. Mertens, "Biology Instruction and Human Welfare," The American
Biology Teacher 39 (March, 1977): 141


\textsuperscript{9} Joseph M. Dasbach, Office of Science Education, American Association for
the Advancement of Science. Ethics and Values in Science and Technology (EVIST)

*Lawrence C. Besaw, James Goatley, Michael Kamrin, Robert McDaniel, and
John Mullins, of the Natural Science Department of Michigan State University,
have contributed much to the cluster of humanistic biology courses described
in this paper, and to the ideas presented here. We wish to thank Dr. Marvin
Solomon for having encouraged the formation of a humanistic biology group
in our department.
The vogue for interdisciplinary courses has led our more crusty and conservative colleagues to complain that such programs represent a mere repackaging of traditional courses, a process that diminishes the value the student receives from traditional courses without broadening or integrating his knowledge. Too often this criticism is just. We should like to argue that a genuinely interdisciplinary approach does not repackaging but restructures knowledge in such a way that students are led to consider the nature of knowledge itself and thus, we hope, to think about their own thinking. Such reflection seems to us a decidedly traditional goal of liberal education.

Before we discuss the sorts of courses we consider truly interdisciplinary, let us examine the "additive" kind of course that incites the repackaging criticism. Imagine, for instance, a course called "The Black Experience in America," taught by one supervising instructor and a number of guest lecturers from various disciplines, including literature, sociology, and history. The reading list for this course might include slave narratives or Fredrick Douglass's Autobiography, Baldwin's The Fire Next Time, Ellison's The Invisible Man, Genovese's Roll On, Jordan and Myrdal's American Dilemma. Each guest professor explains the works in his discipline, leads discussion of the text, and offers whatever general insights he may have. Such a course is in reality three mini-courses, one each in literature, history, and sociology. The course leader, no doubt, will attempt to draw connections as he marshals his parade of authorities, but unless he advances a sincere investigation of the relations among the epistemologies of the various disciplines, he leaves the student with three discrete bodies of knowledge and the vague hope that they form a unified whole neither greater
than nor different from the sum of their parts. It would be difficult to defend this course against the argument that the student would benefit as much or more from three separate courses taught within traditional departments.

Simple juxtaposition of subject matter does not constitute an interdisciplinary course. Rather, interdisciplinary ventures should order such juxtapositions into intelligible structures that establish connections among the various materials and the epistemologies from which they derive. We are using "structure" in the specific sense that it relates to the theories of structuralism as developed in anthropology, psychology, linguistics, and literary studies. Jean Piaget's definition of this approach is hard to improve on: "It [the structuralist approach] adopts from the start a relational perspective, according to which it is neither the elements nor a whole that comes about in a manner one knows not how, but the relations among elements that count. In other words, the logical procedures or natural processes by which the whole is formed are primary. (Structuralism, trans. and ed. Chaninah Maschler, New York, 1970, pp. 8-9.) Piaget goes on to argue that three qualities — wholeness, transformation, and self-regulation — define a structure.

A number of problems arise when we apply this approach to primary phenomena. In so short a space as this we cannot address the problems directly; rather, we wish to hypothesize that academic disciplines are fictional constructs that follow Piaget's definition of structure. Events occur in the world of men and phenomena; history and physics are only conventional and systematic ways of discussing them. Men live in societies; sociology exists in the methods of its practitioners. Novels and poems are written; literature is the creation of critics and readers. Thus each academic discipline defines the extent of its domain and, having marked out limits, assumes that they circumscribe a whole that can be fruitfully studied. Continual refinements of methodology and the discovery of new phenomena within the field transform its terrain. Each discipline regulates itself by developing standards for judging and accepting or rejecting new methodology. Note that the definition we have just offered depends entirely on the internal construction of a field of study and does not question the implicit assumption of all academic disciplines — that the methods of study are appropriate to the objects or events to be studied.

The advantage of this model is that it allows us to posit "interdisciplinary" as a comparison of structures rather than an angle of vision or a juxtaposition of a material. If we define each discipline by the structure of its methodological rules, then the process of comparison creates a third structure, of which both the teacher and student should be aware. We can create such new interdisciplinary structures in two ways. Either we apply the methodology of one discipline to the material of another, as when a philosopher brings his training to bear on a medical issue, or we compare methodologies, such as the classics scholar's search for etymologies and the anthropologist's quest for archetypal folkways, so that the student not only sees the similarities between methods but also understands what part of experience each excludes.

Both of these strategies, the comparison and contrast of methodologies and the use of one discipline's methods to address the matter of another field, characterize the University of Florida's "Humanities Perspectives on the Professions" program, in which the authors teach. The participants in this venture design and present humanities courses that meet the particular needs of future
doctors, lawyers, engineers, and businessmen and hope thereby to acquaint these pre-professional students with humanistic methods and values that will apply to their professional concerns and enrich their personal lives. Each course in the program has its own interdisciplinary assumptions, but all share the aim of transcending the superficiality that simple interdisciplinary juxtaposition creates.

For instance one course, "Theatre and the Professions," examines a number of plays ranging from 17th-century to present-day works primarily as social documents embodying current attitudes toward the professions. This course goes beyond "additive" interdisciplinarity by presenting social and economic influences that at least partially explain shifts in dramatic form. Surveying plays from Molière's *The Miser* to Brecht's *Threepenny Opera*, the course winds the social maze from aristocratic criticism of a money economy through the 19th-century adoration of that economy to the fin de siècle bourgeoisie's unease with the values they have created and finally to the essentially left-wing position of more recent playwrights. The students come to learn something about the professions as well as about drama: from studying the three accounting scenes in Gay's *The Beggar's Opera* they appreciate accounting as the assignment of value, not just the numbering of things. They discern ethical judgments in what seemed to be an objective method.

Another English course, "The Artist as Diagnostician," attempts to demonstrate that the disciplines of literature and medicine are complementary rather than antagonistic and that a mutually enriching interchange can exist between the two fields. Considering works from the English, American, and Continental canons, the course suggests that men of letters like Montaigne, Shakespeare, Dickens and Faulkner, who pronounce on the health of society, diagnose spiritual malaise, attempt to quell intellectual epidemics, and prescribe remedies for institutional plagues, use critical methods not unlike those that men of science employ in their investigations. To complement this endeavor, the students pursue individual research projects that assess the literary careers of physicians who wrote, such men as Sir Thomas Browne, William Carlos Williams, Sir William Osler, and Anton Chekhov, and come to understand how medical training can influence an artist's purview. This course, then, tries to undermine the "two cultures" frame of mind by showing that the pen does not preclude the scalpel, nor the scalpel the pen. Literature and medicine encourage man to apply his mind in comparable ways to different tasks.

The problems of organizing and teaching courses in which the epistemologies and methods of one discipline are compared to another are twofold. First, one must find material accessible to both disciplines. Second, one must elucidate each methodology so that the student can participate in the comparison. One such course in our program is an introduction to legal studies, in which a professor of English, a professor of law, and undergraduates intending to go to law school examine legal philosophy, empirical case studies, and literary works. The texts from each discipline receive the sort of scrutiny that would conventionally apply in the other field. Thus an appropriate choice for the course is not *The Merchant of Venice*, which contains a trial scene, but *Waiting for Godot*, which dramatically raises the question "What is relevant evidence?" and invites application of legal reasoning. In like manner, an early session of the course involves the students subjecting a Florida Supreme Court decision that denied a black student admission to law school to the sort of close
reading we associate with formalist literary criticism. Examining the rhetorical structures, choice of words, and style of the case, the class discerns the legal philosophy of the justices. This having been done, a discussion of pertinent social and historical information adds a supplementary perspective on the case. By the end of the session the efficacy of both literary and legal methods has been demonstrated. Either alone could not create what both together have produced. One of the fortuitous spin-offs of this course is that the English professor involved now offers a class in which students inspect legal cases which evoke serious social and moral problems. For their final project in the course the students read and discuss *Oedipus Rex* using the terms that they have employed throughout the course.

A lecture presented in the "Engineering and Humanities" course illustrates another such means of comparison — considering the processes of creation in two disparate areas. In this talk, a professor of engineering design who writes poetry offers a functional comparison of artistic creation and engineering design. The lecture, itself a model of rigorous technical method, demonstrates that the artist and the engineer go through similar means of thinking in attaining their respective ends. Fashioning a sonnet and designing a bridge, then, seem to be homologous, similar in structure but different in purpose. The audience’s response to this insight proved interesting: the students, all prospective engineers, felt their professional image threatened and strongly resisted the idea that they could possibly think like artists.

The generation of this resistance seems to be one of the worst effects of compartmentalized education. Just as working Americans tend to define themselves by their jobs, so students define themselves by their majors. This early identification with a field and, increasingly, with career means that the student denies himself the excitement of discovering new ways of thinking. Surely the future doctor or engineer can better perceive his place in society by the study of history and art, and the historian or artist who knows something of science and technology can more clearly understand the society in which he lives.

Thus the sort of interdisciplinary experience described above broadens by examining the contexts from which various kinds of thought arise. Such broadening is of itself useful in that it helps the student to deal with uncertainty and to sort out issues. This understanding of the different modes of thought demanded by different disciplines seems crucial to the other demand presently placed on the humanities — that they teach moral virtue. If the last half of the 19th century transferred its values from religion to art, the last half of the 20th century has placed its trust in the study of art and society rather than in art and society themselves. More and more the teacher of the humanities finds that he is expected to defend moral values in a materialist age.

Some of us embrace this priestly function too fervently (pontification is a vice endemic to the teaching profession), while others take refuge in fastidious relativism. In any case, teachers deal in materials that express moral values and as human beings hold beliefs and principles. How then can we steer between the sterile sort of technical teaching that refuses ever to commit a value judgment and the solipsistic sort of preaching that demeans the classroom and implies more moral authority than most of us have? We would suggest that the methods we have outlined in this essay point to a middle way. By stressing that academic disciplines are merely useful constructs, we can show how these
intellectual edifices are built on assumptions about the world. By examining the connections among disciplines we can show that a relative world is not a world without values, but one in which basic values may be variously expressed in different situations. The comparisons of epistemologies ought to show that no value judgment can take place outside an intellectual frame and that to understand any event we must place it into a context. In short, we aim not to inculcate a set of prescriptive rules but rather to suggest methods for trying on and testing values. Education is, as Martin Buber observes and Herbert Read reminds us, "the selection of a feasible world through a personality and for a personality." (Education Through Art, London, 1948, p. 292). As teachers we hope that interdisciplinary courses of the sorts described above will help future members of the professions, those students perhaps in most peril of donning the disciplinary blinders that narrow the world, to retain and even to cherish the wider view. Aware of the connections among disciplines, sensitive to the different ways that epistemologies confront a common problem, teachers can help students to understand how their own self-defined and self-regulated disciplines fit into the larger structure of knowledge that we call civilization. Thus educated, students can make more enlightened commitments to their fields, for they will appreciate the alternatives. The professional niches that might otherwise have been refuges will become, for them, consciously chosen dwelling-places.
REMEMBER
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