

Alfred Korzybski Memorial Lecture

THE PARADOX OF HUMAN SELF-DESTRUCTIVENESS

Harley C. Shands, MD
Department of Psychiatry
Roosevelt Hospital, New York

Address given 4 April 1975, The Harvard Club, New York

It is both an honor and a pleasure to be able to accept an invitation to join the group of those who have memorialized the life and work of Alfred Korzybski, and it is flattering to be considered worthy to be a member in so distinguished an association. My own particular interests have long been very close to those of Korzybski, with special reference to the problem of meaning and the pursuit of specifically semantic concerns. At the same time, there is a gap between some of the convictions expressed by Korzybski and those to which I have increasingly been impelled by the events of the quarter century since Korzybski's death.

Korzybski's deep faith in science in the traditional definition was relatively easy to sustain in his lifetime. But as the more and more remote implications of an orientation toward the incessant pursuit of power in the scientific mode through an incessant generation and testing of novel ideas appear in this all too obviously threatened globe, one wonders whether the evaluation of science that has emerged over the past two hundred years is longer tenable. It is here that I see--perhaps simply because of a 'constitutional' bias toward pessimism--that the method of science that is in so many ways man's greatest achievement may also be inherently self- and species-destructive over the long run.

Perhaps the most instructive comment I have encountered in relation to the general strategy of science was made by Eugene Wigner: he emphasizes that physicists are not interested in explaining the regularities in the behavior of objects.¹ This means that scientists have the good sense to select soluble problems and to ignore insoluble problems. The corollary of Wigner's principle is a 'law' on the tragicomic pattern

of Parkinson's Law and the Peter Principle: the solution of soluble problems inevitably leads to the accumulation of insoluble problems. To illustrate the law, an observer need only look at the population explosion traceable in large part to the success of modern medicine in eliminating communicable disease, the rapid depletion of natural resources in the service of progress, and the massive accumulation of all kinds of garbage (including the radioactive variety) throughout the developed world.

Implicit in the notion of progress is an increasing separation of the developed from the undeveloped peoples of the modern world, in a manner illustrating perhaps the most significant difference between the animal and the human condition. Ethologists have shown in many species how inherent patterns organize the behavior of members of the species so as to protect con-specifics. The lack of such patterns in man (in war, for example) has made some theorists postulate some special inherent aggressiveness in the human species. An alternative possibility is that in man, the specific identifying pattern is not that of membership in the species but that of membership in the linguistically-defined group. Thus, the special protectiveness in any human system is oriented to the co-linguistic or co-dialectal relation. A good illustration is found in a recent report that during this century alone, in the progressive civilization of the Amazon jungle, ninety-six different preliterate peoples have been destroyed, a 'genocide' of astonishing proportions. The implication is that all preliterate peoples are similar to 'endangered species'.

From the standpoint of civilized people, preliterate tribes living naked in the jungle simply do not exist as human beings, and we

find ourselves in the situation human beings have known since the beginning of time--the stranger is not human, no matter how much we are assured by anthropological scientists that all those sharing the human form are con-specifics, 'brothers' as we say. But then we remember that the first story with which we are familiar in relation to brothers is the story of Cain and Abel. In a more civilized form, the remote development of the continuing story of the Cadmus family is the mutual murder of each by the other fratricidal son of the parricide (Edipus and his incestuous wife and mother, the suicide Jocasta. We do not have to move very far into either prehistory or history to encounter the repetitive, characteristically human attribute of self- and species-destructiveness.

Perhaps the principal point to make is that the genocide in the Amazon jungle is inadvertent in large part, the consequence of extending the power of civilization into previously virgin territory. The civilizing process appears to be one of increasing homogenization of ('developed' or 'modern') human beings with the production of a 'power elite' increasingly characterized by a kind of personality that may with justification be called a generalized self. Such a self is, in one direction, a triumph of the process of reflective thinking that results in the development of rational systemization, with the goal of taking an objective view in every situation. Max Planck describes this goal as that of 'measuring every measurable thing and making every unmeasurable thing measurable.' These days we would change 'measurable' to 'computerizable'.

In the opposite direction, again to my own possibly jaundiced view, the generalized self is that one which gives a 'Yes' answer to the poet's question, 'Lives there a man with soul so dead / Who never to himself hath said, / "This is my own, my native land"?' The generalized self, in its most modern manifestation, is an internationalized self, in many ways an expatriate self, the logical consequence of world-wide dissemination of methods of communication in the 'mass media', which in turn often require as programmatic material the most routine and trivial programs. An acquaintance familiar with the problems of establishing television broadcasting de novo in 'developing' countries was asked about the result of this technological advance; his answer was 'Global Peyton Place'.

Korzybski was unfortunate or fortunate enough to die at the precise point at which the technological revolution in communication was just aborning in the advent of the computer and the television, inventions so closely and intimately linked together that I speak of the two as comutelevision. In my understanding, human speech, the universal and unique attribute of the human species, moves into two derivatives in its evolutionary process, as in physics we speak of acceleration as the 'first derivative' of velocity. In the communications context, the first derivative of speech is graphic transformation, the most powerful and widespread example of which is writing-reading, that pursuit which Bacon tells us 'maketh an exact man.' The second derivative is computelevision; processes of change accelerated by the shift from Spoken to Written are then further accelerated by the shift from Written to Binary.

To me the most interesting hypothesis that can be drawn from this notion is a variant of that one usually attributed to Whorf. I tend to state it as that the mode of communication which one thinks he is using is actually transforming the user in the process. This transformation is accomplished through differential selection, the primary method of biological evolution, clonal selection, operant conditioning, and language-learning, to mention only a few of its applications. The method is perhaps most easily seen in the concrete act of vaccination, in which the introduction of a small amount of a pathogen under controlled conditions changes the immunological apparatus of the human body in a predictive way. In a very different example of the same basic process, John Dewey once said that he would in all probability have become a Marxist had he not been 'vaccinated' against orthodoxy by an early training in a rigid Protestant sect.

Progressive differential selection results in a marked change, and as the process continues new 'species' are favored. In developed countries this happens in a subtle process concealed by the fact that all members of the culture supposedly speak the same language. The difference is then a dialectal variant, and the processes of discrimination are much more subtle. We know that the Yoruba regard the Ibo as essentially non-human, in a way resembling that in

which the Cypriot Turks regard the Cypriot Greeks, or the Arabs and the Israelis confront each other. In American armies, the terms 'gook' and 'wog' indicate a disregard for the human status of enemies that culminates in massacres of the My Lai variety. In the 'inner' context of a social system in which the difference is a dialectal one, the negative selection of the unfit is far more subtle.

Non-specific modern man has a different adaptational goal, one that uses the same basic method to a different selection. In the new mode, the adaptation is to the generic rather than to the specific, and we see its world-wide applicability in the ease with which the assembly line is adapted to factory use in every country that can afford the original capital expense. An ancient goal of mankind is that of attaining a universal language--but now it is clear that we have attained a universal technology that carries with it the awareness that technology underlies all forms of language. The international language we know is mathematics, a completely artificial, arbitrary, and value-free dialect that is constituted, amazingly enough, of a massive structure of tautology.

Mathematics is an artificially simplified highly abstract language that clearly defines its own territory--that having to do with regularity, as Wigner notes. Secondly, however, mathematics progresses toward simplification, and in many ways its ultimate achievement appears to be that of the development of so simple a dialect that it is universally applicable wherever mathematics is, so simple that it easily transcends all national boundaries, and so powerful that the 'embodiments' of Binary in the innumerable applications of computetelevision proceed in accelerated manifestation.

Perhaps the chief function of mathematics is that it allows and enforces 'hard edge' distinctions (its influence in modern painting is obvious here). Mathematical distinctions are 'black' and 'white'--and the metaphor emphasizes that the function exploited in mathematics is that which differentiates human beings from their primate relatives, primates from their mammalian relatives. It is the sense of vision that makes possible mathematical formulation in graphic technology--and the sense of vision that is so systematically developed

throughout human education in the 'three R's'. Graphic transformations allow the invention of the zero upon which all subsequent mathematical progress depends--and zero is a symbol referring to the emptiness of a 'box' in which otherwise some number occurs. The eventual simplification of Binary depends upon the use of enormous numbers of 'boxes' each of which is either empty or contains a 'one'. When we become acquainted with the enormous advantages of simplicity, we understand better how it is that English has now become the first language of the developed West and the essential second language of the remainder of those to whom communication with developed nations is important. It is now routine, especially when speaking for the television news reporter, for every politician of any country, every prominent scientist, every international musician, anyone aspiring to wide public status, to speak English, often with only a trace of a local accent. It is of major interest that most of the discoveries in modern communicational context have been made 'in English' though often by scientists and mathematicians immigrant to this country and England to whom English is not a native language.

The transactional relation we encounter again and again between the human species and the cultural evolutionary progression of change in relation to speech-and-language recurrently suggests to me an outrageous hypothesis. The core of this hypothesis is the obvious fact that human education cannot proceed without the use first of speech, then of language. Havelock discusses in detail the success of Plato in disestablishing an oral tradition and establishing a written one in accordance with the principles spelled out in the last book of The Republic--and since Plato's beginning the evolutionary process has continued.² On the other hand, it is equally obvious that speech exists only in the human species and language only in the educated human group. It is fascinating to see this relation as that of a 'concrete' biological organism, Homo sapiens, to an 'abstract' organism, a kind of parasite or (at least) symbiont the existence of which is essential to the identity of its host (or symbiotic partner).

This fantastic hypothesis was suggested by the many resemblances between the behavior

of the almost abstract quasi-organism we know as a filterable virus. A virus is nearly an 'abstraction' in that its form is the ultimate in biological simplicity; crystallized and stored in a bottle on a shelf, some viruses appear to be non-living, static crystals. In the usual case, the virus 'lives' as a part of the genetic material of chromosomes, 'repressed' within the chromosomal mass in a living cell, appearing as an integral and inherent part of that cell. When the cell in which it is a part is in danger of disintegration, the virus may become 'derepressed' and take over the whole cell machinery, now with the sole purpose of replicating itself in multiple 'virions' which then can act as analogues of seeds disseminated widely in a search for new cells in which to enter again the same sort of repressed, passive existence. On those occasions when the virus suddenly becomes derepressed, the host shows the manifestations of an illness, often a secondary illness (perhaps the simplest example is herpes, the 'cold sore' that often follows a cold).

Language appears to act in somewhat the same way that a virus does. In its usual manifestation, language is 'repressed' within everyday human transactions. But upon occasion, in the form of an ideology, language clearly supports revolution and influences the group acting as its host toward a disorganization having a strong resemblance to illness in the 'body politic'. Note that the term ideology means, by derivation, 'same word'; the principal goal of an ideology is that of replicating itself again and again in various hosts in political systems. Ideological implications occur as the normative standards to which we attach the words 'faith', 'patriotism', 'honor', even 'value'. The central norm of any social system is alien to the biological organism, and it is the dominance of the alien that must be progressively emphasized if we are to preserve, not the members of the group, but its forms.

If this is so, then the most significant achievement in the acceleration of change in the human condition occurred when it became possible to preserve form independent of a living animal body. This point occurred with the invention (the 'mutation'?) of graphic technology, a method that allows human beings to think that they have learned how to 'represent', to present again, a form that is thereby made 'real'. It is thereafter routinely ignored

that there is a fundamental difference between a series of events and a static record--a difference that assures an absolute discrepancy between 'life' and 'records'.

Malinowski tells us that preliterate peoples understand speech (without thinking about it) as a mode of action in a category with paddling a canoe--while it is only after graphic technology begins to allow record-keeping that we find language-as-a-system becoming an instrument of reflection.

We do not often take into account the possible significance for scientific thought of the Bible as a milestone in literacy, since we 'look through' rather than 'at' records of this sort. My thesis noted above, however, is clearly stated in the gospel attributed to the 'intellectual' John, 'Saint John the Divine'. There we read, 'In the beginning was the Word, and the Word was with God, and the Word was God.' Obviously, from the standpoint of a religious institution, the Word of crucial significance is the written word--established officially in the Tables of the Law in which Moses formulated an abstract God. The subsequent most important event for Western civilization is reported by John in the apparently mystical statement that 'The Word became flesh and lived among us.'

My suggestion is simply that this is literally true, not solely in the person of Christ, but in the systematic institutional structure which has progressively appeared as the Word has undergone its own evolution and so has successively revolutionized, again and again, the 'personality' that is the manifestation of language-and-culture-as-a-system in each of those products we call 'individuals' or 'human objects'. The underlying linear structure of the alphabetized written word is closely analogous to that of the assembly line--except that the cultural system allows more deviance, shows more 'degrees of freedom', than does the manufacturing process.

Although in the usual ways of thinking science and religion are considered antagonistic to each other, there is a very clear relation between the ideology of science and the ideology of the Judaeo-Christian tradition of Western thought. In the first place, science is based upon symbolic manipulation, and the

Jewish tradition has featured practice in symbolic manipulation as long as we can trace it back. What differentiates the Jewish and the Christian tradition is the xenophobia of the 'chosen people' in sharpest contrast to the active recruiting of the latter. A point repeatedly emphasized by Saint Paul is that in his teaching belief takes the place, in terms of cultural identification, of the painful concrete act of circumcision that is the typical 'badge of membership' in the older tradition. The emphasis upon abstraction is further developed in Paul's insistence that it is belief (faith) rather than actions (works) that counts as far as religion is concerned.

The central usefulness of an ideology is shown in the Jewish ability to survive repeated persecution and dispersal--but the limitations of xenophobia are shown by the small numbers and precarious status of Jews throughout recorded history. The transformation ('mutation') of greatest implication in the Christian heresy was the recruitment of faithful through the process of believing. Again we find a pattern of acceleration in the missionary activities of the Roman Catholic Church, with an acceleration of acceleration in the secondary heresy of Protestantism. In this the process of abstraction was moved another step, one which has resulted in a more 'catholic' church when we use the term in its generic rather than in its specific, upper-case, form to mean 'universal'.

With reference to graphic technology and cultural evolution, Protestant missionaries emphasize the translation of the Book, the Bible, into every possible tongue--so as to facilitate the universal practice of interpreting that Book in 'individual' ways. The Protestant method denies the necessity of the specially trained interpreter, and emphasizes the possibility of a direct relation to God. Weber emphasizes the closeness of the relation between the Protestant ethic and the 'spirit' of capitalism, and we see in the emphasis upon a direct and immediate relation to God a version of 'free private enterprise'.³ In many instances, the evolutionary process is seen most clearly in the way in which missionaries ostensibly seeking to win primitive savages for God succeed in taking over the lands of those primitive savages for themselves, their countries, and their descendants in a 'peaceful' colonialization process that often results in modified genocide.

In human affairs, Spoken allows the formation and preservation of cultural groups in which norms and patterns are 'embedded' and preserved (much like the virus) from generation to generation. It is not until Spoken is translated into Written, however, that those patterns can have an outside, 'independent', existence. The crucial transformation involved is described in Saussure's words in the relation of the diachronic to the synchronic, in the contrast between the 'axis of successions' and the 'axis of simultaneities'. Speech-in-action becomes language-as-a-system, which in turn gives rise to the book and to the upper-case Book, The Book of The Word. The transformation is from the temporal into the spatial, from the moving into the stable--and it is precisely that transformation which allows human beings for the first time to 'see' language. The magical implications of this method are astonishing when one examines them closely. Record-keeping in a most important sense creates the subject matter it supposedly preserves in some neutral fashion. The metaphor is perhaps more easy to grasp when we say that it is the reflection that creates the object.

In common sense, and with reference to inanimate objects (tables and chairs) that surround us in all their concreteness, this notion appears absurd. On the other hand, when we begin to examine critically some recent findings in self-psychology, the notion becomes more and more pertinent and compelling. It is extraordinary that so little of this kind of investigation has been done when we consider that a personality, the reciprocal of the personal pronoun 'I', is the 'object' with which psychology and psychiatry are principally concerned. But then the question becomes different again when we take into account the possibility that the conception of personality upon which both psychology and psychiatry rest is a function of the evolution of language-as-a-system; the correlation is with personality-as-a-system. The Oxford English Dictionary attests to this in noting that 'psychology' appears first in 1693--while the use of the term to refer to a treatise or system occurs first nearly a hundred years later, in 1791. The word 'psychiatry' defined as 'medical treatment of diseases of the mind' appears first in 1846--and it is apparent that it is only when 'mind' can be conceived of in systematic terms as an 'object', the core of a 'personality', that a mind can be considered to

have 'a disease'. The fascinating question then appears as to whether this is a great scientific discovery--or whether it is, in Whitehead's term, a 'fallacy of misplaced concreteness'.

Another illustration of the evolutionary process through which modern concepts and attitudes emerge is seen in the shift in the use of the term 'conscience'. Originally, conscience was a qualitative term, and a group of human beings was said to have more or less conscience, a notion of an 'analog' type. It was not until the Calvinist emphasis upon the directness of the relation of one's separate soul to God that the notion of my conscience and your conscience, my mind and your mind, began in its contemporary usage, a quantitative 'digital' meaning.

The paradox is that when we delve deeply into the implications of thinking in 'objective' terms, the kind of thinking that allows us to conceive of an 'individual' owning an 'object', we find how truly relativistic is the basis of objectivity. Kuhn points out that a scientific theory is over-turned in a 'revolution' when a generally accepted paradigm is then rejected by a substantial consensus and a new paradigm achieves 'universality'.⁴ But universality is simply consensus, and consensus is always 'public opinion', a 'subjective' matter--so that whenever we seek ultimate objectivity, we find it paradoxically in consensual subjectivity--as in the jury trial.

Similarly, Piaget talks about the significance of 'decentering' in arriving at a cognitive grasp of any complex observable.⁵ He speaks of a 'distorting' relativity of perception that is traceable to the 'centering' effect of focusing upon the field, in whatever sense modality this occurs. This centering is modified by integration of several sequential views from different standpoints, and we arrive at the 'correcting' relativity of conceptualization. What Piaget ignores in this comment is that the 'correct' conceptual view is one derived entirely by inference, and its correctness can never be established by direct, always established only by indirect, approaches. The 'correct' value for a colorimeter reading is obtained by averaging, so that it is usually different from any single observation and is thus correct only in a statistical, probabilistic sense.

When we 'realize' that one cannot say that 'reality' exists in the mind or in the object (as the warring sects of idealists and realists argue, each in the own 'territory'), we come to confront the basic transactional situation that knowing is a relation involving parties of the first and of the second part, as Dewey and Bentley emphasize.⁶ One understands the process perhaps most precisely in following the vicissitudes of a sensory organ separated from its reciprocal. In the fish of Mammoth Cave, the eyes have degenerated from generations of disuse: light is functionally related to sight, and in the most significant way, neither can be said to be primary or 'causal': the developing evolutionary transaction changes both partners as new modes of processing data emerge. The same is precisely true with the evolution of language. The revolutionary implications of graphic technology involve relations of reflectings that are reciprocally related to reflecteds. What is often ignored, however, is that it is the reflecting that 'generates' the object as sight can in a loose way be said to 'generate' light. When we arrive at this point, we suddenly 'realize' that it is only because of the linear structure of language that a 'relation' has to be made into a sequence! Did he have intercourse with her or did she have intercourse with him? It is clear that it is the record that preserves 'reality' in inferentially and consensually establishing the object.

With specific reference to the notion of reflecting, we can return to mythology to find the pattern demonstrated in the Narcissus story and in that of the conquest of Medusa, the mortal Gorgon, by Perseus. Narcissus was a beautiful youth without self-consciousness until he discovered his own image in a quiet pool--at which point he fell so madly in love with the stranger as to be immobilized and fade away to his own death. The point is the dominance of the reflected over that which is reflected. The positive power of reflecting is demonstrated in Perseus's use of a highly polished shield in which to look at Medusa, whose visage was so horrifying in direct view as to turn the viewer into stone. By looking only in the mirror, Perseus was able to behead her. Then, mounting the severed head in the midst of the shield, Perseus enjoyed a magical advantage over adversaries frozen in horror at the sight.

From the standpoint of self-psychology, the reflecting process is of the greatest interest in the emergence of a self in the sense in which we know it in a highly literate or even 'post-literate' culture. Perhaps the most poignant, informal evidence is given in Helen Keller's report of the emergence for her of a world that could be consciously known. Miss Keller had developed, as a precocious child of twenty months, a considerable proficiency in speech before being affected with a severe disease that left her both blind and deaf. In the succeeding five years, she lost all words except a crude 'wah-wah' and became a very clever 'animal' who indicated her wants in meaningful gestures. One such gesture was the child's act of demonstrating the pattern of unlocking with a key to indicate that she wanted a bag opened to get a present from a stranger. Still, according to her own testimony, Miss Keller had no conscious knowledge and no conscious memories during all this time.

When she was trained, in an astonishingly short time though with active battling with the new teacher, she showed a very great facility for learning new gestures to expand her repertory of skills--but still without any consciousness she could report. When her teacher finally succeeded in communicating to her that a set of alphabetically significant finger-patterns corresponded to a familiar sensory pattern, the child suddenly grasped the fact that this cool flowing sensation corresponds to the finger-pattern--sequence w-a-t-e-r, she suddenly attained consciousness in the recognition by generalization that every thing 'out there' had a corresponding pattern 'in here'. Suddenly she began to live in the human world by becoming able, as she puts it, to 'live in the mind'. But the method is that of living in reflection, as it were in a mirrored universe, 'through the looking glass'. The general implication is that a consciously known world can only be a world known inside through the application of the reflective potentialities of language.

A report by Zazzo of a study of his own son over a period of months showed that the child made a crucial transformation in the latter part of his third year as he became able to attach to his mirror-image first his own name, then the revolutionary equivalent, the pronoun 'I'.⁷ Following up this lead, Fraiberg and

Adelson have demonstrated in several blind children that, even with intensive care and training, such children suffer an extended delay in learning to use 'I' in the abstract, adult sense.⁸ These children achieve what we have called the 'embedded I' (Zazzo's 'sycretic I') at around the same age as sighted children--in the middle of the third year--but then the sighted children go on to make the crucial transformation into an 'abstract I' within the next half-year while the blind child may be delayed up to two years or longer.

The discovery that blind children cannot easily make is that described by Piaget with reference to the brother relation. The child learns relatively early 'I have a brother'--the 'embedded I' serving as what some linguists have called a 'place-holder'. But then it is far more difficult to achieve the reflexive realization that 'My brother has a brother, and that brother is I,' or, as Fraiberg and Adelson put it, 'My "you" is your "I".' The relation only becomes abstract when it becomes reciprocal and reversible, when one learns at least minimally to 'put oneself in the place of the other.'

Many of these observations simply confirm in a systematic way what parents have repeatedly observed. The most important implication, however, is the realization that 'I' is a word that can only be skillfully used in the modern context when it comes to refer to an abstraction that is the rationalization of a reflection. We learn to use 'I' appropriately only by first coming to terms with the realization that the outside, the alien, is that which 'describes' the self. The extension into social praxis is the realization that the 'me' described by others is more 'true' for social purposes than the 'me' felt 'inside'. Again the significant task is not that of learning either the 'idealistic' or the 'realistic' (in the philosophical sense) version of 'me' but rather it is learning how to integrate the inside, the feeling, with the outside, the reflection.

What this means, to return to the comment made above, is that the consensus must win, at least to the extent necessary for the human being to move easily within the group. The heroes of any culture are those who have sacrificed their own lives in the interest of the

group, the norms, the faith, the law or the party--all originally alien entities.

Of the greatest interest to the practicing psychotherapist are the many demonstrations that it is precisely here that many psychiatric problems appear, always in a paradoxical sense. Psychoanalysts often make much of the idea that the task of therapy is that of achieving an 'objective view' of the self--but the operational test of 'objectivity' in terms of institutional habit is that of passing the barrier from student to practitioner, from 'candidate' to 'graduate' and then on to 'training analyst'. 'Graduation' in this sense 'means' that the 'patient-student' (often a necessarily very patient student) has developed an 'objective' understanding of himself--but in fact, that objectivity is clearly a function of the opinion of his analyst, his supervisors, and the training committee. We return again to the demonstration that 'one man's meat is another's poison,' that 'one man's freedom is another's slavery.'

The development of a psychiatric disorder is often the deviant development of the self as object. A young woman seen some time ago exhibited a chronic, repetitive tendency to attempt suicide, to cut and burn herself, on one occasion even slashing her face with a razor. In discussing with her this bizarre behavior, what appeared to my own astonishment was the clear statement that when she injured herself in this way, with clear conscious intent, she felt no pain whatever. On the other hand, when she accidentally sat down upon a set of hot hair curlers, she burned her seat and was very uncomfortable for several days. The inference is that the own body treated as an 'object' is insensitive, as much so as if it were that of another or that of an animal.

A curious form of self-destructive behavior in psychiatric patients is that of the masochistic forms of sexual deviance. Here again the inexperienced observer 'knows' that the masochist being whipped feels severe pain--but when careful inquiry is made, this turns out not to be the case. As long as the masochist is in his preferred perverse pattern, that in which he as 'director' of the scene prescribes to the sadist precisely how the sadist is to attack him, the 'victim' feels no pain. He is an 'object'--

even though in the same context, as 'subject' the masochist is identified with the 'persecutor'. What we find, again and again, is that the basic process of self-formation is that of identification-with-the-other, often most importantly identification-with-the-aggressor. The 'perversion' most significantly found is not so much sexual as it is social, a deviant kind of deformation of the self through inadequate internalization.

The human being involved in the pursuit of power, when 'on top', is specifically protected against 'feeling' in any of the soft or tender versions of that human attribute. Airplane pilots drop bombs on human groups and watch with distant interest as bodies are thrown about and fragmented; they are involved in exerting a dominion over the 'objective' others. Maximum feeling, good or bad, tends to occur only when the human being is in the status of passivity, the 'patient' to whom an 'agent' is doing something. We are moved, we fall in love, our hearts are broken, we are carried away or transported or illuminated--but only when we can allow ourselves to remain in a posture of passive expectation. Hamlet's dilemma is that of whether to remain in his affectively distressing state of knowledge or to 'take arms' and do something; the resolution of the dilemma is the self- and other-destructive consequences of doing both.

We return to Narcissus: the 'sight of oneself' may have lethal implications to the unprepared human being--but to be able to see oneself in reflection is essential to the development of reflective intelligence. Narcissus is an allegory of the danger of reflection, while Perseus's use of a mirror to conquer Medusa is the reciprocal legend. Anthropologists who have visited preliterate peoples not yet at the stage of development of Narcissus report bizarre behavior when they offer mirrors. At times the gift of a mirror is rejected in breaking it--and at times the introduction of the mirror has a revolutionary impact on the tribe. What is most interesting in many of these studies is the implication that the saying 'They became what they beheld' is true.

In a sophisticated civilization the 'I' that emerges is the 'I' found first outside, then internalized in a process of establishing an inner

conversation. The participants to this conversation have been described by Mead as a self and a 'generalized other'.⁹ But what is apparent when we study modern processes of education in which the student is exposed to an enormous number of 'reflections' of the human experience is that the other party is a generalized self. When it becomes possible to abstract the 'I', it also becomes possible to 'objectify the self' and the more objectified the self, the more is that self at risk of being alienated from the group in which we claim membership.

We find in the relation of a generalized other and a generalized self the possibility of knowing oneself as understood by others, as an 'objective self' or as an 'object'. Freud uses these terms, in fact, in describing the goals of psychoanalysis. The emergence of the objective self is a specifically modern development. Its utility is apparent in the degree to which an objectified self tolerates repetitive change of location, change of human network, change of cultural conditions. The objective self is, par excellence, the expatriate, and the expatriate is essential to the function of complex machineries of industry and political institutions in the increasingly intense world-wide communications network. An amusing comment upon modernity is that the most successful company in the most successful of modern industries is known by its employees as 'I've Been Moved.'

What seems the most interesting of the many implications of this process of development--a process I identify as that of becoming able to supply the data through which one identifies the self-object in the explicit applications of the pronoun 'I'--is that we find another crucial split in the body politic. Ancient praxis separates groups of human beings that are internally bound together in close membership relations; such societies are traditional, using extended kinship systems, ancient forms of religious ritual, and they tend to appeal to the wisdom carried by the aged. They are rigidly conservative, and the greatest threat is that of innovation. Still, many of these systems have lasted for hundreds or thousands of years; they are not only conservative, they appear to have been conserved.

Modern praxis increasingly makes a different form of separation, between what Inkeles and

Smith identify as the 'modern' and the traditionalists.¹⁰ Modern man is predominantly as 'object' to his employer, his political leader, and himself. In a cross-cultural study of six developing nations, Inkeles and Smith show that this 'horizontal', intragroup, separation becomes the more important one. 'Modern' man in one culture is very much like his counterpart in another. A 'modern' man is capable of an incredible number of transplantations, to different cities, different countries, different networks, different employers, different technical jobs. He is 'multi-purpose' in the same way that a gasoline engine can be adapted to any number of different operations as a power plant--or, even more modern, as the computer is totally indifferent to whether it is counting grains of sand, accumulations of diamonds, or numbers of those mugged and raped piling up in great modern cities such as New York.

Inkeles and Smith have pursued and denied the suggestion held by many that modern man in his successful manifestation is subject to psychiatric disorders and psychosomatic ills. We have for many years been inquiring into this problem, and we would tend to agree that 'being modern' in the successful sense is usually quite compatible with reasonable states of social adaptation and relatively few symptoms. On the other hand, we find a great deal of evidence suggesting that the emphasis upon modernity has severe implications for those unprepared by the rigid preparatory undertaking to live in the modern factory and the modern industrial organization.

The results of our clinical inquiry can be summarized as indicating that in industry a lack of education predisposes to the inability to adapt in crisis. Perhaps the most interesting finding is that the uneducated are unable to perform acts of creative imagination that an interviewer takes for granted, to find, for example, the categories in which 'apple and banana', 'dog and lion', 'chair and table' belong. Our findings indicate that this inability is closely related to the inability to re-learn a new 'self' after an accident has temporarily made ordinary activity impossible. The subjects we have studied have routinely declared that they were 'not themselves', that they no longer know 'me' as they did before the accident. In our experience, however, this accident itself

is not sufficient to produce the persistent and extensive disability without physical findings we have found in some 70% of a large group of disabled workers. The apparently necessary additional factor is the expectation of compensation without understanding the legal basis upon which compensation is to be allowed or refused. In our understanding, the availability of compensation in principle completely transforms the situation for the injured workman by removing him from employment in a tangible factory or business establishment, while substituting the modern political institution, the compensation bureau, for the employer. Thus the worker is now related primarily--because most of these men and women appear to identify themselves primarily in terms of an occupational 'self'--not to a concrete knowable boss but to an ever-changing group of vaguely understood role occupants whose major characteristic to the claimant is their near-total inaccessibility and their purely formal relation to him.

Thus we find the paradox that it is precisely that institution designed to help the suffering injured workman temporarily over a bad time that, by comprehensively frustrating the worker's need to identify himself by a relation to a concrete employer in a concrete industry, apparently leads on to producing in the uneducated and uncreative worker precisely that situation it proposes to avoid. We find another example of the destructiveness of helpfulness, the misadventure involved in many other bureaucratic forms of publicly administered helpfulness.

It is of considerable interest to look back again at the context of systematization and rationalization that Max Weber points to as the source of Western power and the extraordinary implications of capitalism. In the specifically psychiatric context, we find that the replacement of the notion of madness by that of mental illness is another of the examples of systematization with which we are familiar. The principal such illness, in the opinion of a formidable consensus, is schizophrenia, a word that means most proximately a 'divided self'. In less formal description, the term is close to that used by William James, a 'schism in the soul'.

When we examine the derivation of this term in a lexicographical sense, we find some

very interesting implications. 'Phrenos' is the Greek word for diaphragm; from it we derive the idea that the diaphragm is the seat of the soul, a concrete localization considerably more reasonable than to locate the soul in the pineal gland as did Descartes. 'Psyche', the term basic to psychology, is less distantly the word attached to the beautiful princess who was visited by an unknown lover in the dark. Obsessed with curiosity, Psyche lit a lamp to examine her partner after he had fallen asleep. In doing so she dropped hot oil on his sleeping body, astonished by his beauty. He awoke to reprimand her for her lack of patience and to inform her that he was the God of Love himself.

Psyche thus becomes a metaphor for 'soul' or 'spirit' and as systematization develops, we find its use in the term psychology (with -logos added) and psychiatry (with -iatros, physician, added). If we use the method noted above and ask the question, 'What is alike about psyche and phrenos?' we find the answer in that technique of naming that uses the figure of speech, metonymy, naming by contiguity. In the original Greek verb form to breathe is psychein, and breathing is the principal activity of the diaphragm. Psych- and -phrenic are then closely related as aspects of the breathing function; we can say that they refer to the 'breath of life'--but it would appear that we speak here not of breath in the literal sense of supplying oxygen and eliminating carbon dioxide--but breath in the sense in which expiration appropriately shaped yields the forms of speech. Some support for this idea is apparent in the use of the term 'inspire' to refer not only to intake of breath but also of the acceptance of spiritual stimulation through the internalization of some creative stimulus from outside. Where the breath of life in the concrete sense is shared by all animals and even by plants, the breath of life in the specifically human sense is shaped breath, expired through a set of reeds and sculptured obstructions so as to yield those transient forms that constitute 'eternal verity'.

The story of Psyche tells us of the self-destructive implications of curiosity--but as well of the irresistible urge to know more. In many ways the lesson is the same as that of the primal sin of Adam and Eve, not, as many crudely think, that of enjoying each other sexually, but

rather of the irresistible urge to eat of the tree of the knowledge of good and of evil. The urge is to know and in knowing to gain power-- and the penalty of knowledge is the loss of paradise, whether that paradise be symbolized as sex in the dark or as the paradise of ignorance.

What is most evident in modern times is the clear and increasing conflict between those who know, those who are educated to high levels of skills in reflective thinking, and those who remain in ignorance. Passionate believers in the American meliorist theme that says as a slogan, 'The difficult we do at once, the impossible takes a little longer,' remain convinced that the way out of our dilemma is that of universal education to a high level of uniformity in the skills of reflective thinking. Much suggests, however, that as the level of education rises in a culture such as this one, the simplest effect is that of elevation of the level of demand on those who are to succeed, with a corresponding increase in the demand on those who are to fail. The pattern shows what I once called the 'principle of the conservation of misery', a principle indicating that the more some succeed, the more most tend to fail. Perhaps the clearest indication of this pattern in measurable terms is to be found in the coexistence of large numbers of incredibly disadvantaged and hopeless numbers of our society to be found in the ghettos and the welfare hotels of the greatest city in the world. The point of reference is to the expatriate billionaires, Getty, Hughes, Niarchos, Onassis, and Gulbenkian, all of whom achieved vast anonymous wealth by exploiting modern man's insatiable need for readily available power.

Much suggests that we see here a manifestation of a fundamental rule of physics, the entropy principle. The accumulation of information in one context, and the accumulation of those tokens of power we know as pounds, dollars, and francs in another, are examples of negative entropy, as Wiener and Shannon have made clear in the basic theoretical work subserving the computer age.¹¹ We forget that the law is that entropy always increases, never decreases--and that the accumulation of negative entropy in any one context must imply the increase of entropy, of disorder, in another. The fact seems to be that the billions owned by

the rich, modern, international financier are in a real sense taken away from the grindingly poor at the bottom of the social scale. What we appear to have created in the context of modernity is not only a systematic view of schizophrenia in the 'individual', but a condition that might warrant the term 'schizodemos'. Those of us who know, even if at some distance from the crude reality, the human situation of the conspicuous failures of this society might agree that an appropriate name for this metropolis might well be Schizopolis. It is an appropriately ironical comment that Ludwig Boltzmann, the genius to whom it was first given to see that the apparently concrete notion of entropy is creatively transformable into the much more useful idea of disorganization or disorderliness, and who through this transformation led us directly into the possibility of information theory and so to the computer, was chronically disappointed by his inability to make his discovery widely known and committed suicide!

To sum up the implications of some of the notions I have tried to present, it is perhaps simplest to refer again to the basic law of motion, namely that for any action there is an equal and opposite reaction. I take this to mean specifically that for whatever increase we may find it possible to secure in predictability, there must be an equal and opposite increase in unpredictability; for any increase in orderliness, there must be an equal and opposite increase in disorderliness; for whatever increments of negative entropy we manage, we must expect similar increments in entropy. We seem to be in the position of the owner of the magical Monkey's Paw, each of whose wishes is immediately magically granted, at a terrible price.

Modern man's triumphant progress on and on in the service of order, power, predictability, clarity, and orderliness leads us on into greater and greater problems. Because we have been so brain-washed for the last two hundred years in the sublime faith that systematic objective rational inquiry is the best of all possible pursuits in the best of all possible worlds, we have totally lost sight of those warnings which Cassandras have always given to an unheeding and impatient audience. Perhaps the most precise illustration of my point is that, if anyone does

take the time to listen to some such warning, the invariable answer immediately appears: 'What objective scientific rational remedy might there be?' In my view, this question suggests an attempt to snuff out a fire by drowning it in gasoline. The non-answer I propose is the ancient saying that 'Pride goeth before a fall'--and the more modern comment by Lord Acton that power corrupts, while absolute power corrupts absolutely. I am transfixed by the paradox of modern man's headlong and irresistible search for ever more

power, ever more development, ever more exploitation, ever more control. In the contemporary television series in which Jacob Bronowski proudly calls the roll of man's scientific achievements in his 'ascent' from an animal condition, a sobering note was sounded by the commentator in repeating Einstein's remark that, although he did not know what weapons would be used in the third World War, it is apparent that the weapons to be used in the fourth will be stones.

REFERENCES

1. Wigner, E.P. Symmetries and Reflections: Scientific Essays. Ed. by M. Scriven and W. Moore. Bloomington, Indiana: Indiana University Press, 1967.
2. Havelock, Eric. Preface to Plato. Cambridge, Mass.: Harvard University Press, 1963.
3. Weber, M. The Protestant Ethic and the Spirit of Capitalism. New York: Charles Scribner's Sons, 1904.
4. Kuhn, Thomas. The Structure of Scientific Revolutions. Chicago: University of Chicago Press, 1962.
5. Piaget, Jean. The Psychology of Intelligence. New York: Harcourt, Brace, 1950.
6. Dewey, John and Bentley, Arthur F. Knowing and the Known. Boston: Beacon Press, 1949.
7. Zazzo, R. 'Image du Corps et Conscience de Sor. Material Pour l'etude Experimentale de la Conscience.' Enfance Psychologie, Pedagogie, Neuropsychiatrie, Sociologie 1:29 - 43, 1948.
8. Fraiberg, Selma and Adelson, Edna. 'Self Representation in Language and Play.' Psychoanalytic Quarterly: 539-562, 1973.
9. Mead, George H. Mind, Self and Society. Chicago: University of Chicago Press, 1934.
10. Inkeles, Alex and Smith, David H. Becoming Modern. Cambridge, Mass.: Harvard University Press, 1974.
11. Wiener, Norbert. Cybernetics. New York: John Wiley & Sons, 1948 and Shannon, C.E. 'A Mathematical Theory of Communication.' Bell System Technical Journal, XXVII: 379 - 423, 1948.