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- FRONT COVER: This woodcut, titled "Yes-No," was done by JACOB LANDAU, who also contributed one of the provocative essays to this issue. This print appeared originally in *Boy's Life Magazine*, from which it is reprinted by permission. Mr. Landau's work is handled by Associated American Artists Gallery, 605 Fifth Avenue, New York.

ADVANCE UPON CANAAN



PHOTOGRAPH: STEINHEIMER

We were a long time coming.
Ours was no Exodus, but a continued coming,
not as the dunes creep, soon to be anchored by
grass,
fastened by olive and mustard scrambling across
them,
not as the waves which are always coming,
but never arrive.

As burrs fastened to pelts, as pods
on one wing circling, as sift of down,
weightless and nearly invisible,
slowed and halted on fitfulness of wind
we came upon Canaan and took root in the midst
of the brush,
grew up through thicket and resistance
of indigenous tribes,
until we were growth enough to look over the
dunes
to our country and a presentiment of our City,
at one time Babylon, at another Jerusalem,
in both of which we shall live as exiles.
In both home and wilderness we shall sing
the Lord's song in a strange land.

Above our heads in the sky the wheel turns,
still turns, and is stilled—all wings and eyes
seeing and seen, moving and motionless:
completion of ourselves at our exit
as at our beginning;
packed thick with good and guilt,
and at one with our fathers; Judges, Kings, Prophets,
back before knowledge and forth beyond realization
in royal rotation over the top of the hill
from which we may see the land we have yet to
conquer
though we may never achieve it for our ration of
life.

The dunes come, but they are halted by grass.
The sea is forever coming, but never arrives.
Ours is continued going out of the ages
to Canaan beneath the Chariot wheels
that have yet to come.

—BARBARA A. HOLLAND

GUEST EDITORIAL

In terms of the secular spirit man as we grasp him today, there are six things that are obvious now. These hardly need repeating except to quickly get before our minds an immediate context from which to move on. So, six taken-for-grantednesses that everyone realizes are shaping the new man in the secular world.

The first, it seems to me—using insight which is widespread across the world today—is that man must be discovered first as a species. Not as some kind of romantic abstraction, man with a capital M, not in the service of some kind of ideology or manifesto, but he must be discovered simply historically, anthropologically, under developmental principles. It is now cliché that we no longer look at man under the canopy of eternity as we had always done in the West until recently, but under the canopy of evolution. This is all I mean by the first taken-for-grantedness.

Second, the place where man lives is fundamentally not the 20th century, not the contemporary world (however you might describe that sociologically or with impressionistic categories), not the Western world, not any of these partial descriptions, but fundamentally man lives today in the invisible envelope of thought that surrounds the globe. Or, as Teilhard de Chardin has introduced it, in the noosphere, which in a way capsules this whole insight. As you remember the illustration in *The Phenomenon of Man*, if a Martian should come to the earth the first thing he would notice would be neither the urban revolution in the cities nor the outline of geopolitical areas, but the strange green phosphorescence of thought that flickers around the globe. This is our place today: a luminous kind of intelligence that controls, directs and guides the future of this planet. The world of contemporary man is a noosphere. It has become through electronics a

global village which Marshall McLuhan is calling the electronic village.

Thirdly, the world has become "cool" in the new sense of that word. One point that McLuhan makes over and over again in his essays on mass media is that "the medium is the message." The mass media do not purvey messages, do not transmit messages; they *are* the message. What you see on television is not the message, the message is the screen itself. You, then, become the screen in McLuhan's language. For example, you have to become—because of television—cool not in the old sense of detached, but in the new sense of involved. Just as in watching the television screen with its millions of electronic particles that shape the image, you have to fill in with your eyesight the gaps in between the dots that are racing across the screen. You have to project yourself and literally create whatever it is you see.

Fourth, another taken-for-grantedness is that the knowledge industry or the "multiversity" is the context in which global education on a mass scale will go on structurally for the rest of our century. The knowledge industry has become responsible for forty percent of the gross national product in America alone. It is the greatest industry in our country and the same is rapidly becoming true in Europe. The multiversity itself is a totally new animal in history. There is no longer the ivy tower image, no longer the kind of rural academy that formal higher education used to be. Now the multiversity is a kind of network that surrounds the city, or to use another Clark Kerr word, the ideopolis in the center of the city. Think of the Boston-Cambridge area around which on Route 128 are companies and industries that have grown up as a result of the presence of Harvard and MIT. This is the multiversity physically. It is the technical and liberal arts type of institution which feeds directly the world's work

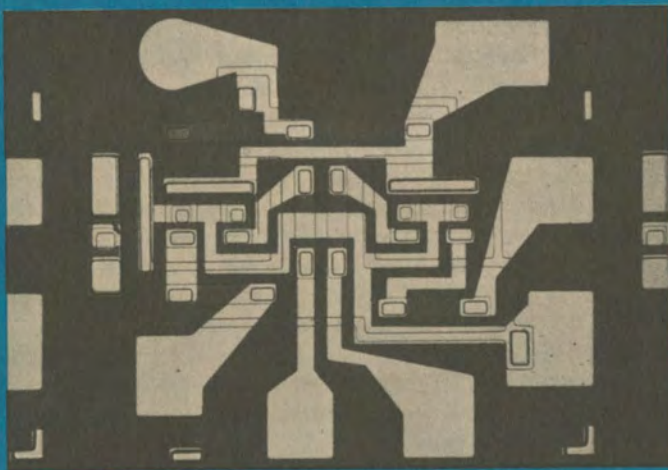
—the government, the industry, the business, the arts and crafts. The multiversity is taking over all other images of higher education and is practically and physically reshaping our culture.

Fifth, wealth is no longer measured—economists tell us today—in terms of property or goods. Wealth means simply know-how. You can get rid of every other past kind of wealth. As long as you have the know-how, you have wealth. The knowledge industry is just obviously synonymous with the direction of tomorrow's work. If the social revolution, which is a world-wide phenomenon and also a taken-for-grantedness, that is, if the world-wide restoration of human privilege repeats itself on the city-wide level, the country-wide level, and in the class war between the nations, the "have" nations and "have not" nations—then we are going to see in the future the strangest kind of connection arising between the mass media and the restoration of human privilege (or the revolution of rising expectation). This is on the horizon.

And lastly, there is just this taken-for-grantedness of our time. Humanness, whatever else we may mean by that, has to do with the existential edge of coping with the information revolution; not simply with the explosion of knowledge. By information, I do not mean a sort of atomistic image of small particles of facts which stream out toward us, but rather the whole question of meta-images. The edge of the question of humanness as it is concerned with the fundamental identity—the human identity that a man has and from which is created the image beyond all images (meta really means beyond)—is located squarely in the phenomenon of the information revolution. Therefore, the key to whatever the meta-image of tomorrow will be has to come from this area.

—WILLIAM COZART

TECHNOLOGY AND NEW IMAGES



PHOTOGRAPH: STEINHEIMER

Man must invent his future if his future is to have any meaning.

Although this declaration increasingly is accepted by those who study the impact of new technologies upon man, our society directs minimal effort toward this goal. Most of our study, planning, and actions continue to be based on the assumption that the future will resemble the past.

Why do we fail to reexamine our social systems and institutions in the light of this new requirement? The primary reason is well known; every viable social system must insure that the vast majority of its members accept its assumptions about the nature of reality, about right and wrong, and about the significance of events. The process of socialization inculcates these values in each child. And as a result of this process, each culture and institution tends to perpetuate itself.

Today, however, the perpetuation of the industrial age culture is inappropriate. But simply recognizing its inappropriateness is not enough. Existing structures tend to limit, if not prevent, any attempt at fundamental change in the culture. This analysis led Arnold Toynbee to argue that fundamental change in a prevailing culture is impossible. History appears to confirm his judgment.

Therefore, we in the modern world—if we are to deal creatively with new realities—must imagine, devise and apply new methods of causing change.

I developed this analysis for the editors of *motive* in the Spring of 1966. The potential disaster of present developments seemed incongruous in the light of the ongoing repetition of the seasons; the promise of life despite man's destructiveness.

But we know that man can destroy even the natural cycle, not only by a nuclear holocaust but also through the slower, but equally dangerous, development of excessive levels of pollution.

As we talked on that lovely spring day in Nashville, a proposed issue on technology evolved. We planned initially to examine the nature of the increase in man's power—his power to destroy and to produce—and his capacity to alter mind and body, communication and transportation. And then we would discuss the ethical and moral implications of this power. Finally, we would examine the political and educational steps which would be taken to channel this power for man's benefit rather than destruction.

Special issues of magazines, however, tend to have lives of their own, affected both by changes in perception of the subject and also by the way in which contributors choose to write about their assigned subjects.

The first surprising development that changed the shape of this issue was the sudden general recognition among almost all those studying the issue of technology that man does indeed have the power to do what he wishes: *man has to choose which of the incredibly wide range of possibilities he wishes to pursue*. Therefore, it isn't necessary to stress the fact that man has achieved power. The articles by Charles de Carlo and Edward McIrvine both begin from this recognition.

More important in determining the final shape of this issue, however, has been the unexpected convergence of the contributors around a single major theme. Throughout, the discussion ex-

amines how man can not only remain human but become *more* human in a technological environment. What can man be freed to do now that machine-systems are able to carry out all the tasks for which the decision-making rules can be set in advance?

More and more people will be able to fulfill roles which aren't presently considered to be a part of the "productive" process. What activities will people choose when they are freed from earning a living in the traditional meaning of that phrase? That such activities will be much more rewarding and humanly authentic than those presently structured as part of their job is assumed by many designers and planners.

The theory of economic determinism developed from the scientific analyses of the Industrial Revolution. It may well be that the current analyses of the cybernation revolution should have little to do with the "dismal science" and everything to do with anthropology, philosophy and theology.

What is the nature of man? Which values will be most desirable as man enters this new era? Which goals will he need to discard? Is it possible that the very goals which brought about the new era and all its consequences will be those goals which he must discard if he is to live with what he has created?

The overwhelming impression left by this issue upon me is the pressing need to achieve a new image of man that will be appropriate for a new era.

—ROBERT THEOBALD
guest editor

Coca-Cola

THE IMPACT OF

Freshly made

PAVANA

JOB JOBS JOBS!

MALE OR FEMALE
with or without experience
Immediate Employment
RESTAURANTS, FACTORIES,
OFFICES, HOSPITALS:
DAY OR NITE

SUPREME
Employment Agency
247 W-42ND ST. ^{N.Y.} 36
~~3RD~~ FLOOR
BRyant 9-6166

This article was developed by a dialogue-focus group, which is a new approach to study and discussion. The purpose of dialogue-focusers is to summarize the state of the debate on a particular subject. The rationale and mode of this approach are described in the Afterword in this issue. Dialogue-focus is being used widely this spring by units of the University Christian Movement which are participating in Process '67, an experimental cross-disciplinary learning project. Dialogue-focusers are not copyrighted for they attempt to reflect what all of society has discovered about a particular topic; therefore they belong to the total society.

TECHNOLOGY

AREAS OF ESSENTIAL AGREEMENT

Man today is in the process of achieving the power he has sought so long: the power to remake his environment. Even though we presently apply only a small part of the knowledge available, we have achieved a high level of abundance in the U.S.

The potential for human betterment, however, is not limited simply to the satisfaction of material needs. Modern research also looks at man as a biological system affected positively and negatively by his interaction with an environment which he himself is helping to create. Such research is concerned with improving the individual's understanding of himself and his physical and mental perception. A much greater interpersonal understanding and deeper comprehension of the relationship of human group to human group can come from this research.

The dramatic increase in man's power stems from four emerging realities. First, there is the thrust toward the production of effectively unlimited energy which would radically expand man's technological abilities. Such energy makes it possible to turn salt water into fresh water, to mine increasingly low-grade ores to obtain necessary metals, and to change much of man's environment.

Second, there is man's increasing skill in manipulating the basic building blocks of nature on the micro-scale. This creates the possibility of designing materials with any desired set of characteristics; it also makes it possible to manipulate the genetic inheritance of man.

Third, the number of people who have been educated so that they can continue to widen the frontiers of knowledge is increasing rapidly.

Finally, there is the development of the computer. The first commercial computer was installed in 1950; there were 5,000 computers in the U.S. by 1960. Conservative estimates indicate there will be 70,000 by 1970. During this period the power of the computer will increase significantly and time-sharing will allow several people to use the same computer simultaneously. The

computer is much more than a logic machine of rapidly growing capacity and speed. It is quite possible that the effect of the computer itself is less crucial than the change which it is forcing in the pattern of thinking. Fuzzy reasoning is incompatible with the use of the computer and complex machine systems; the consequent mental rigor is spreading far beyond the computer complex.

These increases in man's power to control his environment are leading to fundamental clashes between the goals of the industrial age and the emerging commitment to provide each individual the opportunity to develop his maximum possibilities within an appropriate societal framework.

Three examples illustrate this developing issue. First, our present international relations are based on the assumption that each country should be able to defend itself against all potential attackers. It therefore becomes necessary to adopt a weaponry-system because a potential enemy might otherwise gain an overwhelming advantage. The result is that each country destroys its own security in the process of seeking to obtain it.

Second, our present socioeconomic system requires the use of any technique or technology which promises to provide a competitive advantage. If a cheaper technique is introduced in one firm but not in another, this will weaken the position of the second firm; if a country introduces more technological advances than another this will strengthen its position. Such a drive toward greater efficiency, and the minimization of human labor can be favorable. But this will not be the case when jobs, essential to an individual's sense of identity, are eliminated. In addition, certain individuals with low skills and education are unable to compete with machines at any wage providing a decent standard of living.

Third, most people can support themselves only by holding a job. In order to provide jobs for everybody, all the goods that can be produced must be used. This constraint in the socioeconomy increasingly is seen as undesirable for two reasons.

First, people can only absorb and integrate a certain amount of information, and excesses above this level result in sensory overload and consequent blanking of the senses' ability to provide the individual with knowledge of himself. This in turn prevents the growth of the individual's potential. Second, the drive to maximize production is causing such quantities of waste and pollution that the survival of life on the planet is threatened.

Each dialogue-focuser will necessarily impinge on many others: the nature of the dialogue in other areas must necessarily be implied rather than detailed.

AREAS OF DISAGREEMENT

Are present dominant styles of academic analysis adequate for studying technology? Some argue that we have understood the scientific method, that this method is always appropriate and there is, therefore, no need to examine the techniques employed. This view is challenged by most of those deeply involved in the debate on technology who argue that new tools of analysis and new methods of communicating information are required. There is a fundamental difference between the analytic techniques required to examine how to improve the functioning of an already existing socioeconomic system and the task of imagining or inventing a new socioeconomic system.

The growing consensus about the applicability of new styles of analysis does not imply agreement about the essential nature of these new styles. The most fundamental disagreements are in the use of subjective or objective techniques. Some authorities are engaged in refining such instruments as input-output analysis, computer-based planning, game theory, etc. These techniques assume that there is an objective reality which can be understood and controlled; that the consequent task is the development of better methods of measurement and control.

Other authorities are convinced that reality is subjective; that the world tends to become what it is believed to be, particularly given man's power to change his environment. Those advancing the subjective view argue that the primary task must therefore be to discover the type of world in which man would wish to live. A few people are convinced that neither the objective nor the subjective modes, taken alone, are adequate; it is essential that both modes of viewing reality remain in constant tension and that both can contribute to the task of designing the future. (The parallel to long-standing philosophical disagreements is obvious.)

Even those who see most relevance in objectivity tend to devalue the importance of "facts," i.e. isolated pieces of data relevant for particular moments of time. They do this, despite their

concern for objectivity, because they recognize that the methods used in examining and collating data to produce "facts" is such that the "facts" serve as methods of supporting existing behavior rather than as means to challenge existing patterns of reality.

Most "facts" are not single events but rather relate to overall patterns of behavior and relationships. The ways in which we perceive patterns of behavior and relationships are themselves heavily structured by the environment in which we live; thus societally perceived facts tend to support the existing socioeconomic order. The pace of change is so rapid that "facts" are, of necessity, inadequate guides to understanding.

At the very least, therefore, those examining the implications of technology agree that they must be concerned with "trends" in data rather than with "facts." In other words they must not examine single pieces of data relevant for a particular instant but rather the expectable changes in data over a relevant time period. It is increasingly argued, however, that trends are also inadequate as guides to understanding the future because "trends" are "facts" extended in time. The assumptions about social reality which determine our perception of "facts" have the same effect on our understanding of the meaning of "trends."

The present rate of change cannot persist over an extended period of time because no rapid growth trend can continue forever within an essentially closed environment. It is inevitable therefore that changes in trends will develop in the future. It is impossible, however, to determine which existing trends will be limited and which reinforced without an examination of the desires affecting people, communities, nations and the world in general. The probable direction of change also depends on the values which are affirmed and the values which are actually followed.

The downgrading of the importance of "facts" and "trends" is one of the major factors leading to increasing debate about the nature of the constraints imposed by the environment, the nature of the change process and the nature of man. This latter subject shades into a debate about the nature of the good society.

Central to all these discussions is cybernetics: an understanding of the science of communication and control. The central element in cybernetics is the recognition that systems—whether animal, mechanical, economic, social, human, etc.—include feedback mechanisms and that the existence of appropriate feedback mechanisms is a requirement for the survival of any system.

Feedback means that when an action takes

place, the initiator of the action receives information as to what has followed his action so that he/it can be sure that the desired effect is being achieved and that deviations from the desired norm can be achieved. No assumption about the nature of "desirability" is made here: the issue of how to decide on the desirable falls outside cybernetic theorizing.

Some examples of feedback may prove helpful. When an individual runs a temperature, information about the deviation is conveyed to other parts of the body which then try to return the temperature to the desirable norm. Similarly a thermostat in a room reacts to the temperature around it. If the air is too cold the thermostat sends a message that causes the furnace to start up. When enough heat has been generated the thermostat sends a message to the furnace that causes it to turn itself off.

A functioning free-market mechanism is based on cybernetic principles. When prices rise, this causes additional people and companies to believe it would be worth producing more of the expensive item. This increase in the supply causes the price to fall. Similarly when the price falls people and companies tend to produce less and this brings the price back up.

Cybernetics also proves that change in one part of the system will cause changes, both expected and unexpected, in other parts of the system. This means that any significant innovations will not only affect the area of immediate impact but many other areas. A very complete and sensitive understanding of a particular system is required if one is to understand the impact of various types of changes. In particular it is important to be able to determine whether changes will have limited or major impact.

Successful directed change is therefore only possible if those attempting to attain it understand the present situation and process. It is always essential to work within the actual situation; to recognize that change will be acceptable only if it appears to be evolutionary, even though it may in the end have revolutionary consequences.

The requirements for purposive change are that those who wish to bring about change understand the system well enough to be able to perceive the changes which will appear as evolutionary. Those who wish to bring about change should have a clear idea of the limitations on desirable action imposed by the environment and by the "inherent" nature of man. They must have a clear idea of the objective which they wish to develop, and the kind of individual and/or society they want.

While cybernetics makes it clear that the elements of the ecological system are interconnected, there is little agreement about the degree of

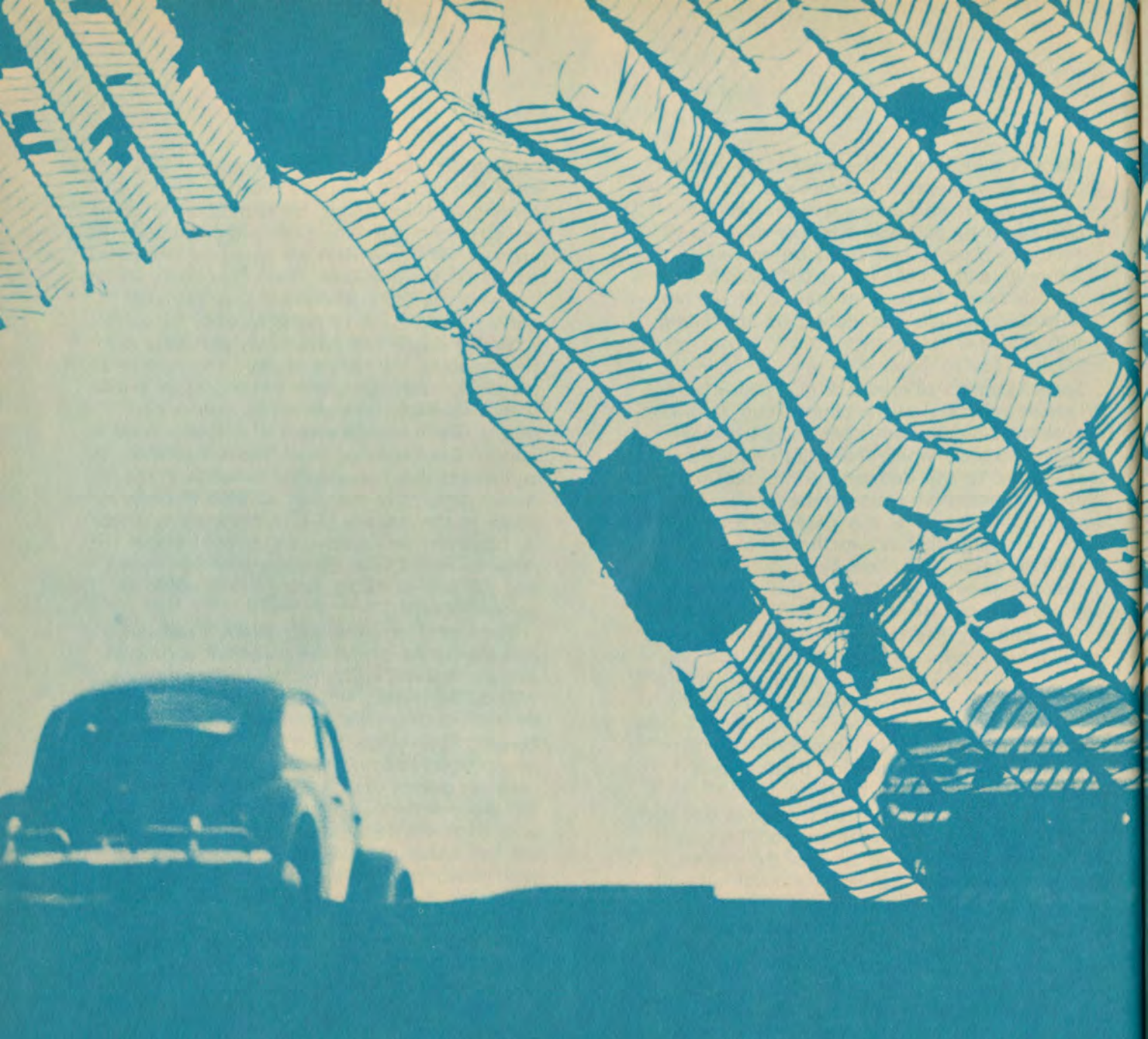
stability or instability in the ecological balance and even less about the factors which would cause a nonreversible change, climatological or other, which would make the earth uninhabitable. There are few, however, who are prepared completely to dismiss the possibility that while man's actions can improve the environment they can also gravely reduce the carrying capacity of earth.

Similar degrees of uncertainty permeate the debate about the nature of man. On the one hand, there is general agreement that man is an animal with a relatively long period of maturation during which several stages of behavior tend to appear. On the other hand, there is general agreement that considerable variation in the behavior patterns of man can develop in order to adapt to the realities of his environment. There is, however, profound disagreement about the range of flexibility in the process of maturation and the sets of values which are possible of achievement.

The extent of the disagreement is enhanced, and the nature of the disagreement confused, because it is still far from clear at the present time what value systems will be required to live in the era which we are entering. Debate on this issue and the appropriate direction for the socialization process has only just begun. Indeed, the relevance of debate on this issue is often denied on the grounds that we should not be concerned with what will be required to live in the coming era but rather that we should aim to design the type of world which we ourselves desire. At this point, the debate comes full circle for it is being argued once more that man has the power to create the environment he wishes and that he should therefore be concerned primarily to find ways of deciding the environment he desires.

A growing number of people in this debate on technology deny the validity of any dichotomy between what is necessary and what is desirable: they claim that it is essential that man become honest, responsible, humble and loving if he is to live with the power which he himself has created. This viewpoint suggests that the old tension between the intelligent actions and moral actions is tending to disappear and is being replaced by the tension between objective and subjective methods of seeing reality.

For some, therefore, the debate on technology ends in an affirmation that it is now essential that man reach a new stage in his development: that man must mature as a civilization. This argument has been advanced by scientists, social scientists, theologians and philosophers. The present dialogue on technology reflects that man cannot survive in the environment which he himself has created without fundamental changes in his nature. Some of those involved in the debate have serious doubts that the required changes can be achieved fast enough to avert the dehumanization—and perhaps the destruction—of civilization.



IN A DREAM,

Still accelerating,
my right foot useless, the needle passes
forty, forty-five, wavers at seventy, jumps,
is freed of numbers.

The beast flattens
to the road, belly filled with fire, feeds
on fire.
We roar into America,
tin mufflers belching on the western streets.
People stop, mouths suspended, stare,
are hurtled backwards.

They will remember
this myth of steel splitting the air on
either side making a passage of sound the
shriek of tires leaning at corners the mad

roaring of aluminum.

Our chrome dazzles
as we pass.

Into the mountains, the fantastic leaves glowing
in deadly colors. Past autumn. The thin air
sings above timberline.

At the top of America
we fly down. Valleys rush to meet us, turn
to night forests that gleam under the headlights.
As I fall asleep, distance and night close
and divide.

When I waken it has been morning for hours.



THE AUTOMOBILE

PHOTOGRAPH: STURKEY

We have left the barrier mountains and
are rolling east into wheatfields.
The air swings at our side, the sun looms
in the large continent of yellow.
The tank, still full; a useless gauge.
Even the wheel does not respond but moves
according to the road. A farm breaks
the land, small settlements swell
in the distance and are gone. We sail
across the flat belly of America
towards the green edge of the Appalachians.

Between night and rain the deep forests
burn in lightning. A black rain

buries the road in thunder. There is
nothing beyond myself and this car
an engine meshing in secret
wheels turned to an invisible road
black waters.

Forward, faster,
the rain moving with us into morning,
into a sea of red clay, coastal sand,
until the breakers of the Atlantic
rise in one water
and we plunge, prison and passenger,
into the thunder.

America!

—ADRIANNE MARCUS

THE ADMIRATION

EDWARD C. McIRVINE is a staff scientist at Ford Motor Company. His professional work is in the mathematical and theoretical sciences department and his Ph.D. in theoretical physics is from Cornell. His concerns are broad and are reflected in his work and memberships in boards of education, political party executive committees, and economic opportunity commissions in those cities where he has lived. At present, he serves on the advisory committee for the Parishfield Community, an Episcopal center of thought and criticism. Guest editor Theobald felt that this essay was a helpful introduction to the issue, particularly since Dr. McIrvine's analytic framework derives from working closely with modern machine systems.

One Sunday afternoon. I dozed while watching a golf game on TV. The comments of the sportscaster merged with a subconscious concern engendered by my recent research in computer science. The result was one of the most entertaining dreams of the season.

In the dream, my viewing of the television golf match was interrupted by my friend Cy Bernation, who dropped in unexpectedly. When my wife ushered him in, I quieted him with a wave of my arm until Arnold Palmer had chipped from the edge of the rough to within a few feet of the seventeenth pin.

"Isn't that remarkable?" I said to my learned friend. Professor Bernation sniffed in disgust.

"An operational definition of a game of golf is easily formulated," said he. "It consists of conveying a ball of known size and mass sequentially from eighteen tees to eighteen holes, all thirty-six locations being definable by coordinates in three-dimensional space. Any sensible mechanical engineer could tell you, faced with that problem, that the last means of conveyance that would occur to him would be a man with a club!"

"And you propose?" I queried.

"To eliminate the human operator, of course," said Cy. "Now my uncle, Otto Mation, twenty years ago developed a power-driven golf club, with telescopic sights, a built-in range finder and anemometer, and a slide rule calibrated for windage corrections. In 1947 he played a round at Pebble Beach in thirty-nine strokes, including two holes-in-one.

"But with the computer capabilities of today," said Professor Bernation, warming to his favorite topic, "we need no longer send a man onto the golf course. My first plan was to build a series of pipes from tee to

hole, and to convey the balls with air pressure. Just think, eighteen sure holes-in-one. But the owners of golf courses insist upon compatibility with the present users, so I have had to fall back on a more mundane plan. Essentially it is a computer-controlled version of my uncle's machine. The balls have radio transmitters for easy tracking. Further transmitters in each hole and at each tee provide guidance. Robot fore-caddies, equipped with surveying instruments, read the greens, and report to the central controller.

"The first few times around a given course, my automatic player may do no better than Uncle Otto," the professor said, "but the results of its actions are fed back into the central memory. After a few practice rounds, I suspect we will come within a few strokes of scoring eighteen. And we certainly will speed up the game."

I frowned at the thought of a golf-playing machine broadcasting a tape-recorded "playing through!" as it tore past me in pursuit of its 495-yard drive. I picked up one of my golf clubs for psychological support.

"But why do you want to replace men on the golf course with machines?" I asked desperately.

"Because men play the game badly," Cy replied.

"You are a sentimentalist, McIrvine. People like you admire human performance without any thought of the relevance of that performance to the operational description of the task. You are the sort who admires John Henry for being an ambitious, if inefficient, pile-driver.

"Why resist progress? Within a decade," predicted Professor Bernation with a happy smile, "the golfer will be obsolete."

Swinging my mashie-niblick, I chased him from my dream.

My mythical friend was disposed of easily when he trod on

OF TECHNIQUE

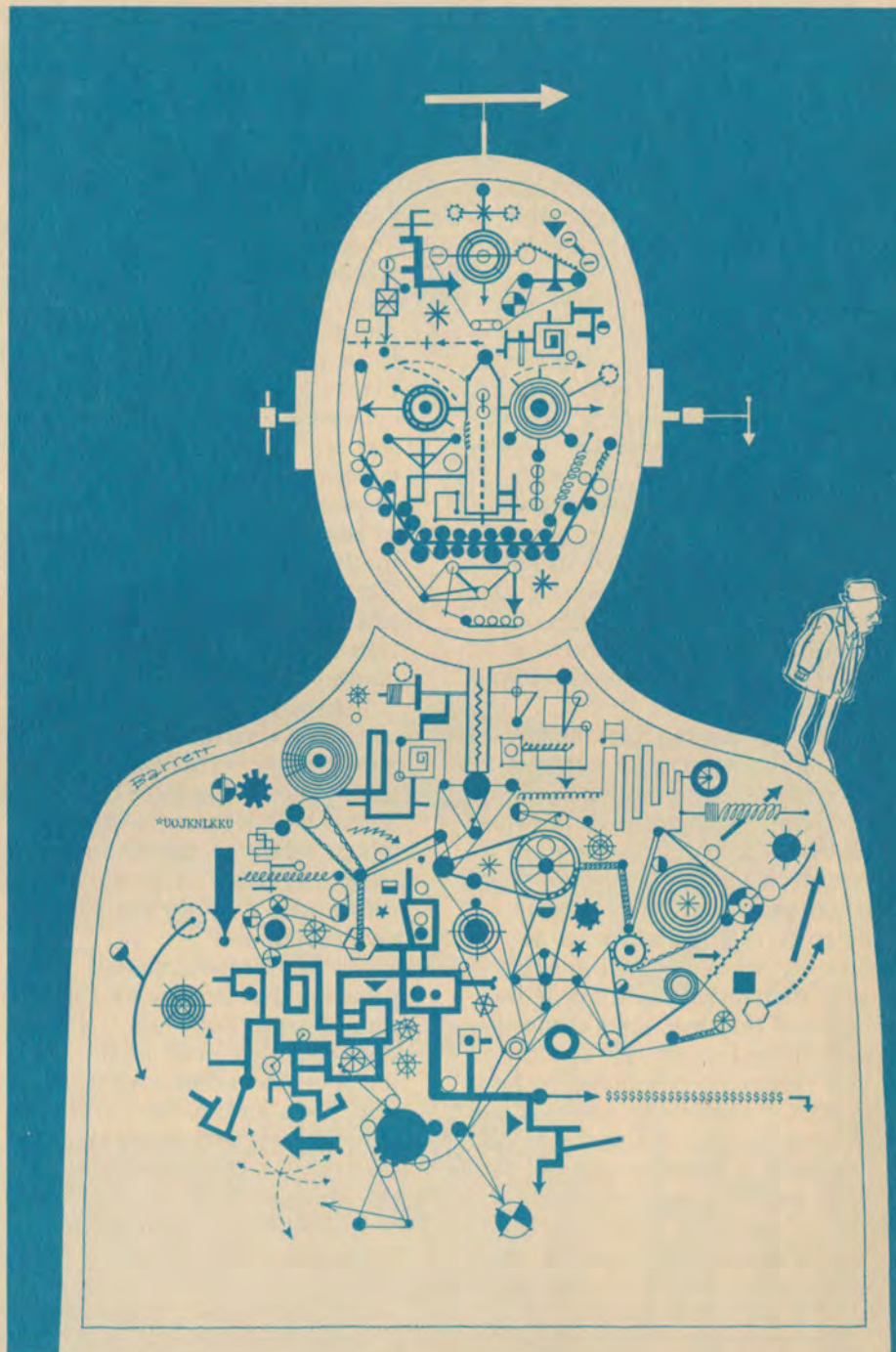
my personal sensibilities and threatened my concept of the human role in golf. But his actual namesake, cybernation, will not be eliminated so easily when it treads on our collective sensibilities and threatens our concept of human values as assumed in contemporary society.

Revolutionary changes are seldom defined before they occur. In this tradition, cybernation is becoming a fact of our existence before the term itself is widely understood. Cybernation* is an invented term used to designate the implementation of cybernetic ideas, the development of self-organizing systems and self-regulating machines as surrogates for human thought-processes. Automation, the replacement of muscle by machine, is succeeded historically by cybernation, the replacement of routine brainwork by machine.

Cybernation has its roots in two distinct sources: automation and computer science. Automation implies the replacement by the machine of the physical exertions of man in the execution of repetitive industrial operations. The completely determined nature of the operation allows a fixed program of execution to be built into machinery. Computer science has been concerned primarily with the development of general-purpose digital computers for programmed problem-solving and data-processing. Cybernation is both an extension of computer science into more general cognitive processes, and a union of computer science and automation to mechanize complex decision-making and the physical implementation of the decisions.

Already, hardware and programming advances are permitting the cybernation of many tasks previously considered to be

*D. N. Michael, *Cybernation, the Silent Conquest* (Center for the Study of Democratic Institutions, Santa Barbara, 1962).



DRAWING: BARRETT

intellectual. The computer industry has automated design so that wiring instructions and repair manuals may be produced automatically for each contemplated variation in computer design. The additional expense of a variation is thus minimized, and design is made flexible. In heavy

manufacturing industries, "numerical-control" machine tools are being introduced which are controlled by punched paper tape or magnetic tape. Through the use of an extensive library of command tapes, one piece of automated machinery becomes capable of performing a variety

of tasks, and production is made flexible. In the field of computer science, two contemporary developments will affect automation and cybernation. The first is the development of multiple-access time-sharing computer facilities; the second is the construction of list-processing languages and other third-generation computer languages. These developments are noteworthy improvements in communication between man and machine.

In these few paragraphs, the gist of contemporary cybernation has been sketched. Design automation, numerical control, and time-sharing computers are illustrative of the advances already achieved. The near future of cybernation includes even more dramatic possibilities. A computerized library search in response to a spoken request exemplifies the potentialities. It should be borne in mind that each advance that is made simplifies the next.

We are moving rapidly toward a society wherein all activities amenable to operational definition may be removed from the realm of human activity. After a public lecture on computers some years ago, the mathematician John von Neumann was questioned by a persistent lady who demanded to know if he believed that machines could do everything that people could do. Von Neumann is reputed to have replied, "Madam, if you will tell me *exactly* what it is that you do not think a machine can do, I shall design a machine to do it."

This response illustrates both the threat and the promise of cybernation: man's involvement in well-defined operations is doomed, but he is being freed to find his role in the creation of new areas of definition. For the moment, let us concentrate on the former phase, the inessential nature of human involvement in any activity that has an operational definition. This inessentiality is a demonstrable fact, but one which evokes dramatically negative feelings from a large segment of the population.

Clearly the response to the professor's suggestion of a golf-playing machine is this: why would we want to replace men on golf courses with machines? So long as our operational definition concentrates on the physical process of moving the ball, the answer is simply that men play an inferior game. Only if the game's definition is enlarged to include the human values of our personal involvement, is there any logical reason to impede the cybernation of golf. Fortunately, the decision not to automate a sport rests with the individual players. But the responsibility to cybernate an industry does not rest with the workers. Industrial cybernation will not be easily stopped, although many members of society seem to find the elimination of the human role from the productive process of industry just as outrageous as the elimination of the golfer from the golf game.

It is not the mission of this article to deal in depth with the nature of the cybernation revolution. Instead, the intent is to examine that element within us which rebels at the introduction of this advance in productive technique. Why do we resist cybernation?

Man has often resisted the movement of history through mere inertia, but there is a psychological element in his reluctance to accept industrialization, then automation, and now cybernation, that is not merely conservatism. It is the fear that the machines will take over. It is the anxiety that man will lose his identity in a fully cybernated culture.

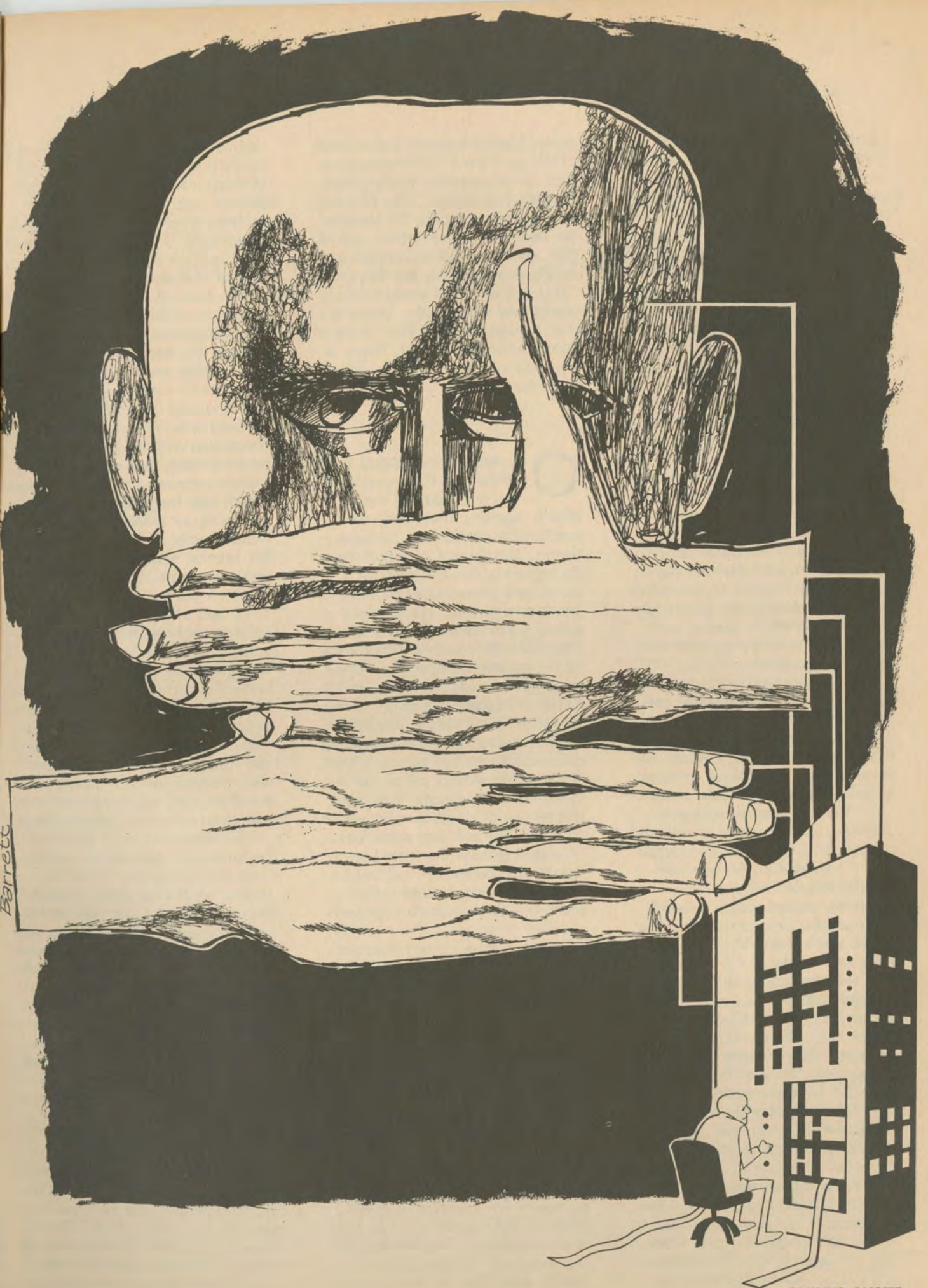
I do not mean a loss of individual identity within humanity. The increasing interdependence of man in complex society does not threaten his freedom and his individual existence. On the contrary, the development of a sophisticated technological civilization has freed man to realize the dimensions of his existence. By an anxiety over the loss of identity, I mean a loss of identity for humanity totally,

through a loss of meaning of the human role. If Paul Tillich was correct in identifying the anxiety of meaninglessness as the overriding anxiety of our age, and I believe he was correct, then cybernation is responsible for a severe heightening of this major anxiety.

Until the advent of cybernation as the logical extension of industrialization and automation, man's life had a widely accepted meaning: man's identity was that of the productive worker. Economic production requires the execution of certain techniques: man's role was as the practitioner of these techniques. Of course there were exceptions. The artist, the philosopher, the athlete, and others in small number have always been released from involvement in production. Even in times when agricultural productivity was so marginal that the release of these few would mean starvation for additional persons, the culture encouraged their activity. But the usual role of man was as a technical performer in the pursuit of productivity.

Upon meeting a stranger, ask a third party "Who is he?" and the reply is likely to be "He is an attorney," or "He works for the railroad"; seldom are you told "He is a camper," or "He reads poetry," although the latter activities may indicate the identity of the man more closely, and may involve more of his conscious thoughts than does his productive occupation. The identification of man by his productive function extends to the choice of surnames such as Butcher, Barber, Baumeister, and Bouvier.

To encourage the performance of productive tasks, society has adopted a policy of admiring technique. This policy is reflected in our folk sayings, our political philosophy, our economic system, and our religion. Everywhere that human values are defined or discussed, we see the admiration of technique. Our cultural lore views man as a link in the



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DRAWING: BARRETT

chain of production. We see the admiration of technique reflected in our spectator interest in sports accomplishments and in our approval of artistic virtuosity. We hear sociologists speak of the dignity of work. The admiration of technique is the medium of approbation through which we perpetuate the view of man as the technical practitioner.

The economic system relies heavily on the admiration of technique. Classical economics emphasizes that payment to workers should be proportional to the added value which results from their work. As Adam Smith states it, "The produce of labour constitutes the natural recompense of labour." Piecework payment is the logical result. Although greatly modified since Smith's time, our present payment system retains an incentive based on productivity. Better performance results in greater payment: this certainly signifies the culture's approval.

The classical economists were convinced of the necessity for man to participate in productive processes. "A man must always live by his work," says Adam Smith in *The Wealth of Nations*. Robert Owen postulates that ". . . manual labour, properly directed, is the source of all wealth, and of national prosperity." Thomas Carlyle sees an inevitability in the system of wages-for-added-value: "A fair day's-wages for a fair day's-work: it is as just a demand as Governed men ever made of Governing. It is the everlasting right of man. Indisputable as Gospels, as arithmetical multiplication-tables . . ." Carlyle carries his argument even further, in a later chapter of *Past and Present*, when he states categorically: "All True Work is sacred; in all True Work, were it but true hard-labour, there is something of divineness."

Nor did the nineteenth-century socialists doubt man's role as the practitioner of technique. The Fourieristic socialist Parke Godwin (in *Democracy, Constructive and Pacific*) states that "Society

owes (human beings) a guarantee of life and work. They possess a right to labor, which is the most sacred of all rights." The Christian socialist George D. Herron (in *The New Redemption*) carries the admiration of technique to an extreme with his apotheosis: "This is a world of work. God works and man works. Work is the manifestation of life. Work is communion with God. There is no righteous work that is not sacred and divine."

Our economic system, built to fan the flames of productivity during the nineteenth century, continues to emphasize productive capacity despite the advent of affluence. Recognizing the absurdity of a continued preoccupation with productivity in an era of abundance, John Kenneth Galbraith in *The Affluent Society* attacks many of the assumptions of the "conventional wisdom" of economics. But in his search for alternatives, he tends to substitute one technique for another, by emphasizing productivity in the public sector. Since public works are as easily cybernated as private industry, this does not constitute an entire solution. The anxiety of the loss of meaning resulting from the threat of cybernation will not be resolved by any change which preserves the admiration of technique.

A few contemporary figures, notably the authors of *The Triple Revolution* (Center for the Study of Democratic Institutions, Santa Barbara, 1964), have stated that the pace of cybernation is so rapid that full employment is an impossible goal. In an article of rebuttal (*A.D.A. World*, April, 1964), the noted economist Leon H. Keyserling demonstrated that the conventional wisdom still includes the sacred nature of work when he stated: "The opportunity for creative employment in remunerative work within the structure of our functioning economic system is not merely desirable for the output

results; the right to work . . . is a fundamental human right of extraordinary value." One concludes that the admiration of technique expressed so eloquently by Thomas Carlyle in 1843 is still a tenet of the philosophy of liberal America.

The early guilds, and the trade union movement, emphasized the concept of the master worker. Due to his technical skill, a journeyman was considered deserving of recognition both social and financial. Industrial unionism in twentieth-century America represents a more egalitarian development, and yet industrial unions preserve a seniority system which can be justified only by assuming an added worth to a worker with added competence. An inverse seniority system (wherein those with the most years of work would be the first to be laid off) would be the swiftest way to share existing work among all members of the labor force; but I have seen staff members of a potent industrial union turn pale at the suggestion of any tampering with the seniority system. The industrial-union movement has its conventional wisdom also, and seniority is part of it. Another part, much publicized, is the pursuit of full employment.

The National Commission on Technology, Automation, and Economic Progress joins in respecting the sanctity of work. Recognizing that unemployment will increase if the economy is left to its own devices, the Commission has reached the astonishing conclusion that the cause is not too-rapid technological change, but too-slow economic growth. By increasing the economic growth rate to 4.5% per year, we are told, we can hold unemployment to its present level. For an economy which seldom has exceeded a 3.5% growth rate in the past, this indeed is an Alice-through-the-looking-glass solution: "it takes all the running you can do, to keep in the same place." The objective of the Commission, as of Keyserling, the United Automobile Workers of America,

Galbraith, and Carlyle, remains "full employment."

Other governmental agencies at all levels show an equal interest in people participating in production. The federal government's Department of Commerce strives to increase production for export in a search for a favorable trade balance. Local governments devise welfare systems which condemn the technically incompetent individual to live at a subsistence level.

Our examples of the admiration of technique have been drawn primarily from economic and political philosophy. A number of these examples have indicated a religious basis for this admiration. In this country, commentators usually attribute this religious connection to the Puritan ethic. Thrift and labor were moral obligations to the Puritan; the idle man was the profligate. Man's religious obligation to work antedates Puritanism, however. Medieval monks knew very well that *Laborare est Orare*. One is forced to conclude from religious sources that God admires technique.

Nothing I have said is intended to indicate that there did not exist a profound need for the human performance of tasks in former times, or even that this need does not persist today to a significant fraction of its former degree. To the contrary, I wish to indicate that the need of society for the implementation of existing knowledge was so great that human participation in the execution of technique was encouraged by admiration. The technological developments of the past century carry us to the threshold of a society which does not need to emphasize technique; yet we are left with a value system which admires technique.

Our error has been in constructing so much social superstructure to encourage productive performance, that man has become identified by his productive function. Cybernation then threatens man's identity by offering nonhuman ways of executing

technique. It points the way to an economy where the "productive" work is not dependent upon man, to a society where man's involvement in routine operations is not only unnecessary, but perhaps undesirable. With our admiration of technique, we then sense that the machine is somehow superior to man.

The admiration of technique, originally an encouragement for a needed performance, has led us to consider man primarily as an implementer of technique. Unless we alter this concept of man, we allow cybernation to challenge man's role and to rob his identity. If we do not rise to the philosophical challenge of recent technological change, we are open to the anxiety of the loss of meaning of our existence. We must recognize that man's essential role is not the passive performer, but the active innovator. The gift of humanity is not the ability to implement a well-defined program, for that ability is shared with machines. The essentially human activity is the innovation of new programs, the extension of knowledge into areas where knowledge did not previously exist.

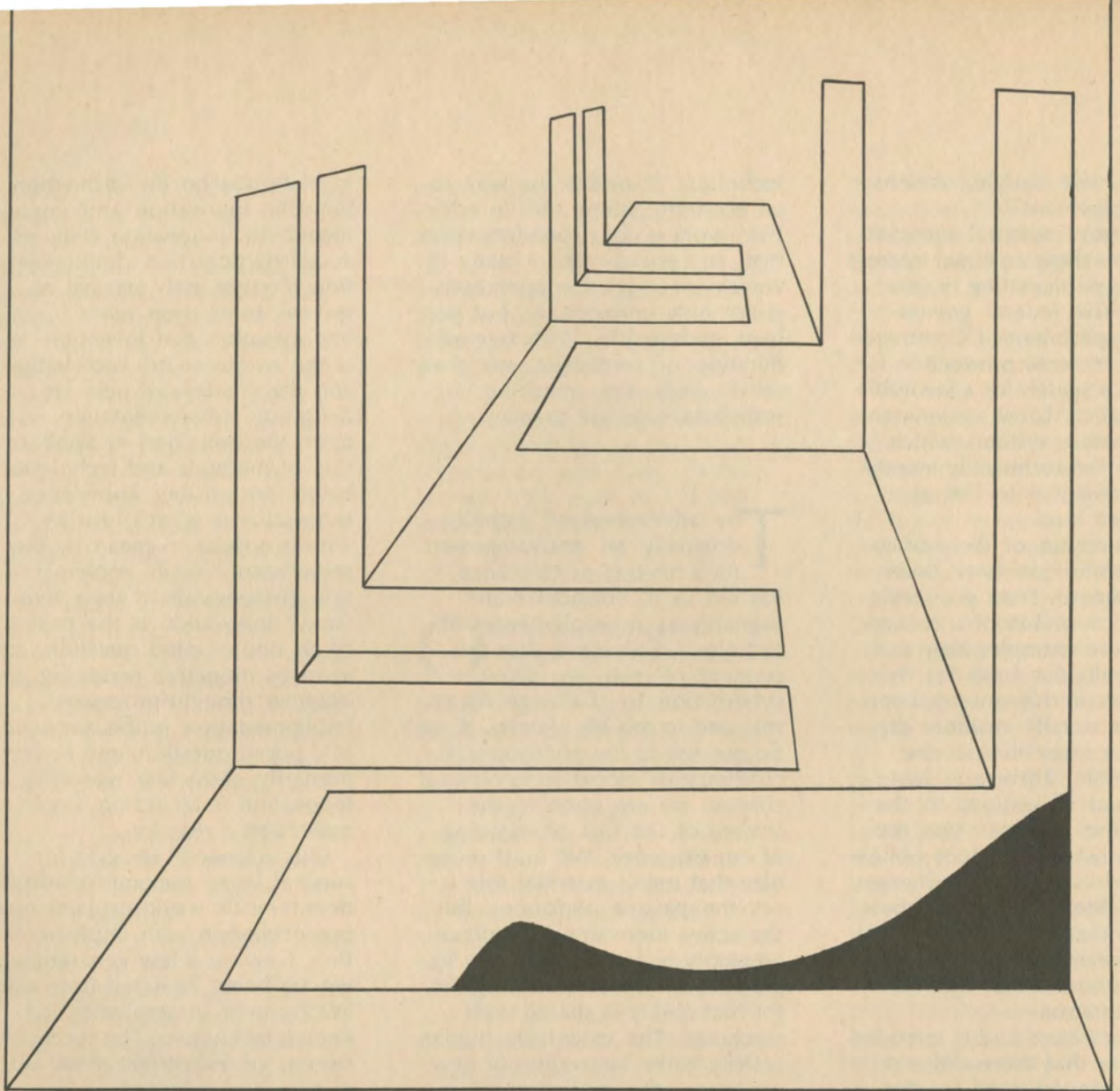
Man's activity throughout the ages can be divided into two categories: innovation and implementation. Implementation consists of putting into effect well-defined knowledge. Innovation consists of performing undefined or ill-defined tasks. Programs of implementation possess operational definitions, and in principle can be done by machines as well as by humans. The activity of innovation is a uniquely and profoundly human endeavor, for it consists of doing what you do not know how to do.

Language is an imperfect vehicle for communication, and words have different connotations for different auditors. (This difference itself may be connected to the nature of human innovation.) So it is important

to elaborate on the distinction between innovation and implementation. Innovation requires active participation; implementation requires only passive response. Innovation relies upon improvisation and invention. It is the extension of knowledge and the creation of new areas of definition. Implementation relies upon the execution or application of methods and techniques based on existing knowledge. Innovation is what Christian writers appear to mean by the term "spirit," while implementation corresponds to their term "law." Innovation is the posing of an unprompted question, and involves inductive reasoning and intuitive thought-processes. Implementation is the answering of a posed question, and involves primarily deductive reasoning. Innovation is an action, implementation a reaction.

Our ancestors' struggle for survival in an uncompromisingly deterministic world explains our preoccupation with implementation. Now, in a few generations, we are being liberated from our involvement in implementing known techniques. The successive sweeps of industrialization, automation, and cybernation create, for the first time, the possibility of freeing man to participate in a truly human existence. Innovation assumes a new importance as the only intrinsically human activity.

The decisions of our political and economic institutions rely upon our underlying view of humanity. If we fail to recognize the unique character of man, then we shall fail also in the design of social institutions. It has become an axiom of our times that we face simultaneously the possibility of incredible disaster and the potentiality of remarkable fulfillment. Let us not err through a misinterpretation of man's role. Let us not preserve an unjustified admiration of technique. Let us instead recognize the distinction between inessentially human implementation and essentially human innovation. Let us adopt an admiration of innovation, the true human activity.



DRAWING: ZIFF

DEAR DOCTOR DEATH:

" . . . we would scarcely take seriously the suggestion that the inmates of a mental institution could formulate a standard of normal and abnormal behavior that would be equally as valid as that of the psychiatrists who had the inmates committed. . . "

No, scarcely. But I hope you can come soon,
Doctor,
Because until you pronounce me dead
There will always be some doubt,
Pain which only your pronouncement can relieve.
Come quick, and charge your visit to my account.
Our relations have always exemplified mutual trust.

—JOHN PAUKER

EDUCATIONAL TECHNOLOGY AND VALUE SYSTEMS

By Charles R. DeCarlo

CHARLES R. DeCARLO is both a computer scientist and a poet. This combination gives him unusual competence to examine the effects of cybernation on the society. He joined IBM in 1951 as a sales trainee and is now the director of automation research for IBM. He is greatly concerned about changes in technology that would direct the effects of cybernation to the good of the individual and society. Prior to his assignment in systems and automation research, he was director of education for IBM.

The Environment of Change

Science and technology have become pervasive and have caused the world of "nature" to be removed from our direct senses. The rhythms of the world beat to the cycle of machines rather than the circling of the sun. We feel the distance between old rituals grounded in myth and nature and the new and man-created reality of the city. The steady accumulation of technical accomplishment changes the environment of our value systems.

We are in the modern technological society and institutions derived from earlier ages change under the stress of its continuous reshaping and reshaping. No one can ignore the innovations facing us and the consequent loss of

traditional "safeties"; for the relentless application of science and technology has changed the quantity and quality of life and strained and reshaped institutional patterns. It gives further promise of demanding new life styles in pursuit of work, leisure and happiness.

We see this first in the tremendous increase of numbers and the nearness of people brought about by urban growth (itself supportable only through technology). Indeed the existence of this growth has been caused by technological requirements of production, distribution and communication, forcing new forms of human organization. The problems associated with urban growth are not limited to the U.S. By cutting down the infant mortality rate and extending longevity we have additionally compounded the numbers of people in the world, people who increasingly will be drawn together by the collective nature of technology. In the U.S. enough people are added each year to constitute a city the size of Boston, while 30,000 people are added each day to the population of India. Some estimate that the present world population of roughly three billion people will be more than doubled in the next 40 years. An equivalent statement is that one out of 20 people who ever lived is alive at the present time.

Further, these people are increasingly clustered

in urban and metropolitan centers throughout the world. In the U. S. nearly 75% of our working force lives in urban complexes as opposed to less than 50% two or three generations ago. The effect of the numbers and nearness of people is everywhere around us. For example, the recent power failure and transit strike in New York City demonstrated how sensitively dependent upon technology is life in the city and how interdependent our many activities are. Yet the same factors which have generated an increase in the numbers and density of population place a premium upon privacy and its uses. The existential problems of aloneness, alienation and responsibility for choice are intensified for men who must lead their lives in the new urban environment. Profound problems of ethics, meaning and morals abound in the urban complexes—witness such incidents as the subway terror or the Kitty Genovese murder. The preparation of children to participate in a world of massive and dense population is a factor which must be of paramount importance in shaping the future of education and religion.

Increased Productivity

The second factor deriving from the environment of change is the increased productivity and the changing nature of work. We are proud of the increased material well-being and the higher standard of living brought about by science and technology. In the U. S. today the per capita energy available is twice that of our nearest competitor, the United Kingdom, probably six times that of the U.S.S.R. and several hundred times that available in countries such as Pakistan and Nigeria. This per capita energy is available to us in the form of electric motors, automobiles, household appliances, all of which are forms of mechanical slavery undreamed of, even in the recent past.

Through technology, for example, agriculture has changed completely within several generations. More than a million and a half people have left the farms in the last decade while farm productivity increased 30%. In spite of this exodus from the farm, we currently are in a situation where national policies are required to prevent excessive production of certain crops. The fact that in less than 100 years we have gone from a situation where 60% of the labor force was on farms to one where less than 6% is working on farms is a further dramatic demonstration in the development of the urban society. Those who lived on the farms are the people who move to the metropolitan areas and who must be prepared to live in a new, and sometimes foreign, culture.

As machines do more work and are integrated into complex production systems the quality of individual work is changing. The white-collar component of the work force is growing and man/work relationships are moving toward an increasingly abstract and symbolic content.

Men and women must now learn to work in an environment of machines and systems. This requires a flexible training base, grounded upon a good general education, which will permit re-training and relearning as the production systems change to meet new demands.

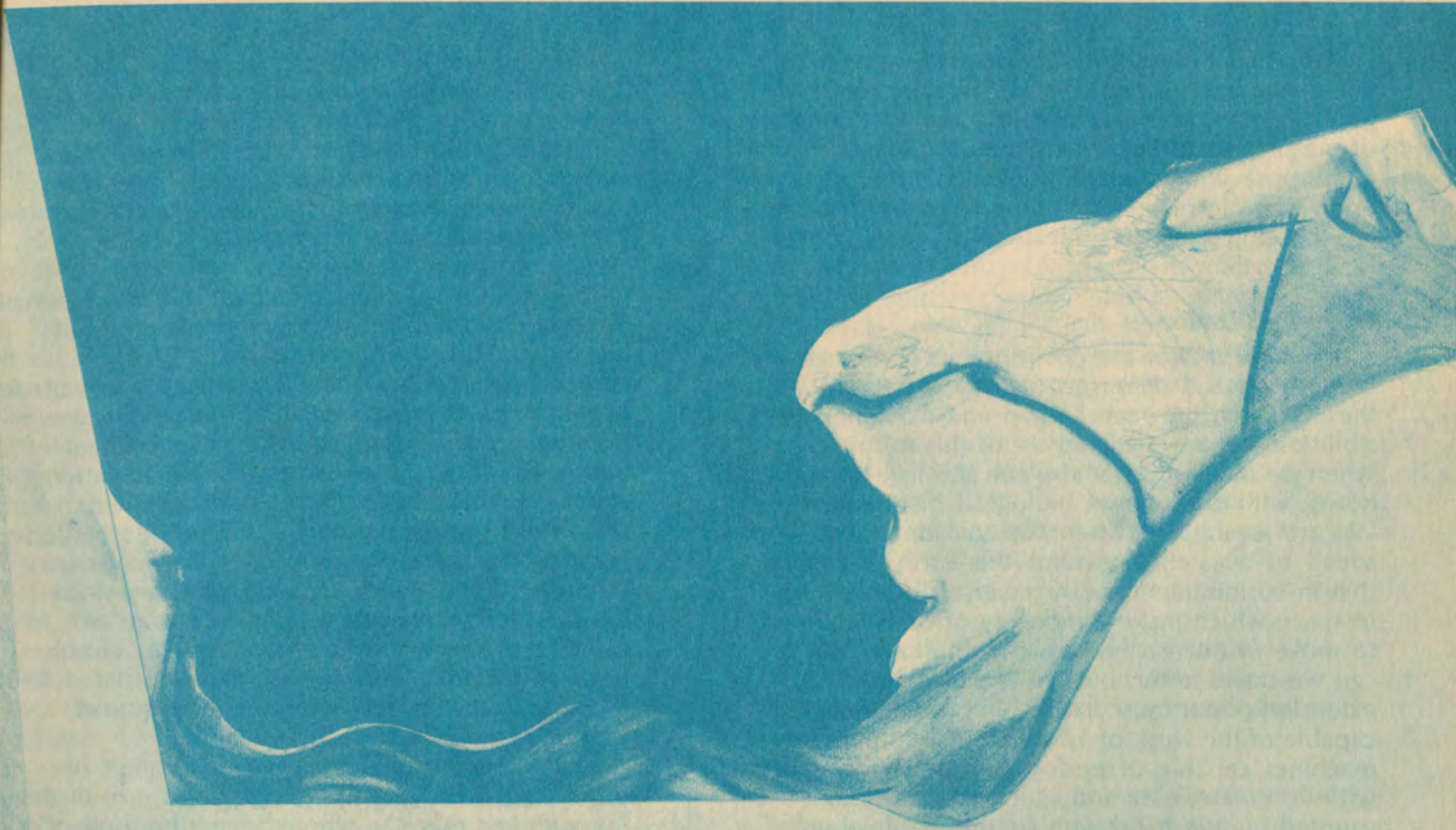
Meanwhile, surrounding the great production complexes is a host of service activities—administration, planning, teaching and other "paperwork" occupations. Such occupations cannot use the traditional measures for motivation and achievement. The biblical exhortation relating the gaining of daily bread to the sweat of the brow is no longer a realizable condition for almost all of the working population. Instead work will require individuals to have different attitudes towards its meaning, measurement and role in life. Clearly the values traditionally inculcated concerning the value of work, its expectation and rewards and a host of other attitudes which can be grouped in the "work ethos," must be reappraised by educators and scholars responsible for education for the future.

The Take-over of the Scientist

A third aspect of the technological society which operates as a background factor in the educational environment is the increased leverage of the scientific and technical community. Despite the fact that scientists, engineers, technicians and teachers of technicians, constitute less than 3% of the labor force, they have influence far beyond their proportionate composition in the society.

Of the highest importance is the educational development of people who can encompass scientific and professional careers while at the same time remaining open to the responsibilities of individual growth and civic responsibility. In some ways science and technology are like the magic bottle in the fairy stories: one simply has to wish and the desired result is accomplished. Alfred North Whitehead pointed out that the great contribution made in the 19th century was the "invention of the method of invention" for this assured us the ability to "bridge the gap between a scientific idea and the ultimate product."

Another aspect of the scientific and technological community is that it deals with things and processes and therefore moves faster than human affairs can normally or easily accommodate. It is much easier to plan a program for landing on the moon than it is to change the attitudes and institutional practices of people involved in human rights issues. The speed and ease with which science and technology can move permit it to be a politically potent component in the society. Science and technology will continue to be a potent force for change as it continues its development of means. However, as Ulrich says in *The Man Without Qualities*, "it is so easy to act, so difficult to find a meaning for action." It may



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well be that through the enormous leverage of science and technology we may approach a position in which we will have a complete mystery of means and an emptiness of ends. Such a crisis of purpose will ultimately devolve directly upon the role of religion and education, in balancing the ethical and technical components of life-long growth.

Depersonalization

A final aspect of the environment of change is the increased depersonalization of life and the mismatch between human and machine sensibilities. We are made aware of this mismatch when we travel on a jet airplane and lose several hours, with consequent biological disorientation. We are aware also when we consider the speed of a satellite around the earth, realizing that in 90 minutes we can traverse distances in space which make a mockery of our inability to move in our earthly urban complexes. Not only can we travel faster, but we see magnificent extension of our muscular systems in huge engines capable of the work of 1,000 men; or in delicate machines capable of performing tactile operations with far greater ease and speed than the much vaunted human hand with its opposable thumb. Our vision is similarly extended; we can now photograph Mars, see by radio astronomy into the far reaches of the universe; and at the opposite end of the scale, we can see, through electron microscopy and other techniques, into the very nature of matter and the living cell.

Machines

In the realm of information processing we have computers whose elements operate in billionths of a second, to perform marvels of computation and analysis in fractions of minutes. New applications of systems promise to extend the life and thought-like nature of machines. Such extensions of sense and ability are viewed by some as a dehumanizing force. However, man is a biological phenomenon and to the extent that his senses are extended through technology he gains great power and options for knowing and action. To the extent that these extensions become his senses he becomes dulled in his self-consciousness. Max Frisch has observed that "technology is the art of organizing the world so we don't have to experience it." It is easy to be seduced by the elegancies of materialistic science, to the detriment of purpose, in building for the future. Charles Malik, in criticizing the training that the Western world is providing for those who come from Asia and Africa, comments on the fact that we are excluding from the educational process much of our spiritual and moral tradition. He asserts the process is in danger of:

"producing. . . a world of perfect technicians . . . , not a world of human beings, let alone of beings divine. A dreary and boring world,

where there is nothing beyond man and his mastery over nature, including his mastery over other technicians through his scientific management of them. Perfect hierarchy, perfect organization, total efficiency; but no spirit, no freedom, no joy, no humor, and therefore no man."

The issue of whether a machine thinks is of small importance compared to how men think about machines. The concern for perfection of organization has made man aware, and often afraid, of machines. It is apparent that men are increasingly thinking of their activities, environments and relationships in terms of rationalistic patterns and behavior as being the highest desiderata. It is in this respect the computer and information system loom as handmaidens to the rational scientific approach to human affairs. However, since systems deal only with the logical chains of cause and effect, they explore, classify, double back and modify only within the constricted field of those processes which have been assumed *a priori* susceptible to analysis.

Analysis is the breaking down and apart of process, of removing the enveloping form, of dealing with less than the whole. Using the tools of analysis and giving complete faith to the supremacy of reason and a belief that the laws of nature and man can be revealed in terms of reason—reason which includes mathematical, physical and statistical foundations—then it follows that the inner form of reality can be expressed in analogous systems of logic.

Because of the incredible speed of the logic machine, particularly when measured against our human sensory and response systems, the machine can give us the illusion of reality. The new slow-speed movie film, the television image, the automatic voice answer-back, are examples wherein our minds are able to synthesize and reassemble functions which have been relatively linearized in time. Devices for reading cards, type or light pens, similarly present us the illusion of communicating whole form. However, in these instances we can readily accept and partially understand that the assembly and matching of form between two different entities, man and machine, is on the basis of the vast differences in the basic rhythms and responses of each. We are always aware that the form is assembled by the man-mind part of the totality.

In applying technology to life we are engaged in a process dependent upon the existence of the Cartesian dualism. It was the stunning realization of the power of reason, considered separately from the senses and the spirit, which truly marked the beginning of the modern world and the birth of the technical society. It was Galileo who said "where the senses fail, reason steps in." Newton's denial of the senses as the way of knowing, his concept of the world as a large machine, operating under knowable laws, determined the shape

of thought in the following centuries. This coloration from the ordered world of the physical soon found its way into the world of human affairs. Kant once remarked that a Newton or Leibnitz was needed to discover the laws of human nature. The foundations of sociology, psychology and other behavioral sciences are still rooted in the enlightened age which followed the use of reason.

The Cartesian dualism separates the domains of mind and matter, of form and component. Descartes' rejection of the idea of nature having feelings of love, suffering and purpose, ascribing these to the God-given spirit, enabled the direct application of reason as the key to understanding and transforming the world. However, he did postulate that man was existent in both the domain of spirit and of matter. Interestingly he believed speech and language, possessed of man, but not animals, was an evidence of man's spirituality.

This is ironic because rationalistic technique is now being turned upon the acts of language and communication to analyze their nature and process. Researches in language translation, information retrieval, computer programming and propaganda are current examples of this. Perhaps one of the most dramatic instances of this type of research is that in which information systems are used to study and model the psychotherapeutic interview. Here the structure of the language and communication is studied from the viewpoint of syntax, context, memory, association, etc. Even though this is only a research project, it demonstrates the dualism arising out of the separation of mind and matter, of form and content; for obviously the human and affective qualities involved embrace the logic and language structure used in the process but have a wider purpose.

We can quickly scan the fields of behavioral, life and physical sciences for other instances of the application of rational technique which strip purpose from function, form from content. A partial list would include: the analysis of work into functions, with the result that human participation in the process is now in terms of his parts or functions rather than a man's totality; the analysis and explication of sexual response in which content and function, rather than form or purpose, are the overriding considerations; the analysis of behavior, both by direct implant of instrumentation in the brain and by conditioned environments; the development of learning theories in which logical information systems of men and machines are developed on the basis of statistical laws and rational procedures, as in the development of long-range plans and defense strategies; the use of information systems in the management of business and economic enterprise in which models are established for purposes of planning and control, often with the result that a kind of self-fulfilling stability is

achieved in the general social and economic ecologies.

Only the most romantic and backward, looking to a time that never was, can contend that such applications of technique and reason are evil. That we have achieved a higher standard of living, a longer, healthier life, all the rational statistics of history attest. And most importantly, we have achieved a more widespread and heightened self-consciousness than at any time in the history we can know. It is this very self-consciousness which makes us dissatisfied with the continued and exclusive application of our energies to the one side of the Cartesian dualism. There is in all quarters a growing demand for balance and synthesis to moderate the analytic, rational and technical with a higher humanity. Thinkers as divergent in their views as the late Teilhard de Chardin and Norbert Weiner were addressing themselves to this issue.

Professor Cecil Schneer in *The Evolution of Physical Science* reminds us how deep the dichotomy between the spirit and matter deriving from Descartes' thought is:

In closely reasoned arguments, Descartes arrived at the idea of a distinction between spirit and matter. Man alone was an inhabitant of both spheres. The machine (animal) plus the soul was a man. Since animals were machines lacking souls, they could feel nothing and the squeaks they might emit were like the creaking and groaning of a Flemish mill—mere mechanical camouflage. For a period there were Cartesian philosophers who would vivisect an animal before their classes to marvel at the precise mimicry of suffering that the machine displayed. For if one were not protected by the armor of deductive logic and did not know that the beast lacked a soul, one would have sworn the animal was in pain.

We must constantly keep in mind the awareness that institutions composed of men can, like men, have existence and humanity and purpose and can reflect the nonrational and spiritual. The use of technique, resting upon rationalistic apprehension of reality must take into account these qualities as it is applied to the processes of human institutions.

In practical terms the problem facing us as individuals and society is how to avoid the further institutionalizing of technique and science as separate and dominant instrumentalities. For it is as subordinate to the purposes of our most meaningful institutions that the functions of science and technique must be placed. The technical act must exist *within* the fabric of the larger and more humane institutions. To the extent then that an institutional form integrates technique into its fabric it begins to suffer the dangers of deepening the dualism between spirit and matter,

form and content, end and means. Yet we know the adaptations of science and technique are necessary components to the increasing growth and well-being of the society and the extension of the benefits of its value systems.

This then forces upon all of us the responsibility to consider always those human purposes which lie above the plenum of rational and technical operations in the institutional reality. The expansion of these rational and technical opportunities—including information processing, productive abundance, new discoveries in the life and behavioral sciences—offer the possibilities of life styles of incredible richness and awareness. The guidance and moderation of these opportunities or dangers can spring only from minds trained to embrace scientific attitudes and practice as lesser components in the total and divine form of the human being. As people are changed and educated, throughout life, they will be required to deal with a world different from that of several generations ago.

The New Life Styles

First, they will be moving into a world of work in which daily activity will depend much more upon man's ability to think logically, to handle symbolic and abstract material, and to be capable of continued life-long learning. The psychic and spiritual satisfaction of work will be different by a degree greater than that difference which we have experienced between ourselves and our grandfathers.

The second requirement that they will face is the ability to use leisure in a meaningful way. More people must have the ability and desire to probe questions of values and meaning; must be attuned to wider artistic, spiritual and intellectual experiences. But this cannot be done in the context of purely intellectual growth; it is imperative that all the senses be developed to know and appreciate the world of nature around us.

Thirdly, there will be the requirement to live much of life in even closer contact with people; contacts which will take place within formal and informal organizations and communities of interest. As a result of this, man will face the problems of divided loyalties as his life becomes a complex of overlapping memberships in different organizations and groups of shared values. Problems of privacy, social grace, respect for others, will become important to him as they have for few others in history.

A final aspect will be the requirement to live under ever-changing institutional values. Because of the continual expansion of life in a technological society, political and social institutions will have to change to keep pace. For example, we will see this through the continued demand for human rights throughout the world, through the increased expectations in the economic systems, through the development of new methods of productivity, new cultural attitudes, etc. Facing in-

stitutional, social and political change without the guiding light of sound principles will lead to chaos.

In order to live in such a changing world, attention will have to be paid to the earliest preparation of the child in an understanding of those basic and enduring values which are the society's soul. The existence of a technological society places an intense premium upon the articulation of central and basic values against a background of a continuously changing future. The conservative traditions of religion and education must assume primacy to guarantee humaneness in the emergent society and preserve the finest human values which man has distilled from his history. These values are simply stated but extremely difficult of attainment.

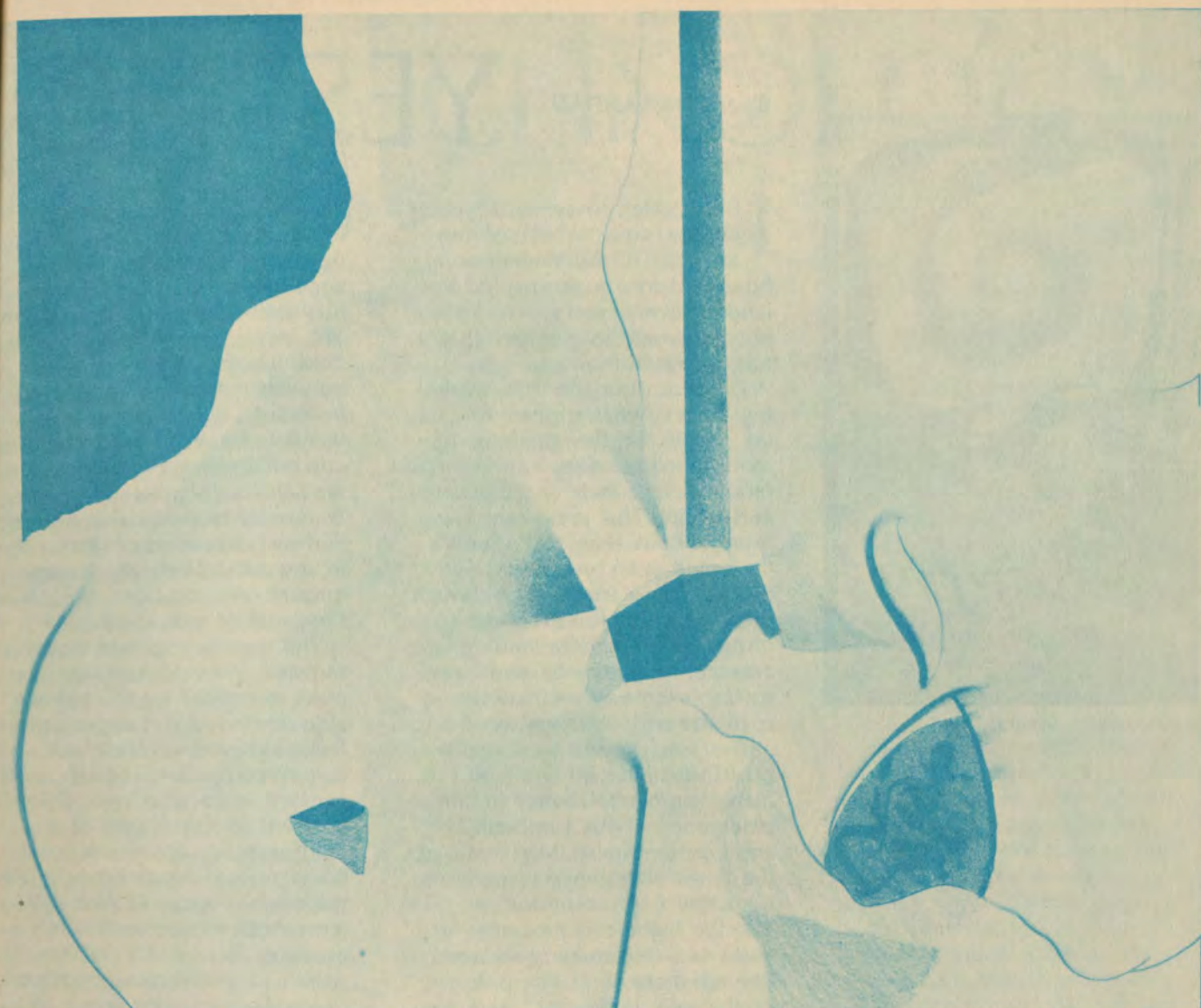
The first value is the integrity of self. The qualities of self-awareness and self-assurance, of introspection and consciousness, are priceless ingredients of the meaningful personality. It should be possible to develop these qualities more fully in the future in which systems and machines will give men time to examine much more of their life, its purpose, its extension. This will create a situation where the "unexamined life" becomes a monstrous act. The Delphic oracle, "Know Thyself," is the greatest and most enduring educational imperative.

Secondly, we must find new ways to teach the dignity of the individual. Concepts of responsibility and respect for others, which are the essence of humanity, must be inculcated at every opportunity in the family and the formal educational environments. Sensitivity to the needs of others and the ability to empathize with their griefs and joys must become a principal characteristic of the well-educated person.

Finally, and working in concert with the other two, is the ability to develop loyalty and appropriate commitment to larger organizational forms. To conform in ritual and practice, to contribute to the needs and success of the group while preserving an interior freedom and integrity mark the superior man. Too often the organization is seen as a device which destroys the individual and his dignity. This can be prevented only as the leaders of our great organizations make them social creations gifted with humane purpose and committed to the best values of the society. In the long sweep of time, it is value systems as reflected in social organizations and institutional patterns and shared by the individual which will hold the society together and protect the ultimate freedom of the individual. Appropriate loyalty and commitment to such shared values is a prime requisite for institutional stability and undivided freedom in the future.

Paradoxes

Thus we face a series of profound paradoxes; for in a technological society, the historical and human values which led to its being and which



DRAWING: ZUPPARDI

must be a vital and pervasive part of its process may apparently be in direct conflict with the quality of life as it is lived in that society.

A society which places a premium upon abstract and symbolic work must guarantee in the education of its children a strong relationship between "symbol" and "thing," between sense and sensibility. It must give equal attention to the development of artistic and non-verbal as well as the logical and verbal characteristics of the child. It must develop the full animal, spiritual and intellectual qualities of a child, so that in his own continuing consciousness he may be possessed of the widest horizons of choice and feeling.

A society which places a premium upon loyalty and conformity to the larger organization must teach its children to hold dear their self-integrity and accord dignity of self to others, sometimes at the expense of the immediate needs of the group. It must place highest emphasis upon individuality and freedom of decision in the face of the collective nature of the technical act.

A society which will be subject to continuous institutional and social change must teach its children a profound commitment to deep and enduring human values. The values, which men know deep in their hearts as guidelines for right action, must be articulated, revitalized and made part of the educational process at all levels.

To the extent that a technological society takes on aspects of dehumanization, religious and educational leadership must counter by placing urgent and highest priority upon the human values in the educational process. Otherwise life can become inhumane, can become bound in technique and can suffer confusion of purpose.

Where is the life we have lost in living?
Where is the wisdom we have lost in knowledge?
Where is the knowledge we have lost in information?*

These are the questions which we must keep off the agenda of the future.

* T. S. Eliot, "The Rock," Chorus I, ll. 14-16.

YES-NO

By JACOB LANDAU



INTAGLIO PRINT: RETTICH

JACOB LANDAU is a nationally recognized artist, skilled in many media: oils, watercolors, woodcuts, drawings. This essay came to the attention of the editors after much searching for an artist-writer who was conversant with the phenomenon of technology and critically concerned about its impact on culture. He is chairman of the Department of Graphic Arts at Brooklyn's famed Pratt Institute.

I have often overheard young people say, "What terrifies me is . . ." All themes somehow lead into a no man's land of every man's fear. I'm not ashamed to confess that I, too, am afraid.

What terrifies me as a working artist is what appears to be a split in the thinking of modern man, a deep and perhaps fatal cleavage between illusion and reality. This is perhaps more serious than C. P. Snow's "two cultures" breach or the East-West polarization. Although these splits are interrelated, both science and technology are deeply implicated and have, so far, failed to illuminate the road towards reintegration.

The tendency to split reality may indeed be inherent in man's structure, rooted in the emergence of his forebrain and consciousness. Mind, as the latest emergence in nature's hierarchy of innovations, is also the highest: it subsumes and seeks to dominate the rest. The mind stands at one pole in the ego-world field and perceives the world as "otherness." It can endeavor to sink to the level of structure, to drown in simple *being* when it suspects itself and learns to fear its *becoming*. Or it can seek to rise above its rootedness and aspire towards a human or divine unity. In the ego-world field, as in all of nature's fields or systems, a conflict occurs between opposing forces appearing as vectors or tendencies aimed at poles or thresholds. At the center of a field, where the vectoral tendencies are very nearly equal, an uncertainty zone exists, giving rise to an oscillating wave or pattern of alternating polarity.

When faced with uncertain choices minds tend to undergo

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flip-flop, yes-no inversions: life-death, hope-despair, freedom-security, pride-humility, angel-devil, good guy-bad guy, play ball-drop out, join-cop out. Yet, increasingly, the middle of field, whether it be in mind, between mind and society, or in society, is where everyone wants to be. We want to be safe but anxious, encapsulated in the centrism of mass society, the consensus of political action, the narrow parameters of discourse in any sub-culture, the *status quoism* of institutions, the play-the-game of individuals.

The urge to explode violently outward towards opposite poles is created by the unbearable tension of this uncertainty in the middle. As centrism is a feature of modern society, *avant-gardism* is its alter ego, flying outward to the fringes of a field, pushing against its outer limits toward breakthroughs and the establishment of new systems. Such experimentation escalates toward danger in search of perspective, certainty or meaning. Paradox seems to rule our lives, and multiplicity, despite McLuhan, is exceedingly hard to come by or live with.

Our consciousness is but a frail, thin thread, a one-dimensional line. Simultaneity is a function of the dialogue between consciousness and the lower levels of the psyche. The dialogue itself seems to be structured as an alternating rhythm, as a waving above and below the threshold of consciousness. Each distorts the other. Man cannot be rational without distorting the emotions, nor can he feel without distorting his thought. A rebel literally cannot see his opponent. If he does, he risks becoming a reformer. Yet most great minds were synthesizers, and the synthesizing tendency is as important in man's affairs as is the polarizing tendency.

If an uncertainty principle seems to underlie the interplay

motive

ART-TECHNOLOGY

of contraries, if riding one vector seems to involve penalties with respect to its twin, if wave-like behavior is characteristic of creatures and societies as they seek an all-too-transient equilibrium all-too-quickly undetermined by events, then the individual should know more about field dynamics in order to avoid being dominated by unconscious or unknown forces. Such knowledge would avert being led to accidental or controlled choices or being forced into catastrophic crises or a stifling of change and growth. He should know this, but it seems he cannot.

Individual man has never felt more impotent than he does now. He feels as if he counts for nothing. He is incorporated in groups and collectives, each of which is hierarchically subordinated to the great power-blocs, and each of which is totalized by the new communications technology. Power is all, and "establishment" is the word for an ultimate global technological collective that seems to dominate all other sub-collectives enveloped by it.

A man wants to feel competent to choose his destiny, yet he is chosen. He dreams of importance beyond his space and time; yet he is in the main forced into time-bound mediocrity and inconsequence. Not only does man feel incapable of influencing the social vectors except in quantitative terms, but he is also afraid to step out of line: one man, one vote, a poor man's immortality. Man can function technically, but not in a human way; partially, but not as a whole.

I believe that much modern anxiety flows from this fundamental split between meaning and behavior. All meaning vectors tend towards universality; but all pathways are dead-ended and turned back on the self. The individual cannot

bear the dichotomy between desiring to function in a meaningful and successful social way, and being obliged to operate self-preservationally within the group. He wishes to belong, but can only function as an attacker against all comers, as a particle among particles. His modes of belonging and functioning become more attenuated, and he is obliged to conceal his anger and frustration.

Two points are relevant here. First, despite the fact that you cannot taste, weigh, measure, accumulate, escalate, fabricate or distribute morality, it is an inevitable outgrowth of human emergence. Freedom of choice is a human privilege; its inevitable by-products are good and evil, right or wrong. Life and death choices at the edge of life's field are relatively easy to assess as good or evil—if you are alone. If you make the wrong move, you lose. But Sartre reminds us, if you choose, you choose for others too, and your error may be the next man's fate instead of your own.

Second, it is fashionable to view such individual problems as subordinate to group behavior, to see morality as relative to structure or pattern. Some structural thinkers are inclined to say: it does not matter whether you are capitalist or socialist, blue or violet, technology will lead you wherever it wishes to go. Or, it does not matter what you say on television; the medium is the message. Or, it makes no difference what you paint or write about, it is the "significant form" that counts.

Have we forgotten the word "content"? A man can kill to preserve life, his own in self-defense, or the lives of others in mutual defense, or he can kill for the sake of killing, or to protect one man's power over others, or to destroy a people or race. In this example, we can distinguish a content difference

between structurally similar acts.

I tend to see morality as a content difference. It is easier, however, to polarize, to say something is absolutely right or absolutely wrong, or to say that morality does not count at all. Or, as it is often the case in group dynamics, it is safer to cling to the center, at the heart of ambiguity and darkness, to mill around in a consensus culture and avoid rocking the boat. That way lies madness, the bomb, or the maturing technological crisis. The artist in his own intuitive, complex, symbolic, indirect, stumbling and often contradictory fashion, has been heralding the coming of the crisis for some two centuries.

Since the coming of the machine, the artist felt himself to be an outsider, if not always and inevitably a Luddite as C. P. Snow would have us think. Many artists of the nineteenth century, from Goethe on, believed in science, but many also had mixed feelings about technology. And all artists were affected, pro and con. William Blake reacted strongly to the coming of industry. Early in the century, he bore witness to its tendency to despoil the land, deform the people, and bind man to the machine in the image of a fiery crucifixion. Blake wrote:

*Bind him down, sisters, bind him
down. . . .
on Ebal, mount of cursing.
Malah come forth from Lebanon,
and Hoglah
from Mount Sinai,
Come circumscribe the tongue of
sweets,
and with a screw of iron
Fasten this Ear into the Rock.
Milcah,
the task is thine.
Weep not so, sisters, weep not so;
our life depends on this.*

For Blake, Locke, Newton and the machine age were abstract,

pitiless mechanistic agencies of human enslavement:

*I turn my eyes to the schools and
universities of Europe
And there behold the Loom of
Locke, whose Woof rages dire,
Wash'd by the Water-wheels of
Newton: black the cloth
In heavy wreathes folds over
every Nation: cruel Works
Of many Wheels I view, wheel
without wheel, with cogs
tyrannic*

The prophetic Blake saw clearly that a new environment had replaced nature as an envelope of promise and punishment for man. Most of his contemporaries, seeing only the promise, failed to understand the psychic consequences of industrialism. Seen from the perspective of a New York penthouse, the road traversed since the Enclosure Acts is all onward and upward. But seen from Blake's perspective, as he stood at the threshold of the new age and Janus-faced looked both ways, the price paid in human suffering and waste seemed far too high for the promised rewards.

With Blake stood a few lonely giants: Beethoven, Goethe, Goya, and Balzac. They saw the old and the new simultaneously, the good and the bad in each. They were the last to see life as a whole, to find a meaning structure which hung together, and to unite the contraries of heart and mind, man and society, form and content, part and whole. Their questions and answers differed, but to me they loomed high above the nineteenth-century plain, and cast mighty shadows ahead.

The artists who followed were split a thousand ways. In making such a judgment, I do not say they were inferior as artists. Art is what it is: unique, priceless, unarguable, incomparable. We cannot easily question it for what it is not. Yet the artist, too, has paid a price for his liberation from patronage, his involvement in a free market, his need to identify himself

through exaggeration and sell himself by all means open to his ingenuity. The new structure of technology has ruptured his primary relation with reality, and all else followed. John Dewey has pointed out that, "When the linkage of the self with its world is broken, then all the various ways in which the self interacts with the world cease to have a unitary connection with one another. They fall into separate fragments of sense, feeling, desire, purpose, knowing, volition."

In consequence, art moved inward toward the centers of feeling and inspiration, toward the psychic levels beneath consciousness. It simultaneously moved outward toward an attempt to see purely and without subjective bias or distortion. This was dichotomy, and although it led on to new adventures, it prompted instability and tremendous psychic disturbance, which, like an unbearable itch, drove the artist to frantic efforts in search of release. Both Appolonyian and Dionysian, scientific and artistic temperaments among artists were freed from the rational controls of the enlightenment, and the rational-technical orientation of their own society to pursue *personal vectors*. The artist was the human part of industrial man crying out for the dehumanized part which was appendaged, iron-faced, to the machine.

In the dynamic of naturalism, a vector toward the objective pole leads to an ultimate threshold between imitating and replicating reality. Since replication is impossible, since imitation in any one art is limited by formal and technical boundaries, the painter could not quite succeed in eliminating himself from the picture. The objectivism which impelled him toward the edge of a representation-distortion polarity compressed his image to a fragment in time, an instant of appearance. The uncertainty which arises from the space-time, appearance-motion polarities caused an ap-

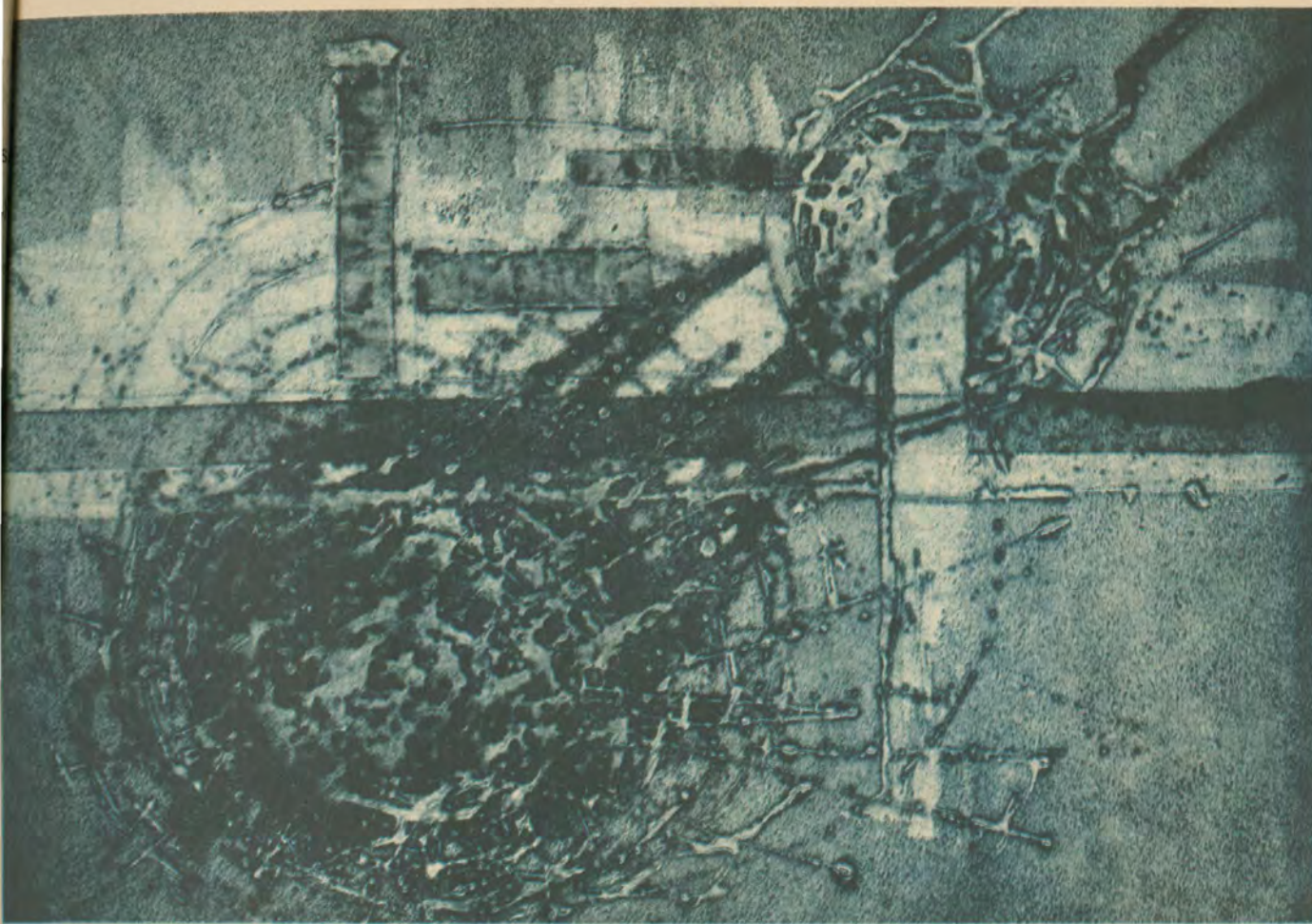
pearance vector to freeze the image in space, to distort its motion in time.

Conversely, in the subjectivism of the romantic impulse, a vector toward subjective thresholds leads toward distortion of appearance in favor of motion. Although distortion of either is a built-in feature of polarization and uncertainty, the nineteenth-century began the process of seeing them not as contraries which may be synthesized, but as mutually exclusive opposites. The resultant dualistic instability between the warring halves caused them to undergo flip-flop inversions.

Romanticism was the underlying idea for the entire century yet it had no style of its own. Naturalism is by definition styleless, since only the addition of an artist's personality to raw reality can make a style. Romantic painters like Gericaud and Delacroix, and even traditionalists like Ingres, look surprisingly naturalistic in photographic reproduction. Their form approach had all the love of particularity we find in Courbet. Proto-scientific, impartial, rational, analytic, pragmatic naturalism favored matter over motion; esthetic, subrational, impulsive, impractical romanticism, following Blake's dictum that "Energy is eternal delight," favored motion over matter. *A subjectivism was the essential content of the century, so objectivism became its form*—a manifestation within the ranks of art, of the art-science split.

The coming of Cézanne

As the century wore on, other splits became manifest. The subject of a work of art declined in importance at both poles. The objective artist was turning into an eye, and what he saw mattered less than the arrangement and the manner of seeing. Impressionism transformed the objective moment into a subjective moment in the perceptual field. Ordering of parts, according to visual-esthetic criteria, prefigures the coming of Cézanne and of Cubism. On the other



WUODTAGLIO PRINT: NEWTON

hand, the subjective artist was turning into a *nerve ending*, and whether he wept over an old shoe or a crucifixion mattered less than the fact that he wept. Art for art's sake emerged as the reigning trend in the 1870's, and since each division in the field of art produced a sense of liberation from complex entanglements, the latest and last of the major splits gives birth to the ideal of a pure art divorced from human concerns, and serves at first to rejuvenate the artist, rescuing him from *fin-de-siècle* decadence.

It is interesting to note that an art of pure subject matter and appearance became the approved art of the academy-salon system; while an exciting art of esthetic-expressive involvement moving away from the subject-appearance pole *in a new way* arose outside of its sphere of influence. The new way consisted of an altered mix of subjective components; imagination and fantasy began to re-

place the mere seeing or feeling to which academic art had degenerated, and the unique blend of idea and form (form as idea or idea as form) began to appear.

Academic painters like Lematte, Ferrier, Besnard, Wencker, Bramtot, Fournier, Lebayle, Mitrecey, Lavergne, Sabateé, among others, were Prix de Rome winners from 1870 to 1900. The list of artists who failed to win, constituting an honor roll of great innovators, includes Degas, Sisley, Pizarro, Cézanne, Seurat, Signac, Lautrec, Bonnard, Matisse, Rouault and Dufy. These artists were but meagerly supported by the rising (and still current today) dealer-client-museum system. As a true *avant-garde*, they paid a heavy price for their rebellion.

It is ironic to note that democracy, in the long run, spelled the end of security and social utility for the artist. Almost none, from Blake on, wanted to serve society. However, almost

none were free of anxiety about their role, and many compensated by viewing themselves as seers or scientists. Like subjectivism, universalism—or an impulse to speak to and for multitudes—was an essential part of the artist's dream. Yet he feared adulteration and loss of identity in the marketplace, and integrity was equally in his dream.

The illustrator, popular painter or designer came to produce artless functions; while the "fine" artist clutched to his breast, protestingly at first and then proudly, his image as the alienated creator of functionless arts. His new direction proved fruitful. He followed its vector towards the immense new field of structural innovation and found that the problem of meaning—already tied to isolated moments of beauty, of sensation or emotion—became more and more bound up with the problem of representation, with what to represent, how to

represent it, and ultimately, whether to represent at all. The invention of the camera earlier in the century merely helped to precipitate the maturing crisis of representation—it did not create it.

In this sketch of nineteenth century tendencies, I do not wish to imply that no other shadings existed. On the contrary, nuance and variety abounded, change was rapid, paralleling the quickened pace of technology, and the ideal of purity was but a potential. In calling attention to the interplay of forces in the social and psychic fields, I wish to stress only what appear to be major tendencies, hopefully of significance in understanding our own time and its creation of flip-flop man.

The invention of Picasso and Matisse

From the beginning of the twentieth century, the artist has pursued with ever increasing intensity the vector towards unconsciousness. Picasso and Matisse, two giants who stood at the threshold of the new art of structure and dream, exploded in a burst of invention which dazzled the world. Picasso summed up the notion that consciousness was henceforth to be downgraded when he said: "I do not seek, I find."

The host of painters within the three principal movements of Cubism, Surrealism, and Expressionism, who first explored the unknown land of the psyche, were drunk with the joy of discovery. They were also persuaded that at last they could speak to multitudes, that they had invented a universal language of the senses, that the new art which was based on what one critic called "significant form" would provide a "direct linking of man to man." The scientific idea of structure as a universal component of what we experience as quality, of simple fundamental patterns which create the diversity of nature's forms, of growth and developments in all fields as possessing an underlying har-

mony and uniformity of motion, was a breath-taking glimpse of the universal. It served, however, to downgrade mind and consciousness while promoting the release of sensory-affective potentials.

The new technology was equally reductive in nature. According to Jacques Ellul, technology reduced the multiplicity of means available to "the one best means." It thus created a network of means and a network of technicians committed to the creation of means and to innovation. All of its calculations were based on number, on the probable behavior of groups, on aggregates rather than individuals. This new technology possessed inherent drives toward totality. Wave after wave of technique spread outward to global limits. Each man in the technical dynamic was alternately particle and wave in a unified dynamic field.

The mass culture which arose at the beginning of this epoch is likewise quantitative and reductive. The electric media, while promoting sensory integration, do so at a price. The media give, man receives. Man—feminized—becomes means for the development of other means; he is a consumer who keeps the "Satanic Wheels" in motion. The media reduce all ideas to least common denominators. They aim for saturation. They create a uniform network of surface excitement masking the violence beneath. Their content is progress; their form is entertainment. They homogenize all that enters their domain, rendering it uniformly imbecilic. They invent and disperse a fictitious image of reality which destroys man's dialogue with the real world.

The "good news" of the ads, which is the "good news" of technology, is the content of its mass culture. The "bad news" of violence, war, race riots, murder and all the rest, is the *content* of technology, even as progress is its form. The violence flows from its built-in

totalitarianism, its vectors toward maximum dominion, its reductionism, its promotion of the war of all against all, its sacralization of technique and neutralization of all moral codes, its schizoid split between high purpose and low means, and last, its division of man into a progress-violence, yes-no polarity.

The growth of public relations managed news and staged government leads to the emergence of a "show biz" methodology—if things are not going well, if problems arise, if your opponent shows you up, never mind, just make it look good. The fake excitement on the surface of mass culture is designed to convey an equally fake image of fun, success, and completeness. The results burst on the public from time to time as shocking, unforeseen and apparently uncaused events. Yet if we seem to prefer the "bad news" to the "good news," it is not for textural reasons as McLuhan contends, but because it is *more real* than the "good."

The disparity between the false and the real is guilt and fear-provoking. Those who can run to the couch in search of a tragic flaw. Most, however, become "fixed" in Ellul's sense of being "adapted to the degree that they have become inert, unable to take risks. . . . William Burroughs' image of the mass media as "junk" or narcosis leaps to mind (even the word "fix" is suggestive), as they act to drug the masses and, as expressed in William Morris' remarkably prophetic utterance of 1896, to make "all men contented together though the pleasure of the eye was gone from the world. . . ."

In such a totalizing environment, the artist-dissenter became a culture-hero. He was, in fact, almost the only heroic human around in a setting given over to the creation of technically adaptable, inauthentic, cowardly people.

Yet no man can be absent from his culture. Despite his strong inner resources, his



INTAGLIO PRINT: SKERBERGS

tradition of heroic individualism, the artist reflected the technology in all that he did. His hatred of consciousness was provoked by the failure of technical man, and by the suppression of man's senses and instincts in the technical environment; yet it paralleled the wholesale flight from awareness which had everywhere taken place. His

search for purity, expressed in repeated attempts to eliminate all contraries from the image and arrive at an essence, parodied the prevailing drive towards polarization, towards the eliminating of contradiction because it provokes ambiguity and pain.

The artist's enhancement of pictorial excitement, of visual

and tactile intensity, of shock almost for its own sake, repeated the inherent tendency of mass society toward promotion and aggrandizement, toward the entertaining visual and visceral commotion on the surface of its culture. His restless experimentation with new ultimate handwritings can result only in a perfect sign, an

identifying quirk, squiggle or tic. The artist achieves an ultimate identity which, in an exploitative market situation, has the survival value of a corporate image, at the cost of his freedom and maneuverability.

Trapped in a dead end

A perfect sign is by definition incapable of further development—and so is the artist. He must either repeat himself endlessly, obsessively, or overthrow his own identity by inventing a new image. He is trapped in a dead end. He would not have been trapped had he not already been consumed by the boom-bust cycle of the new art game called show and sell. The dream of over a century, that the artist would someday experience a great return to the bosom of man, has at last been realized. Pop, Op, with the media mixes hard on their heels, are the first art styles of modern times to enter the mass-mediated environment and be parlayed into fashions.

The new crop of artists are either technicians or sophisticated salesmen, exploiting the current glorification of creativity. Tip sheets for potential investors warn of painters whose prices have reached "cyclical tops" and finger others slated for stardom. The artist-hero, who skirted the abyss of martyrdom, becomes a celebrity in the last act, and in happy-ending style, winds up as copy for gossip columnists and ladies' journals.

Nothing could be more tragicomic than this return to usefulness. From the standpoint of society, it has been long overdue. Yet a technological system, which cannot provide better highways, equality of opportunity for minorities, adequate hospitals, clean rivers, unpolluted air, better-than-average schools, a decent standard of living for the "underdeveloped" people living in outmoded technologies, or peace on earth, is hardly to be denounced for failing to treat art as nothing more than

a tolerable if somewhat suspicious activity.

From the standpoint of the artist, a moment of good living in the sun of fashion is worthwhile; but not at the price of the very authenticity for which he is being celebrated. The media may be suspected of doing what they always do, betting on something which is either no longer dangerous, or which can now be transmuted into a pseudo-happening, a charade of meaning.

In the last act, the habit and pose of revolution itself becomes marketable, and the explorer turned exploiter, consumes himself and his traditions. In desperation he espouses total experimentation, the antiart of happenings, of anomalous, improvised occurrences which cannot be codified or reproduced. This represents the breaking up of all structure and the prevention of closure either for the artist or the client.

The artist is now *afraid to create*, lest his "difference" be programmed into subsidized systems of discontent and turned into one more smug facet of the collective dream. A painting which can be read on the run in thirty seconds, or less, is already part of the background of life. It looks good on orangerie walls overlooking a swimming pool. In its heyday, field art was a background in search of a figure. The figurative art which then arrived followed the tradition of treating man as an object of idle sensation, as a plastic form, as anything but a human.

Instant art has one unrecognized virtue. It is the most democratic art form ever developed, precisely because of its almost total return to sensation and spontaneity. Because of its process nature, it is most valuable to the artist as creative experience rather than as artifact. The mass needs spontaneity and creation more than it needs a second bathroom.

It can use a sensory-esthetic awakening as an antidote to the rational poisons transmitted by all modern means of communication.

It would, as an ultimate inversion, counteract all the totalizing vectors by setting up a resistance pattern. Action painting, found-object art, collage, assemblage, some branches of and Pop, and a dozen other styles are capable of imitation and reproduction. They can be packaged, varied infinitely, sold over counters or produced on Sunday between chores. They look alike because the vector of personalization, having crossed a threshold, has inverted individuality of expression to collectivity, to the birth of an "international style."

Today's elite art means reductionism and quantification of method; it is death for art as we know it. Paradoxically, it also means a potential quickening of life for everyone, a revival of sensory and erotic awareness, a return to the chthonic, to doing all things beautifully, to discovery, to acquiring a value and meaning for life beyond mere passivity and purchasing. The elite artist, curator, critic and art school, so long as they remain trapped in a decayed *avant-gardism*, will continue to play out their charades of pseudo-significance; unaware that they have been devoured by mass culture, and converted to personnel in the communications establishment. Art intended as entertainment or decoration is at best a minor art. It is one more means in the chain—for the artist a means to celebrity and affluence, for the masses a means to forgetfulness or titillation.

The alienated web

Two models for human behavior exist at the threshold. One is the corporate model. It is a major tendency in both capitalist and socialist technologies. The corporation or corporate state is an overriding necessity for the single man. In it he has

true individuality. Corporations are totally unfree as institutions, and channels of communication up and down the chain of command are normally blocked by a protocol system. The individual corporation says, "If you don't like it here, you can go elsewhere," a choice which disappears in the corporate state.

The problem of reform is the universal problem of "How do you fight City Hall?" Paul Goodman points out that the corporation does not recognize policy errors. Though only the corporate elite has individuality and can set or alter policy, it is not responsible before the public. The corporation is equally not responsible. Then who is? The reformer who fails to operate according to the rules of the game, the technician on whom an error of policy can be blamed, are expelled as offending particles. The rest of the corporation closes ranks against such individuals along technical lines. They are always held guilty of rule violations or accused of technical inadequacy.

The corporation views with suspicion *the man who cares*, the one who breaks through the alienated web of corporate relations to the *content* of a problem, to the good or bad of a given policy, and who wishes to do something about it. Corporate mentality does not like critical feedback, and corporate morality is acceptance of the "medium as message," or form as meaning, of the network or system as perfect and complete except for small details. It is characteristic of such morality that it permits choice in the realm of detail, in styling cars for example, but not in social control of the automobile.

The corporation or bureaucracy suppresses the natural, the biological in man. It aims to program individual talents towards technical utility. It promotes an educational system which is built around facts rather than inquiry, which in teachings and books provides our

children with an impossibly sweetened view of reality and a flood of informational know-how. Its vector is pointed towards absolute control, towards the ant society. The social insects institutionalize the social good by eliminating random individual behavior, creating a total environment.

Such societies degenerate through overspecialization, that is, through overdoing the good of society. It is in the cards that the next stage of technique will arrange for the "direct linking of man to man," not through art but electronically. Perhaps we will thus be able to tune in on other people's minds directly. The consequences of such a medium extension are not at this time even remotely foreseeable. It could, however, lead to maximum entropy, to the last dance of the particles before another big bang and a fresh start.

A second model of behavior is the breakthrough to authentic individuality, of which the artist, even in his decadent phase, has been one of the standard-bearers. The Negro in America and the "underdeveloped" in other lands have brought another kind of authenticity and courage to the media-market of ideas.

The *avant-garde* among the young have moved beyond range of the built-in safeguards we have provided for them, to a more free but more dangerous realm of exploratory behavior. In reply to the technology's proffer of things in place of love, they have chosen love in place of things. They have abandoned the expectations of simplicity which impel corporate man to yes-no thinking; they have repudiated the old-fashioned categories of good and bad radicalism, totalized capitalist or socialist panaceas, and have emerged with a more integrated, sensitive, esthetic and flexible view of the world.

The degeneration of this outlook occurs when an invisible

threshold beyond transindividual behavior is crossed and pure individualism is indulged. Hallucinogenic release from reality is as large a danger as institutionalized forms of junk. They are sedatives to ease the pain.

Yes-no man is committed to consensus, to drift and automatism. He is McLuhan's man who "acts without reacting," Lancelot Law Whyte's "dissociated man," Gerald Sykes' puritanical and pragmatic man. He is the one who says: "I did not know, I only obeyed orders, I am not responsible." He is Erich Fromm's narcissistic man who, unable to create, wishes only to destroy. Flip-flop awareness, already reduced to the border of unconsciousness, fears awakening more than extinction.

The new syncretic man is a growing force in modern life. He is neither pro-science nor anti-science, pro-technology nor anti-technology. He is a blend in which art and esthetic are primary forces, only because art has been and remains closer to the human. His function, and the function of the artistic vector, is to humanize technology. He demonstrates the meaning of pain as a symptom of disease, the awareness of pain as a guarantee of survival, the worth of art as a disturbing activity designed to promote awareness, and the increase of awareness-in-depth as an antidote to fear.

INTAGLIO PRINT: NEWTON





INTAGLIO PRINT: HAMMOND

CALIBAN, ALONE

(for C.S.)

When Caliban awoke on the
eucalyptus isle, deserted,
he was sure he had won
a great battle; Ariel freed;

Prospero departed; he
was surely suzerain now,
yes, and was fast becoming
the complete poet he could be;

he was doggedly driving to completion
his singular logic. A man
on a unicycle, though, is always
slightly ridiculous. So

the question, as always, is between two
and three. Like a man, his hand,
and a man and his hand, is
the image from the mind and the thing,

or from the mind, the thing and
the ideal? Even so we explain
to children that bikes are more mobile
than trikes. Poor Caliban

pacing the breadth of his isle alone
is oblivious of what poems cannot be.
Though the question, as always,
is between two and three,

a face, a mirror, and a face in a mirror,
can you smile at yourself smiling
at yourself, or can you only
see the smiling image?

Let us laud Caliban
at least for this: If ever he sat
at a mirror, he would watch himself
smile. Creating his world as himself

in extension, he is certain
that what he sees in his mirror is
himself. So the analogy to cycles
twice mentioned above got us

nowhere. All cycles, two wheels,
or three, operate by extension;
None by reflection.
What does one do then as he begins

to discover there are things he believes in
so strongly that he can scarcely imagine
them doubted? As poet he aspires
to The Poem. As lover he desires

a perfection. . . . But yes, hold
your belief, sir, and float above it;
believe with some ironic grace;
or with a decorous skepticism, doubt

even your doubting; and when you
pass into dreams where you throw happy
puppies into open ovens, reach in
and pull out a white-eyed tiger,

you will say your dreams are a kind of truth
or illusion of truth; and when you ship back
to Milan, Caliban left
to repossess the pits of his island,

you might resume your law books
and set up ordinances for the city's
improvement. But, sir, don't stare
long into the mirror. Don't look

at your nose. It will assume
a character all its own,
dirt in the pores, larger, misshapen,
and bristles in the nostrils.

—DON MAGER



PRINT: HAMMOND

HUMAN IMAGINATION IN THE AGE OF SPACE

By William R. Cozart

WILLIAM R. COZART is especially interested in the dialogue between literature and science, and the role of art in the evolution of human consciousness. He is assistant professor of English at the California Institute of Technology, and previously taught at the Free University of Berlin. He is a member of motive's Editorial Board.

In a living room, frozen in an armchair, a young man sits speechless. He has just been asked a terrible question, a question all the more terrifying for its seeming simplicity: Out of all that life can offer, what do you want? A silence ensues that seems longer than the uncrossable spaces between galaxies; then, haltingly, he stammers out an answer:

Something—I'm not sure. Yes—I think I want . . . to achieve something that only I could do. I want to fall in love with just one person. To know what it is to bless and be blessed. And to serve a great cause with devotion. I want to be **involved**.

The young man is Clive Harrington, the hero

of a play which is being staged with increasing frequency on college campuses across this country. The play is *Five Finger Exercise* by Peter Shaffer. And the answer that Clive so painfully pieces together to this question of human desire is far more than a climactic moment in modern theater. It is the kind of answer that every post-modern man must struggle to find to the anxious question of what he is going to do with his time and space in a changing, expanding universe.

For this is the question that is posed to contemporary civilization: Out of all the possible futures toward which man can direct his continuing evolution, which one does he really want? The spectacular advances in basic science which have produced man's accelerating technology have given him almost unlimited power over his environment. What, then, is the kind of world that he really desires? Today almost any kind of future is technically within his reach. Knowing this, post-modern man feels that the greatest adventure into which he can channel his energy is the adventure of inventing the most imaginatively and liberating future possible for human life on this planet. And, like Clive, man of the Space Age feels that all individual achievements, all deep relationships with those he loves, find their meaning and fulfillment within this overarching task. And in this task he wants to be involved.

Is it possible, beneath the myriad number of future-designing projects and programs that currently are underway, to isolate any basic dimensions of what it means to be involved in shaping the world of tomorrow? Perhaps there are at least three major concerns which suggest themselves—concerns which, one feels, continue to keep the Clive Harringtons of the world lying awake far into the night.

A WORLD-VIEW

First, to be involved would mean that one is engaged in the reconstruction of our fundamental world-picture. It is now an axiom of the social sciences that every man is fundamentally controlled by the pictures of the world which he carries in his head. His most basic image of an order, of an intelligible world, is the dominating factor in all his thinking, loving, hating, creating, destroying, rebuilding. For the past three hundred years, Western thought has been dominated by the world-picture of Newtonian physics: an image of a mindless and impersonal machine made up of particles exerting force upon other particles pushed along by unalterable causal laws. This world-image sees man as an alien intruder upon a vast, indifferent landscape—or, as E. A. Burtt was moved to describe him, "as a puny, irrelevant spectator lost in a vast mathematical system."

Of course, this world-picture has been enormously successful in terms of the scientific discoveries and technological marvels it has produced. And, indeed, such a picture became accessible to man only at the price of removing from it everything that had to do with man as a conscious

perceiving and feeling self and of assuming that particles arranged in space alone constitute the "real world." But to conceive man as being outside the real world as an insignificant and irrelevant spectator had thunderous consequences in the subsequent history of thought. It gave rise to the modern philosophical conception of the universe as a senseless, absurd and irrational void encircling and isolating the estranged human self. As Albert Camus (whose thought is deeply colored by the Newtonian world-view) expressed it, "In a universe suddenly divested of illusions and lights, man feels an alien, a stranger." Homeless in a neutral landscape of particles and mechanical forces, man senses that the divorce between his life and that of the universe, between "the actor and his setting, is properly the feeling of absurdity."

Yet, in the last few decades, a remarkable change has taken place in this world-picture, beginning, perhaps, in an alteration of science's own vision of what it is doing. The ablest scientists now are realizing that Newton's world-image was, in fact, literally an *image* or "model"—a great canvas across which a hypothetical world was painted, a work as much of the imagination as of observation. The consensus now emerging among scientists is that reality is not merely a datum, but a mental construction which man makes in dialogue with given discoveries in the various scientific disciplines. The image of the great machine and the alien human observer thus has come under direct attack by science itself. As Werner Heisenberg summarizes the change in attitude: "Science no longer is in the position of observer of nature, but rather recognizes itself as a part of the interplay between man and nature. . . . The mathematical formulae no longer portray nature, but rather our knowledge of nature."

Thus, man-made conceptions now are seen to be at the heart of science, and the progress of science now rests in the replacing of those conceptions by other conceptions, which may enlarge or even contradict them. Herbert Dingle sees this process as unceasing: "We can no longer say, 'The World is like this,' or 'The World is like that.' We can only say, 'Our experience up to the present is best represented by a world of this character; I do not know what model will best represent the world of tomorrow, but I do know that it will coordinate a greater range of experience than that of today.'"

We are recognizing today, therefore, that the order of the universe is not just passively observed but is imposed, at least partially, by man's mind. And the great task awaiting us is to distinguish between all the different kinds of order that can be constructed out of the given materials of the scientific and humanistic disciplines. Science alone cannot accomplish this task. The old idea that only the truths of science are significant is disappearing rapidly. We see instead that there are many kinds of truth, each reached by many different methods.

The constructs of science and the other constructs which men built out of their confrontation with reality are seen, in Paul Obler's phrase, as "complementary modes of engagement." Our total meaningful world-picture must be a structure in which the many different symbolic constructs of the sciences and humanities are held together in a new and reintegrated way. The structure of knowledge of tomorrow will at last fulfill the vision de Chardin held of a genuine cosmology, a "true physics" which would "one day achieve the inclusion of man in his wholeness in a coherent picture of the world."

PERSONAL IDENTITY

Then, secondly, to be involved in inventing the future would mean that one is engaged in the reconstruction of our image of personal destiny. As we have seen, Newtonian cosmology has severely damaged our conception of human destiny by divorcing the human actor from his setting, by pulling the earth—the arena of our decision-filled historical action—from beneath our feet and substituting in its place a vast, mathematical system. Now that very earth is being given back—no longer an impersonal machine, but as a map which we are continually redrawing. And no longer are we divorced from the real world, but enmeshed in its very fabric and texture. Now we must, as Ortega y Gasset has suggested, "construct for ourselves—as the physicist constructs his 'models'—an imaginary life of the individual, a kind of graph of his 'possible life.'"

Everyone senses that his actual life is not synonymous with what his life could be. Yet, a "possible life" today cannot be constructed arbitrarily or abstractly; a model of destiny must be analogous to the model of the world in which it is enmeshed. For the microcosm of the human self can be grasped today, for the first time since the Renaissance, as a replica of the macrocosm, of the universe itself. Therefore the model of destiny must duplicate the great drama between life and energy, order and disorder which is fundamental in the constructs of physics, biology, astronomy, history, and literature.

It is in the field of physics that the cosmic conflict between order and disorder has been dramatized most clearly. "The laws of physics are the decrees of fate," Whitehead once observed; and no recognition scene in classical Greek tragedy could demonstrate more forcefully the fateful working of Necessity than can the "laws" of thermodynamics in the twentieth century. Lincoln Barnett's summary of thermodynamics' Second Law reads like the chilling denunciations of the old prophet Teiresias to a disbelieving Oedipus:

Although it is true that the amount of matter in the universe is perpetually changing, the change appears to be mainly in one direction—toward dissolution. All the phenomena of nature, visible and invisible, within the atom and in outer space, indicate that the substance and energy of the universe are inexorably diffusing like vapor through the insatiable void. The sun

is slowly but surely burning out, the stars are dying embers, and everywhere in the cosmos heat is turning to cold, matter is dissolving into radiation, and energy is being dissipated into empty space.

The universe is thus progressing toward an ultimate "heat-death," or as it is technically defined, a condition of "maximum entropy." When the universe reaches this state some billions of years from now all the processes of nature will cease. All space will be at the same temperature. No energy can be used because all of it will be uniformly distributed through the cosmos. There will be no light, no life, no warmth—nothing but perpetual and irrevocable stagnation. Time itself will come to an end. For entropy points the direction of time. Entropy is the measure of randomness. When all system and order in the universe have vanished, when randomness is at its maximum. . . . in short when the universe has run down, there will be no direction to time—there will be no time. And there is no way of avoiding this destiny. For the fateful principle known as the Second Law of Thermodynamics . . . proclaims that the fundamental processes of nature are irreversible. Nature moves just one way.²

Though this process is irreversible, many scientists—Norbert Wiener was one—have felt that the phenomenon of life may be an exception to the Second Law of Thermodynamics. "While the universe as a whole . . . tends to run down," Wiener reasons, "there are local enclaves whose direction seems opposed to that of the universe at large and in which there is a limited and temporary tendency for organization to increase. Life finds its home in some of these enclaves." Is it just possible that life reverses the stream of disorder by its organizing systems of ever greater complexity in its immense journey of evolution? The anthropologist Loren Eiseley is persuaded that this is the case and fixes the image of this dramatic conflict thus: "The enormous mindlessness of space, a universe running toward a black nothingness of dispersed radiation. But within it a shadowy pulse that out of nothingness arranges itself into form and spaces the notes of a skylark's song."

Man, the most recent and most complex expression of that "shadowy pulse" is now conscious of directing his own evolution, of being the creator of his organic as well as of his spiritual destiny. It is his brain, the organ of imagination, and his nervous system that furnish him the power to impose his intentions upon the world and to contradict these random, disintegrating tendencies of nature and history. Human nervous systems, or so the field of cybernetics tells us, are goal-seeking, self-regulating mechanisms steering their way through an ocean of messages toward a dark, unknown shore whose horizon seems to take the shape of our dreams. The messages, the signals from our environment, are received in the brain, stored, recombined, and retrieved in the act of decision; then—in the form of intentions—they are imposed upon our environment. This "ability to make decisions," Wiener concludes, "can produce around us a local

zone of organization in a world whose general tendency is to run down." Our image of human destiny, then, must be formulated in terms of what we intend to do to the world about us, in terms of the zones or orders—the structures of society—which we purpose to build for the future on our ever-shrinking earth.

GLOBAL COMMUNITY

Finally, then, to be involved, it would seem that one must be engaged in the reconstruction of our global human community. In the midst of the disorder that exists in our cities, in our structures of civil justice, in our system of international relations, we are summoned to join in the many revolutions of "rising expectations" which are literally redesigning the face of the world. Ours is not a time when one can afford to cling to private worlds of parochial loyalties. We are fast approaching a world-wide civilization, perhaps a single world-city, and it is imperative that we extend our loyalties—political, social, economic, cultural—to encompass the single globe of which we are citizens.

The task of the affluent nations, for example, is not to remain what the economist Barbara W. calls "islands of plenty in a vast ocean of misery," but rather to pour their resources into the great experiment of bringing the new world to life. The reconstruction of the basic assumptions which must underly the concept of international law in the future also is a staggering undertaking. But surely we must strive for the vision which the Romans saw so many centuries ago, the vision Plutarch calls the Law of Nations: "Men should not live their lives in so many civic republics, separated from one another by different systems of justice; they should reckon *all* as their fellow citizens, and there should be one life and one cosmos."

Such gigantic tasks await the human imagination in this Age of Space. But in spite of the great discovery of the outrush of the galaxies and the pioneering work in space travel and communication, perhaps our age will best be remembered for its great breakthroughs in psychic or mental space—the breakthroughs achieved when human imagination is forced to envisage the theoretical, personal and communal spaces which man will inhabit. The fundamental job of the imagination in Northrop Frye's phrase, is "to produce, out of the society we have to live in, a vision of the society we want to live in." Thus, the vast revolutions of our day, the enormous changes in our environment, may in the last analysis be leading us toward a new meeting with ourselves. Facing such a possibility, we can only accept the fate and the promise of this age of adventure, of this moment of human evolution when, as geneticist Theodosius Dobzhansky believes: "Man and man alone knows that the world evolves and that he evolves with it. By changing what he knows about the world man changes the world he knows; and by changing the world in which he lives man changes himself."

² Lincoln Barnett, *The Universe and Dr. Einstein*. N.Y.: Harper, 1948, pp. 102-3.

TWO POEMS: TRACY THOMPSON

IF I WERE THE GOD MICHELANGELO DEPICTS

Suffering; and how nice
To lay it down, the load.
There are islands where the spice
Is sprinkled all along the road;
For me, I cannot get a peep
Or growl (I give up mit de woids)
Without a dollar for the sleep
That overcharges. Who plucks those chords
That feel like fire I don't know;
The engine likes to purr
But we have gone so slow
Anyway lately; fur
Does like its rubbing,
Complains of "wrong-way" treatment;
I'm down on my knees scrubbing
The poor bricks of poetry. "I meant
Well—" I say but no one listens.
Perhaps if I do become the mauler
I've threatened to become, what glistens
Now will shine; and we'll be taller.

POEM IN CELEBRATION OF WHAT STINKS

At last one has a bellyful.
One resolves—never again.
The turning-point's arrived at.
Tomorrow will see an end to all this hoax,
This waste, this filth. One has consumed
Time, money, patience, love, sacrifice.
What is left to consume? One's life?
This is a scheme largely approved of
By tiny, crawling things: worms, etcetera.
However, there are other ways.
One is to disregard the whole blight,
To resolve not to indulge flea circuses
Any longer. Faith can assert itself
To no better end. The time has come
To act. Enough has been lost already.

a Cybernated Era

"The planet is becoming a university. This means that the educational act and the political act are becoming one.

"With the advance of technology and the shrinking of the world through communication, man can decide to have the kind of world he wants.

"And yet, we don't really have the alternatives ready. We haven't dreamed the big dreams about what we do want. If someone walks up to us and says, "You can have any kind of world you want," how many of us can say that much about it?"

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The above words, spoken by a student at a meeting of representatives of a number of student movements last August, have been haunting my nightmares. They seem a bit visionary, a bit wistful, and yet they represent a growing awareness among students and faculty across the country.

The question asked over and over by students, and for which they often seek answers outside or in opposition to the university, is "How can we create the future?"

ACADEMIA'S ETERNAL TRIANGLE

The great tragedy in the current situation is that students, faculty and administrators all profess to be striving for the same goals. It is a tragedy of recognition. Administrators, working to build a university framework which will present, in microcosm, a model of the realities of the adult world, are astounded to see students reject their systems on behalf of direct involvement. Faculty members, eager to share with students the insights which years of systematic study and research have brought them, are appalled to discover that students gain just enough skill in a specific discipline to justify denying it as a life's pursuit. Students, reveling in their new freedom, movements and involvements, are bewildered by faculty disinterest and administrative disgust.

Each group grows more embittered daily by the apparent apathy of the other two to its efforts.

On many campuses, the computer has become the symbol of this bitterness. The tragedy is that students, faculty and administrators fail to recognize the potential of the computer—and the cybernated era which it heralds—to coordinate and make their efforts meaningful.

RICHARD KEAN is an articulate and disciplined student. As a senior at Denison University last year—where he majored in economics—he found the time to help found and then co-edit Campus Dialogue, an inter-campus publication devoted to an interdisciplinary study of the future. He is now a graduate student in journalism at the University of Missouri.

Corporation or humanism: which? For it has come to that.⁶

Oglesby is quite clear. The difficulty lies not with individuals, but with the structures which impose power upon them. Societal irrelevance is the cybernated era's equivalent of personal immortality and is the real enemy of man.

It would seem that these elements—critique and optimism—are the raw materials for an old but presently unexercised art: dialogue. For dialogue to occur, both the trust implied in optimism and the honesty (*agape*) inherent in a critique must be present. They make the difference between talking at and speaking with an individual or a group, and thus draw the distinction between an authoritarian and an authentic relationship.

The dialogue group is more important for the university than it might seem at first glance. Advanced communication technology—closed-circuit television and the computer—make face-to-face conversation between students and professors again possible in a large university. Professor T. Harry McKinney of Michigan State University has had considerable success using closed circuit television:

His philosophy is threefold: formulate questions, search for answers, and finally discuss and react to your findings.

In the following days we found out how this philosophy was put to use. The actual method involved daily professor-to-student memos, small group discussion, and presentations on Michigan State University's closed-circuit television. There were no lectures. Class met only three of the four days allotted, leaving more time for outside reading.⁷

As a result, McKinney's class load was cut to one quarter, leaving more time to meet with individuals or small groups.

In a dialogue situation, the professor's role remains as important as it has always been: he is an essential human catalyst in the educational equation. The difference is that he is freed from his authoritarian role. He is no longer forced to structure conversation.

The dynamics of dialogue can be quite threatening. There is something about nonstructured but responsible conversation which inevitably tends to force topics of human concern into non-traditional disciplinary patterns. In addition, the topics themselves tend to overlap. The result is that the basis for thinking becomes a system of relationship levels rather than a set of Kantian categories.

For the student, dialogue offers unique possibilities for involvement. Nonstructured education allows for a shift in emphasis when a student says something important enough to be followed up.

Perhaps the most compelling feature of education through dialogue is that it offers a vast array of possibilities for community organization. As the group develops, through discussion, an understanding of the interrelated complexity of the subject of concern, the need for speculation soon becomes apparent. But this need springs from a

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communal concern, and the specialist can rely upon a common experience by which to relate his contribution to the rest of the group.

Buckminster Fuller has said that thinking is the process of discovering the relevant by discarding the irrelevant. In a dialogue situation the professor has a most important role—relying upon his own experience to guide the group away from methods of thinking already proved irrelevant. At the same time, he is challenged to stand ready to justify his thinking in terms of what a growing community discovers to be relevant.

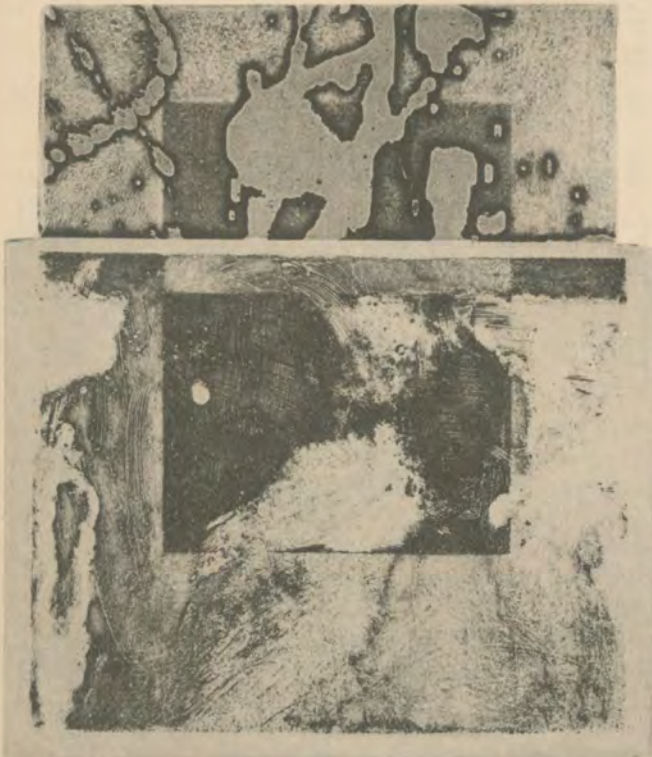
Thus, it would seem that the challenge to the university might best be met by allowing students to ask the crucial questions in a meaningful way through dialogue. In a cybernated era, as an institution structured around the vital concerns of a greater society, there is every possibility that the dialogue community might become the basis for a new civilization.

NOTES

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7. Currey, Dick and John McCandless; "MSU Students Respond to CCTV Education," *Campus Dialogue*, Vol. 1, No. 6, April 25, 1966, p. 1.

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TECHNOLOGICAL CULTURE:



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Technology, considered both as the cumulative weight of an increasing proliferation of radical innovations in what might be called the "economics" of man's existence and also as an "objective spirit" or certain life-style, is the major force which is shaping the emerging culture. What are the most potent aspects of its power for cultural change? On the positive side, I would argue that technology, far from enslaving man as some writers (especially Jacques Ellul) aver, releases us into new dimensions of freedom from ancient restraints. Furthermore, far from de-personalizing man as others have argued, technology commits us to a much more profound awareness of other persons than has heretofore been generally possible.

For the two-thirds of the world where grinding poverty, incessant work, debilitating disease, life-long hunger, and early death are still the essential conditions of existence, technology is the primary instrument of freedom. I would not mention this obvious fact if so many Western critics didn't cavalierly denigrate it; our cultural critiques should never become so effete that this fact is overlooked. For us, however, technology is opening up subtler forms of freedom. Consider first three examples of how technological innovations affect our traditional value system. The so-called "prudential ethic" which has used the triple threat of infection, conception, and detection to enforce extra-marital chastity has been all but knocked out by three new technologies—penicillin, Enovid, and the automobile and motel. Man's traditional habit of finding his self-identity through his work in the productive enterprise is being challenged by the astounding productive capacities of cybernation—the meshing of automation and cybernetic devices into a single productive process. And the family, heretofore the almost exclusive value-forming power for children, has been seriously eroded by rapid, easily accessible transportation and television which brings the whole raw world into the family living-room.

By MYRON B. BLOY, JR.

A THEOLOGICAL RESPONSE

Furthermore, the spirit of technology, given philosophical form as pragmatism, has undermined every metaphysically fixed value system: as William James has said of the pragmatist,

He turns away from abstraction and insufficiency, from verbal solutions, from bad *a priori* reasons, from fixed principles, closed systems, and pretended absolutes and origins. He turns towards concreteness and adequacy, towards facts, towards action, and towards power. That means the empiricist temper regnant and the rationalist temper sincerely given up. It means the open air and the possibilities of nature, as against dogma, artificiality, and the pretense of finality in truth.¹

Those of us with a vested interest in the traditional culture are bound to be dismayed by these developments, but, in fact, each one of the changes I have described does enlarge man's freedom over heretofore implacably contingent factors of his existence. The prudential sex ethic, based on nothing but fear, made moral morons of us all; now we can make decisions about sexual behavior on the basis of a positive understanding of sexuality. Similarly, by breaking the stranglehold that the necessity of productivity has always had on man's self-identity, cybernation is giving us the opportunity to evolve richer, more satisfying models of self-identity for ourselves. And the family, which has traditionally exacted an often tyrannous value-conformity in exchange for the security it provides the child, is now in a position to become a supportive setting in which the young have the freedom to explore value systems other than those of their parents. Finally, there is no gainsaying the sense of exhilaration and release in James' description of man freed from the ideological straightjackets of the traditional culture.

We are not only freed by technology from many of the material, social, psychological, and spiritual restraints which so pinched and enslaved most men in the past, we are also made much more aware of the presence and plight of our fellowman than heretofore. Consider, for

example, James Reston's description of how television and the airplane counted in the Selma freedom movement: "We are told by our philosophers and sociologists that our machines are enslaving and debasing us, but in this historic battle over voting rights these machines are proving powerful instruments for equality and justice." Television forced on our awareness the plight of fellow human beings, in fact made them our neighbors, and mass transportation allowed us to go to their assistance. Because we are so inescapably aware of the sufferings of so many more neighbors, we often draw the false conclusion that suffering itself abounds as never before and technology is often (ironically enough) blamed; actually our burgeoning awareness of every man as neighbor is possibly the first step in the solution of suffering which before now was hardly known outside its immediate context."

But modern electronic developments may be fostering the "age of man's encounter with man" in more subtle and compelling ways than those just described. For example, Marshall McLuhan has argued that students increasingly are restive under the traditional episodic, piece-meal curriculum. This "linear" approach to learning was designed to add up, after four years spent abstracted from society, to something meaningful. Television has formed their perceptive modes from an early age to in-depth expectations and deep involvement in human interactions. Literate man tends to be so horrified by the shoddy content of most television programming that he fails to see how television, whether its content is "good" or "bad," defines for those who live with it from an early age the scale of "reality" for all their future encounters with the world. Man as a discrete individual, participating in the world from a rational, detached point-of-view, is giving way to "re-tribalized" man, who lives almost completely *with* others, in almost total involvement, and for whom the point-of-view has little meaning. This new man fills out the shape of his life only insofar as he is involved dynamically with others.

Now, freedom and awareness are precisely necessary conditions for the growth of man towards his moral maturity. The freer we are the more responsibility we can take for our behavior, and the more aware we are of the presence and plight of the other person the more opportunity we have to exercise that responsibility. When man is enslaved by superstitions and brutalities of nature and lives in ignorance of the real plight of his fellow men, the possibilities of growth towards moral maturity are severely limited. But if the freedom and awareness which technology have fostered are necessary conditions for growth towards a culture of moral maturity, they are certainly not sufficient causes for such growth. Freedom from restraints of one kind or another only achieves its inherent meaning when it becomes freedom for fulfilling in action a normative commitment to the neighbor. An awareness of the presence and plight of our fellow men only becomes creative when spurred by that normative commitment; it occasions more sensitive decisions in their behalf. Without some strong guiding norm freedom collapses into chaos and awareness into the anxiety of "information overload." The ironic dilemma we face is that the same spirit of technology which has increased our freedom and awareness has also decreased our ability to make normative commitments and thus destroys for many of us our ability to exercise that freedom and awareness.

Daniel Bell uses the phrase "eclipse of distance" to describe the dissolution of normative commitments; he says,

The underlying social reality, the stylistic unity of the culture of the past hundred years lies, I would argue, in a structural form of expression that I have called the "eclipse of distance," of psychic, social and esthetic distance. Modern culture began as an effort to annihilate the contemplative mode of experience by emphasizing immediacy, impact, simultaneity, and sensation. It is today at the point of breaking up all fixed points of reference in formal genres.³

This is not the place to enter into an analysis of how man experiences normless existence, but the following two images are suggestive. The prophet Amos, after cataloguing many of the terrible things—such as darkness at noon, sackcloth and baldness, the mourning for an only son—which will befall the people because they have departed from the Lord's purposes for them, sums up their doom in this haunting description of normless existence:

"Behold, the days are coming," says the Lord God,
 "when I will send a famine on the land;
 not a famine of bread, nor a thirst for water,
 but of hearing the words of the Lord.
 They shall wander from sea to sea,
 and from north to east;
 they shall run to and fro, to seek the word of the Lord,
 but they shall not find it.
 In that day the fair virgins and the young men shall
 faint for thirst." (Amos 8:11-13)

And Arthur Miller, seeming almost to paraphrase Amos' word of doom for our ears, summarizes his *Death of a Salesman* in "the image of private man in a world full of strangers, a world that is not home nor even an open battleground but only galaxies of high promise over a fear of falling."

Contemporary man, trapped in the frustrating situation of having achieved at last the capacity to create his own destiny but unable to discover normative commitments commensurate with that capacity, often reacts convulsively in one of the two ways. On the one hand, he plunges into intense technological activism: if the activity towards some contingent end is intense enough it can create the illusion of purpose, it can cover up the normative anarchy which exists just beneath the surface. On the other hand, he may grasp at a reactionary idealism like those represented by the John Birch Society or Moral Re-Armament. The Birchers, unable to tolerate their new freedom and increasingly present neighbor, construct a paranoid model of reality which reduces their freedom to some form of counter-plot against the communists in behalf of a Jeffersonian political paradise, and they deny the demanding presence of the neighbor by reducing him to either a spy or patriot. The MRA pattern is similar, except it is in the sphere of metaphysics and morals instead of politics.

Religion is often a more passive form of this same regression: there are, it is argued, certain immutable "moral and spiritual values" to which we must "return," but these values are purposely left honorific and lifeless so that they cover the abyss of normlessness without having to submit to the test of action. The escapist route of higher education is often "the discipline": one can spend a lifetime paying homage to its cabalistic intricacies and defending it against its detractors without ever seriously facing the question of the purpose of learning.

A further irony of our time is that the struggle for cultural purpose seems to be polarized around these two escapist positions: the idealist is called reactionary dreamer by the operationalist, and the operationalist is called a superficial manipulator by the idealist, and both are right.

What we need in order to achieve our cultural maturity is a sense of purpose passionate enough to overcome the anti-normative tendencies of our time and use our new freedom and awareness in behalf of man. This purpose must be weighty enough to escape both moralistic reductionism and calculated operationalism, and is best conveyed by the following story about St. Francis. It seems that Francis, with several of his friends, was walking down a road on a wintry afternoon; he was wearing a heavy cloak against the weather. Presently they approached a nearly naked beggar shivering with cold, and Francis promptly gave him his cloak. Some of his friends remonstrated with Francis, saying that if he

caught cold and were incapacitated through lack of his cloak their movement would be without a leader, while the others congratulated him on the "goodness" of his act. Francis angrily silenced their squabble and told them that this man, like every man, was a brother and that therefore the cloak was his by right if he needed it: it could not be kept from him by self-interest, however enlightened, nor could its giving be called "good" since it was already the beggar's by right. I take it that our new freedom and reality fulfill their "natural" ends when they are pressed into the service of such a vision of reality.

The passionate vision of a Francis, held expectantly within each present situation, has the power to use our new freedom and awareness for the shaping of our culture to human and humane form. But where do we find such power? Is there a cultural sub-community, like the roaming bands of prophets in early biblical times, where this power is operative? I think such a way of life is evolving among the college and university students who, together with a few faculty, clergymen, and ghetto-dwellers, make up the so-called "freedom movement."

It is hard to realize that just two years ago, in *The Uncommitted*—a book on the American "youth culture"—Kenneth Keniston could argue that college students were marked by a lack of rebelliousness, by social powerlessness, and by privatized values. Erik Erikson was making the same sort of judgment when he described life for the college student as a "psycho-social moratorium." Slick journals were mildly deploring the passivity and the lack of good old-fashioned grit and gumption in the American college student. After quoting statistics which indicated that college seniors entering the work world were primarily concerned with pension plans and job security, editorials urged them to accept instead the risks of economic and professional life which have been the time-honored lot of the successful American entrepreneur.

But now the teach-ins are taking the place of party-raids, voter registration campaigns in the deep South and northern ghettos are replacing the spring bacchanals on the Florida beaches, tutorial programs are succeeding religious clubs, and—after graduation—the Peace Corps and politics are taking the place of company apprenticeship programs, editorialists are telling students to "stick to their books" and to remember that time-serving apprenticeships are a necessary prelude to success in life. What, in fact, has happened, and why?

The passive, powerless, privatized "youth culture" which Keniston described had its more immediate roots in World War II: veterans returning to college had taken all the risks they wanted, and now they were ready for college as a recompense for those harsh years. Although higher education was already participating much more than it had in the research and development needs of the nation, the prevailing undergraduate assumption

was that college represented a socially detached enclave, replete with its own romantic mythologies, designed to prepare persons in due and leisurely course for following a personal career trajectory. Society at large was simply the shadowy, yet stable and secure, background against which this trajectory was to be traced.

As the Cold War deepened, this model of higher education was clung to by students with some-think like desperation. University administrations, by and large, happily sanctioned the youth culture because it tacitly supported their *in loco parentis* power, and more or less confined their problem areas to the campus and to issues of private morality. Faculty were not inclined to disturb the youth culture because student passivity allowed them the time and energy to indulge more fully in the exciting, status-making research and development possibilities which the government was opening up for them.

The revolt against the youth culture was occasioned by the Negro struggle for civil rights in the South and has so far moved through three stages corresponding to three different levels of insight. The intense moral pressure caused by the southern civil rights struggle, led in many areas by the Student Non-Violent Coordinating Committee which was composed largely of Negro students, was enough to lead a few northern, white students into the struggle themselves. In the course of this participation, they began to discover that American culture and society, far from being the stable, secure world assumed by the youth culture, was wracked with such cruel and systematic injustice that commitment to revolutionary change was the only reasonable stance to take.

Furthermore, they discovered—through participation in direct action projects such as freedom rides and sit-ins—that their action could count for something in the world of political and social affairs. When these students returned to the campus, their achievement of moral commitment (of "the point beyond which there is no turning back," which is a crucial discovery for the maturity of each man) and of a real share in social power had a contagious quality for many other students who hadn't hitherto realized what a spiritual deprivation the youth culture was.

The second stage emerged when students began to realize that dramatic, random forays into the South was not a serious enough response to the problem, and that they had to regularize and localize (in the North) their activities. The Northern Student Movement was born out of this realization. Turning their own talents to use, they organized far-reaching tutorial programs for children in the social and racial ghettos near their campuses. Some students moved into the ghettos. They helped organize the disestablished to fight against local establishments, and they kept up a drum-fire of pressure to participate in the struggle on their uninvolved fellow-students. In this stage of development, students in the move-

ment lived a kind of intellectual and spiritual schizophrenia, passively accepting and fulfilling the demands of a remote and static academic establishment while passionately involved in the struggle to change the character of an unjust society.

But when the students began to learn that intellectual and spiritual understanding, as well as simple political activism, would be necessary to bring about the social change they envisaged, it was inevitable that the academic establishments themselves should come under their fire, since these establishments were, by and large, unequipped to respond to the students' urgent needs. The Free Speech Movement at Berkeley was, for many students, the beginning of this discovery, and although most adults could echo President Eisenhower and see it only as "disgraceful riots," we must look beneath the turmoil to see what was really at stake. Mario Savio spoke for morally and socially sensitive students everywhere when he said, during that famous sit-in in Sproul Hall,

Many students here at the university, many people in society are wandering aimlessly about. Strangers in their own lives, there is no place for them. They are people who have not learned to compromise, who for example have come to the university to learn to question, to grow, to learn—all the standard things that sound like clichés because no one takes them seriously. And they find at one point or other that for them to become part of society, to become lawyers, ministers, businessmen, people in government, that very often they must compromise those principles which were most dear to them. They must suppress the most creative impulses that they have; this is a prior condition for being part of the system. The university is well structured, well tooled, to turn out people with all the sharp edges worn off, the well-rounded person. The university is well-equipped to produce that sort of person, and this means that the best among the people who enter for four years wander aimlessly much of the time questioning why they are on campus at all, doubting whether there is any point in what they are doing, and looking toward a very bleak existence afterward in a game in which all of the rules have been made up, which one cannot really mend.⁸

Although it is easy to criticize the naivete of Savio's rhetoric, it is impossible to avoid the essential rightness of his analysis.

These students, finally driven by their moral passion to a new intellectual concern (How do societies and cultures work and how can they be changed?) and a spiritual quest (What is man's real life and what is the meaning of history?) are challenging the educational establishments in two ways. First, as in Berkeley, they are bringing direct pressure for specific reforms: student rallies support good teachers who have been fired because they failed to measure up to research-oriented tenure criteria; philosophy departments which, in their preoccupation with esoteric linguistic and mathematical games, are unequipped and uninterested in helping students to assimilate intellectually their new social and moral experience, are under attack in student editorial columns; teach-ins pressure curricula committees to respond more relevantly to students' real questions. Secondly, the so-called "free university" movement is becoming an embarrassing challenge to

the academic establishments. These independent, student-led "communities of learning" are springing up near every large academic center because, as the "Proposal for a Free University in Boston" points out, "Students returning from civil rights activity and community organizing projects found little of relevance in academia to the problems central to their concerns." The new free university in Boston aims, in the words of its prospectus, to involve the following groups:

students and organizers seeking both the theoretical and empirical bases for ideology; people in community organizations who want to learn organizing skills, participate in political discussion, and gain or regain some aspects of general education; suburban opponents of the war who will want information as well as tools and perspectives for organizing in middle-class neighborhoods; professionals who are trying to redefine their roles in terms of social objectives; teachers and students dissatisfied with the content of their previous educational experience, as well as by the university's approach to learning and to the social relevance of intellectual activity; artists, writers, and actors who seek to explore new dimensions in their work, or to relate their work to the movement.

Thus, the students' exhilarating discovery of moral commitment and social power, occasioned by the civil rights movement in the South and solidified and deepened in the ghettos of the North, has opened their eyes to some of the inadequacies of higher education and led them to attempt reforms.

Now let us consider the life-style of the participants in the movement: it is from this life-style that we have most to learn, I believe, since it is born out of the Franciscan vision of the neighbor as brother and the perspective of historical realism. One way of seeing this life-style is through the eyes of its critics. On the one hand, operationally oriented change-agents like Saul Alinsky and many liberal politicians, who might be expected to be allies of the students, are very critical of them for not being pragmatic enough in their approach to social problems. I remember one Alinsky man saying to an S.D.S. member, "What we want to know about you people is whether or not you're for real: You act like a bunch of poets!" But the students feel that Alinsky and the politicians, by playing the game in terms and for the stakes essentially established by the *status quo*, don't raise the necessarily radical questions about the character of our society. They have read Silone's *Bread and Wine*, and they identify with Pietro Spina. On the other hand, they are criticized by academics, idealists and conservatives generally for compromising principle for political ends and for participating in political action when they ought to be sticking to their books. But the students argue that no serious involvement in social change is possible without being changed oneself, and that education without direct, concrete involvement in cultural issues is not education at all. In short, because they remain open to both the depths and the surface of events they are scored by idealists and operationalists from opposite directions.

But, to turn to a direct description of them, I believe that their suffering—their intellectual, moral, and spiritual suffering—is what is most authenticating about their prophetic identity. I have spent long evenings with student radicals while they struggled to discover an “ideology.” Most of them have studied Marxism but now feel that although Marx’s analysis of society is useful, his anthropology of the individual is faulty. Existentialist philosophers, on the other hand, are usually far too simple-minded about political and economic realities to be accepted. As a matter of fact, it is doubtful, for all their desperate effort to find a secure ideological niche from which to see themselves and their history, that they will ever arrive in this promised land. Their honesty and openness to the myriad intellectual and emotional claims of experience will deny them the neat ideologies they search for. But they find it equally difficult to be operationalists. Nothing is more frustrating to a political wheeler-dealer than to participate in an S.D.S. organizational meeting because questions of substance, of goals and essential meaning, are always in order and continually break down the smooth logic of cause and effect that is ostensibly being put together. The “really real” for them is to be discovered only by accepting the full weight, both the insistent depth and the empirical surface, of the here and now in their drive to keep faith with their vision of every neighbor as a brother. Only this precarious and passionate commitment, they feel, lets them into the action of life and allows them to be the shapers, not just the victims, of history.

By now my not-so-hidden theological agenda should be obvious. Our new freedom and awareness and concomitant inability to assume an easy normative focus for the emergent culture really adds up to “the world come of age” which Bonhoeffer described. God is, in effect, kicking us in the pants and telling us that it is time to grow up. We are given the tools needed to shape a new culture and allowed to use them effectively only in the service of a prophetic commitment. We are even provided, in the student movement, one significant model of how that commitment can be assumed. Of course, there is no assurance that society will accept this challenge rather than hide in increasingly frenzied operationalism or increasingly brittle idealisms until we are overwhelmed by chaos, but these are our only two options.

The church, as that community whose formal function is to bear witness in its life to the intentions of God for mankind and to support and celebrate God’s action wherever it is discovered, does not fulfill its role effectively in our present situation. The church might learn a good deal from the student movement about what it means to be men of faith in our technological culture. Tillich in fact argues that the mature form of historical realism, which he calls “self-transcending realism,” can only be held through faith. He says,

Self-transcending realism is based on the consciousness of the “here and now.” The ultimate power of being, the ground of reality, appears in a special moment, in a concrete situation, revealing the infinite depth and the eternal significance of the present. But this is possible only in terms of a paradox, i.e., by faith, for, in itself, the present is neither infinite nor eternal. The more it is seen in the light of the ultimate power, the more it appears as questionable and void of lasting significance. So the power of a thing is, at the same time, affirmed and negated when it becomes transparent for the ground of its power, the ultimately real. It is as in a thunderstorm at night, when the lightning throws a blinding clarity over all things, leaving them in complete darkness the next moment. When reality is seen in this way with the eye of self-transcending realism, it has become something new. Its ground has become visible in an “ecstatic” experience, called “faith.” It is no longer merely self-subsistent as it seemed to be before; it has become transparent.⁴

Is not the commitment to the neighbor as brother, revealed freshly through the “eye of self-transcending realism,” precisely the commitment that the church is called to live out of?

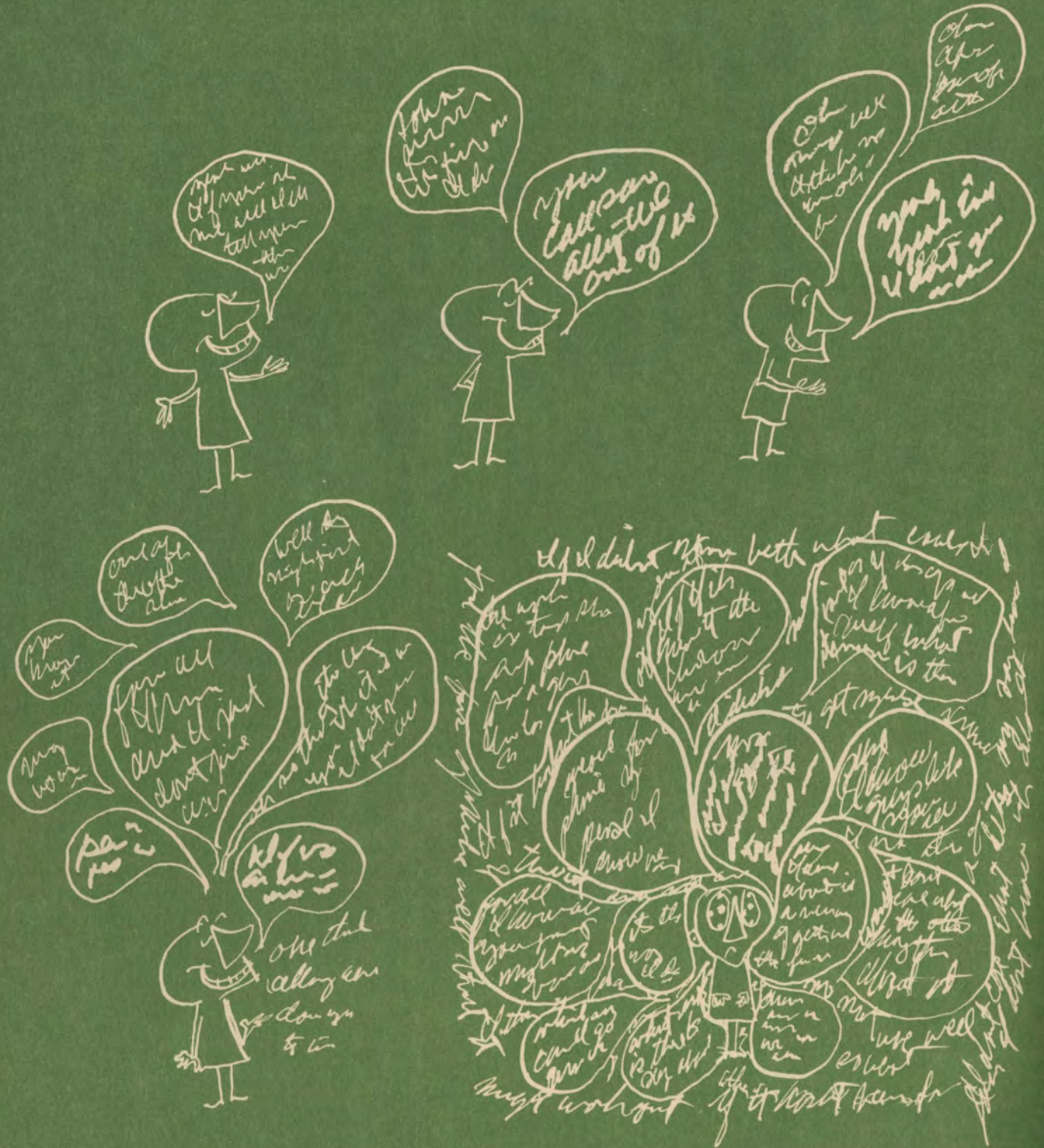
But, if the church has much to learn about its own calling from the student movement, the movement stands in need of a reawakened church. Students reject the church because they see that its “faith” is often really an escape from, rather than a commitment to, history. As Tillich points out, “The man of today, who feels separated by a gulf from the theistic believer, often knows more about the ‘ultimate’ than the self-assured Christian who thinks that through his faith he has God in his possession.”⁵ The problem of the Movement, however, is that it has no way to perceive that its apparently anomalous stance between operationalism and idealism, its inability to find a secure resting place in some Platonic form of Truth, is precisely its calling. The students do not have conscious access to the Judeo-Christian tradition in which their commitment is recognized as *the* calling of man. Their intellectual and spiritual suffering is often self-destructive because the tradition of *celebrating* their commitment has been rendered unavailable to them by the keepers of that tradition, i.e., by the church. Thus the church, by recovering its own ability to live and celebrate the life of prophetic commitment as the authentic life of man, would also stand as an encouraging sign of the authenticity of every manifestation of that commitment which emerges in society. This is precisely the calling of the church in our technological culture.

NOTES

1. From *Pragmatism: A New Name for Some Old Ways of Thinking*, by William James. P. 51. Longmans, Green & Co. Copyright 1907 by William James.
2. Daniel Bell, “The Disjunction of Culture and Social Structure: Some Notes on the Meaning of Social Reality,” in *Daedalus*, 94:220, Winter 1965. Collected in Austin, ed., *The Revolutionary Imperative* (MSM Books, 1966), and in Holton, ed., *Science and Culture* (Houghton Mifflin, 1965).
3. Mario Savio, “An End to History,” edited from a tape of his talks in Sproul Hall and mimeographed by the Free Speech Movement for general distribution. Collected in Cohen and Hale, eds., *The New Student Left* (Beacon Press, 1966), and in Jacobs and Landau, eds., *The New Radicals* (Vintage, 1966).
4. Paul Tillich, “Realism and Faith,” in *The Protestant Era*, University of Chicago Press, 1948, p. 78.
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CONFRONTING THIS ISSUE

— a dialogue discussion



one

DRAWING: CRANE

Five people have met at Union Theological Seminary in New York this year to discuss and research the problems of the technological era. They assisted Robert Theobald in the development of the material for this issue, and after the essays were in hand, spent one period discussing the ideas involved.

The following is an edited version of that discussion. The participants are: FRANKLIN C. BASLER, Jr., a graduate of Yale and a senior student at Union; HENRY B. CLARK II, a member of the Union faculty, author of *Residential Desegregation and the Church* and *The Christian Case Against Poverty*; JOHN C. CENDO, a graduate of Columbia University and a first year student at Union; CHARLES C. BREWSTER, a graduate of Union, now serving as assistant editor of *World Outlook* magazine; and GILBERT P. WINTER, a graduate of Trinity College in his second year of study at Union.

The discussion opened by reading a paragraph from the dialogue-focus summary of "The Impact of Technology:"

A growing number of people on the leading edge of the debate on technology deny the validity of any dichotomy between what is necessary and what is desirable: they claim that it is essential that man become honest and responsible, humble and loving if he is to live with the power which he himself has created. This viewpoint suggests that the old tension between intelligent actions and moral actions is tending to disappear and is being replaced by the tension between objective and subjective methods of seeing reality.

CLARK: I don't know what that part about the tension between the objective and subjective methods of seeing reality means. I hope somebody will clarify that. I think I do understand the first part, and I am in disagreement with it. The first part seems to be saying much the same thing as W. H. Auden said in 1939: In an age where man has so much destructive capability we must love one another or die. We will make life intolerable for each other if we do not become honest, responsible, loving and humble.

That's a very optimistic view. I wish I could believe it. But unfortunately history is filled with examples of men and governments which were successful for quite a long time in oppressing one group in their society—or even a majority, for that matter. This might be just what will happen after all.

BASLER: Perhaps part of an answer lies in your first question. Ever since the enlightenment we have been way overboard on the objective

emphasis. People like Jacques Ellul have talked about the danger of our emphasis on technique and rationalization. Today we're searching for a more holistic way of viewing man, of viewing his world, and viewing the new kinds of problems. We aren't just approaching it rationally; we're not just trying to manipulate it.

CENDO: To me the tension which is stated between the objective and subjective way of seeing reality provides some sort of a framework or structure within which a new kind of world-view can be built. This would incorporate our own personal inexpressible knowledge of reality with the well-defined, objectively expressible modes of reality. I think the dialogue-focus statement suggests some kind of a structure around which a world-view must be built.

CLARK: I wonder if this ties in in any way to the whole question of what kind of man, what kind of society we want? Many authors emphasize the fact that in an age of so much power, man is free for the first time in history to become an innovator instead of simply an implementor. And so we are challenged to think big, to dream great dreams. First of all, to recognize the magnitude of change which is taking place. And secondly, to jump aboard this wave in history and decide for ourselves what we want human beings to be like; what we want our society to be like. If we fail to dream, these decisions will be made for us by the machinery itself or by the vested interests who run society. We are being called upon to choose.

So, what *do* we want?

One of the things that many people want, and indeed expect to happen, is a world in which men are not only more free but more able to use their freedom responsibly because they no longer live in a world of scarcity.

There is an implicit assumption here that abundance will make it possible for man to be more ethical. If competition is no longer necessary, then many of the repressions which were heretofore necessary to promote social cohesion become surplus repressions, to use Marcuse' term.

WINTER: That's well put, but the implications are phenomenal!

CLARK: Of course they are. That's why the discussion is urgent.

WINTER: But it is very difficult not to make judgments about the people around us. The kind of dialogue which must take place is something totally different from the kind that goes on right now. It's not just a matter of content; it's a matter of how you respond to situations. It

implies that because people will be free to make ethical decisions, they will have to be prepared to think of themselves as persons in a constant state of flux; never totally secure. Materialism—and by implication the Protestant ethic—must die and be replaced not so much by a new ethic but by a preparedness to accept rather than fear the new.

CLARK: Fear of a perpetual state of flux is certainly one of the reasons why we are so resistant to the idea that people don't have to work. Work has been that ordering principle which told you what you had to do every morning when you got up; you didn't have to think about what you ought to do.

WINTER: You never had to fill your day—your day was always filled for you. All you had to do was to fit yourself into the machine and there you were: the cog.

CLARK: It's also the reason, I think, for some of the fear about sexual freedom. There, too, the traditional ethic provides an orderly framework through which one finds security. One may not find happiness, but at least one has order and meaning.

BREWSTER: Why should affluence necessarily result in a more ethical man? We seem to be reversing our naive notions about certain groups of society. In the past the church has had a very naive notion about the ethicality of being poor. It was assumed that the rich were unethical, conniving, and powerful. They were the ones who got involved in power politics, whereas the poor were essentially loving and innocent. It seemed that if anyone was innocent, he was thereby basically ethical.

Here we're getting to the heart of what we think is the nature of man, and so much of the discussion of our day diminishes the traditional Christian doctrine of sin and the sinful nature of man.

BASLER: Just because we have achieved this level of affluence doesn't mean that ethical man will develop. Somehow we have to make it happen; we have to create it. Maybe it is going to take free men to enter into dialogue in order to make decisions and create the goals toward which we are going to work. Somehow we have to be able to transcend what we are right now in order to create what we can be later on.

CLARK: Let's try to define our area of disagreement a little more precisely. I want to describe one area where I believe greater abundance will make men more ethical, and then you can tell me whether you accept this much of my thesis.

I think that the guaranteed income—a proposal to provide each individual and family with a basic income as a constitutional right—will provide

enough security, enough welfare so that many people who now find it necessary to steal—and I really mean steal as a necessity in order to keep on existing—will no longer have to steal. Our greater economic abundance will mean that people will not have to be so competitive. They will have a chance to be more humane, more altruistic. Love in this sense will be a phenomenon of abundance in economic terms.

I acknowledge that Brewster has a point here, because it is quite possible—indeed some would say probable—that a guaranteed income would give the poor enough strength to rise up out of their apathy and organize and become more troublesome than ever. Of course, that might be a good thing, too.

BREWSTER: Would your thesis be supported though by people who are affluent in our country? Competitiveness hasn't died out in Scarsdale and the kingdom of honesty hasn't come there either. But Scarsdale is very affluent.

WINTER: That's why I feel that the issue is so much broader. It concerns a whole manner of living rather than just a matter of circumstances. A whole way of thinking and being. It requires that a person have a vision which he can be a part of, rather than to think of his life just in terms of taking steps along a path which has little significance.

I would have to agree with Brewster: the nature of man is not so amenable to affluence that it will adjust itself in such a way that he will become more ethical. I think that education and custom will have to undergo an extraordinary revolution in order to cope with the kind of society that man has himself created.

BREWSTER: I'm disturbed that you're arguing in terms of the shift to an economy of affluence. You seem to be saying that in order for us to get to the point where we will be willing to give a family in Harlem \$3,000 a year, we've got to change our whole idea about what that family is going to do with it. You appear to be arguing that so long as we believe that man is basically sinful, we won't be ready to give that family \$3,000 because we will believe that those families will do wrong things with the money. And that if, on the contrary, we come to believe that man isn't a sinner, and list all of the affirmative things we can say about man, then we will be ready to change our values in such a way that we will make the fullest use of cybernation.

That kind of reasoning is backwards. Instead of deciding first what we believe about the nature of man, we have thought first about what kind of changes will have to come about if we are to create the kind of society we want. These changes will have to come about through changes of values. What is the core of our values? It's the nature of man. So that gets changed.

O.K., I'm ready to grant that some ideas about

motive

man will have to undergo change, such as the idea that he must *work* in order to be self-respectable.

I went into a church several months ago when I was unemployed—"between jobs"—and the minister asked me what I was doing. He wanted a simple reply, so I said, "I'm unemployed." This was a wealthy church in the suburbs. A woman at the coffee table introduced me to a girl attending church there. She said, "This is Mr. Brewster. He is unemployed, but he still seems very nice."

That woman put into one sentence a whole volume of values that she obviously upholds. Well, it's obvious that some of these have to go.

CLARK: In reference to Scarsdale, I would distinguish between the battle for economic sufficiency and the battle for status.

Providing economic security at a minimal level for everybody in society, it seems to me, will cure certain illnesses which have led to anti-social, evil behavior. On the other hand the struggle for status and prestige—in Christian terms, the "sin of pride"—will require other solutions. That again is the beauty of abundance.

I think abundance will help in the battle against pride, too, because work will no longer be the dominant force which will drive everybody through life. We will be free to employ ourselves in whatever way we want to, whether this is in art, fishing, or playing football. We will be able to choose the kind of identity and humanity we want for ourselves instead of simply performing the roles which are expected of us. An example is what is happening in this student generation. Young people who have come out of wealthy homes, who have always had enough, who have been raised in front of the television set, who have been taught to consume and buy and spend and display, have revolted against the hollowness of this and have said, "I want to give my life to something more significant."

WINTER: Unfortunately, I think that is only true when they have the security of an academic situation to back them up. After they leave college or graduate school, they are back on the market, playing the same games that their parents played.

BASLER: It isn't just affluence that's going to make the changes. And we can't just assume that we are going to have a guaranteed income. How are we going to make the kind of attitude change in this country in order to make even the most minimal income possible?

BREWSTER: I think the guaranteed annual income is inevitable: it *will* come about purely and solely on pragmatic terms just as the vast changes inaugurated in this country in 1932 came about on pragmatic terms, and not because of shifts in ideology. Where this discussion is off the track is in the belief that there must be a great shift in ideology; and in order to make this point

you have to set up the ideologists who are either voluntarily or involuntarily against you as straw men. This includes many good old-fashioned liberals who would proclaim the sin of man, for instance. I don't think this is necessary.

WINTER: This may not be necessary. That seems to be a polarization of the issue. But I don't think the proponents of what you call the shift in ideology are necessarily asking for that. They are asking for some way of preparing people to take on the responsibility of disciplining society; to take on the ability to make decisions about their own worth, their own use of leisure time so that they will not drop into the abyss of meaninglessness. That's what Betty Freidan's book is about. Woman has accepted the image of a mother and child-bearer as being her only role for so long that she finds herself distraught if she faces the lack of substance in this kind of role.

It's a matter of fitting into a mold and not having a viable life, of somehow not really living.

BREWSTER: I think that people watch things change and then see their ideals change after the fact. That is, things happen to change people's minds without a lot of filibustering on the part of ideologists. An example of the way this is going on in our society is the way the attitude of many white people changed towards Martin Luther King when Stokely Carmichael came along. Had Carmichael not appeared, King would still be vilified by many white people, but now they see him as a salvation. They would never have been convinced had Carmichael not come along.

BASLER: You were just arguing against Clark that the new affluence isn't automatically going to make the changes. How do we make the change unless we somehow consciously go after it?

BREWSTER: What I'm saying is that the guaranteed income will come first and the change in values occur afterwards.

BASLER: Then utopia will occur all by itself?

BREWSTER: I don't know anything about utopia, all I'm trying to get at . . .

WINTER: How ready are people to readjust themselves after some kind of catharsis? Look at the civil rights movement and then tell me that people are junking their attitudes now that there is some grand recognition of the Negro as a human being. The white backlash is very powerful. . .

CENDO: I think that there is a grave ideological problem involved in the concept of guaranteed annual income. It will make competition for jobs obsolete, and in a sense it will destroy capitalism. I think that's fairly obvious to everyone.

CLARK: How do you reason that, because that is not obvious to me.

CENDO: I think in a sense the guaranteed income will provide everyone with a subsistence, the ability to live apart from the need to work.

BREWSTER: People thought practically the same thing in 1932. That's what all the hue and cry was about across the country: "It's going to be the end of capitalism." Any visitor to Wall Street today would hardly think capitalism is dead.

CLARK: How many people are going to be satisfied with subsistence? I don't think it will destroy. . .

BREWSTER: That's where these other factors come in. There are other drives that people have in relation to the kinds of jobs that they would choose, and having enough money is not the only goal.

WINTER: The capitalist competitive impulse may diminish if people don't continue to try to protect themselves within this system, but what do we do about those countries which support the affluence of this country? Are we going to somehow recognize they are a part of our abundance or are we going to take the view that our abundance and our new society depends upon bleeding valuable resources from the underdeveloped countries?

BREWSTER: This gets into another real problem that Paul Goodman talks about: how can we begin to talk about a guaranteed annual income in this country when there is problem of hunger for three-fourths of the world's population?

CLARK: O.K., but we are talking about a long-range problem and opportunity, I think. I certainly am in favor of the sort of short-range program advocated in the Freedom Budget which was just published by the A. Philip Randolph Institute. The Freedom Budget calls for a "both-and" solution to the problem of unemployment and poverty. That is, it calls for a full employment policy in the country, vigorous use of government fiscal policy in order to create more jobs at a higher minimum wage, but at the same time it also calls for a guaranteed annual income. To quote the budget, 40% of our poverty-stricken population cannot or should not be expected to work. I'm all for that in the short run but as I read the technological experts and their descriptions of what is technologically possible I think that in 20 or 25 years when we will have the cybernation revolution in full bloom, it will be possible to have an unprecedentedly abundant production without requiring the labor of 30 or 40 million people who can decide what they want to do with

their free time while they count on the guaranteed income for their resources.

BREWSTER: The technological revolution promises that the question of the use of man's leisure time will become more and more acute. He will have more time, of course, to wrestle with the question of what he is going to do with his leisure time.

WINTER: People will want to do one of two things. They will want to preserve their present ways of using time or they will somehow come to realize that they have to readjust—and "readjust" is a very conservative way of putting it. And I don't see many people, especially older people, as being in any way prepared for this sort of thing. This problem is extremely critical.

For people who are in school, the conception comes easily and the pragmatic realization of what we are talking about does not come as too much of a problem. But after you have been working for ten years and you haven't taken part in the dynamic of what is going on around you, it is very difficult to break out. The majority of our population—60% we might presume—are such people.

BASLER: I think it goes even deeper than that. It's not only the people who have been working for 10 years. Another example is somebody who has all the background and read widely. For example, this summer when I was in a strange kind of job which was very unstructured and in which I was not expected to produce a thing, I felt guilty for not producing, although production, in whatever sense I might have defined it, was exactly that which I wasn't supposed to be doing. I feel this is an extremely ingrained kind of problem. It's not just a matter of getting the information and perceiving what we ought to do. We have to recognize that we are trapped in the old era, both emotionally and subjectively. This subjective-objective dilemma is not going to be overcome rationally. The work ethic is part of me; and I see this as an extremely difficult thing to get free of.

CENDO: Do you think the distinction we are raising here is a distinction between working for other people or other purposes as opposed to working for yourself and the goals inherent in your own nature?

BASLER: No, I'd say it is the distinction between work and play.

CENDO: Yes, that's what I would say. Play is working, only in terms of your own goals—working for yourself, if we want to retain the term work at all. People are so unaccustomed to doing what they want to do; so used to doing what other people want them to do and seeing themselves in other people's eyes that this is a radical

change that people will have to experience as cybernation makes this new age possible.

WINTER: Does man have a self-image? What is it then?

CENDO: Well, I think in the past his self-image has been too much determined by whatever people think of him. I think people in our society are approaching a crisis of identity because each person will have to wrestle with the problem of what he himself is apart from what other people expect him to be.

CLARK: In some of the comments that have just been made there seems to be the assumption that adjustment to the world of leisure will be a difficult thing for man. If you really accept the assumption about human nature, or about human nature in our culture at this particular moment, why are you in favor of a leisure society? Why aren't you in favor of continuing to manufacture, make work for people to do? This is one of the functions performed by work in the past. I told people what they had to do and didn't give them much time to ask questions about their identity and about what they really wanted in life. I think it will be a great thing if people have this time and I don't think they'll have so much trouble adjusting to it. Of course, some individuals will. Why do you speak of leisure as such a problem?

BASLER: I just experience it as a problem. I don't think we ought to make work. I see the potential for myself and I want to get free. I'm saying however that it's not that easy; it doesn't happen automatically. It's not so much the nature of man; it's our culture. We have been held down for such a long period in our lives that there is an adjustment problem.

WINTER: I think it's what Cendo had to say. He was talking about persons who identify themselves through what other people expect of them, what other people think of them, and unless people can somehow change this self-image to one which somehow allows them to look in a mirror and say to themselves: I am a man who has to be fulfilled, and according to certain ideals which I myself hold.

We're going to have the problem of being able to adjust to leisure time, and I think most people do have this kind of self-image.

CENDO: In a sense leisure itself is going to be a problem of transition in our culture.

There is great possibility for a sort of a burst of spirituality—individual spirituality—where each person can think of himself as an integrated human being, apart from socially conditioned definition. Man could then think of himself really as a child of God who comes from some absolute rather than from relativized social expectations.

CLARK: When you talk about man seeing himself as a child of God, you imply that there are certain limits on his freedom which it is appropriate for man to have. Or should we imply that there is a normative understanding of human nature and human destiny which the Christian faith offers which is important, which is a contribution to the dialogue?

What precisely is this normative vision of man which Christianity has to offer? In Protestant culture the contribution has been that constructive image of work-oriented, anxiety-ridden man which we are struggling so hard to get away from. Are we trying to understand what salvation by grace really means? The Reformation tradition misunderstood this or at least its understanding is no longer appropriate for our situation.

BREWSTER: The problem of work and leisure really becomes acute, as anybody knows who has retired or has had to retire from a job after 50 years or so, and gotten his gold watch, because of all the time on his hands without any work to do. There is a real imperative, isn't there, in the cybernation crisis coming up, for us to continue to find jobs for people despite all of these people who say, "Let two percent of the work force do the job."

I think that meaningful vacation is not really possible unless one is pursuing, or has pursued over a long period of time, a meaningful vocation in life. Leisure does not really have a chance to become meaningful if man hasn't found what it is to really work hard at something. This is what I'm afraid is an old-fashioned kind of belief, but. . . .

CLARK: That's where you and I really have a fundamental disagreement. I grant that in the age of scarcity, which is the totality of human experience up to the past five years—or maybe up to somewhere about 2000—it was necessary to require of every person some contribution to the common good. It was right in a certain sense to say, if a man does not work, he won't eat. That has been necessary. But I can contend that if all these possibilities of technology come true, then the machines can become our slaves and they can turn out all kinds of goods and services. Then men will be free to decide how they want to employ themselves.

That's all I want: for men to be free to make decisions as long as they do not cause harm to others. So if some people choose to pursue power and wealth, or simply to work hard for the satisfaction it gives them, that's fine. All I ask is freedom for man who wants to do nothing but sit beside the stream and fish to be able to do that without being considered some kind of subhuman.

BREWSTER: We are undoubtedly getting to that point in our society. . . .

Confronting the Machine: Two Views

Because I usually have a rehearsal or meeting in the evening, I often attend the movies I want to review in the morning. The first showing begins about 11 a.m. There are very few people in the theater at that time and at the art houses uptown they often play recordings of Bach, Mozart or Handel as the sparse audience settles. I am always conscious in the dim, cavernous moviehouse of a strange but halfway pleasant atmosphere unlike any other. I had never been able to put my finger exactly on what this eerie but pleasurable feeling was until one morning recently while waiting to view *Fahrenheit 451*. I noticed sitting near me an old lady with bowed head; I looked more closely and discovered she was saying her rosary. Her murmured prayers, as she fingered her beads, barely were audible. It suddenly hit me that this atmosphere of vague hope (that the movie would be good), anonymous comfort (plush-seated strangers), and half-anesthesia must be what the conventional church often gives people. I refuse to draw conclusions, theological or otherwise, from this epiphany but I felt an odd kinship with the old lady which is more than I can say for the film we both saw.

Fahrenheit 451 is a silly movie. The title has to do with the temperature at which paper burns, and the story based on a Ray Bradbury science fiction thriller concerns a society in the presumable future in which books are banned and burned. A fireman whose job is to burn books has an almost Pauline conversion experience to bibliolatry and escapes into the country where

the "book people" live. There is a touch of bookish romance and an underground resistance movement whose members keep the information in books alive by memorizing entire books and living in a strange wilderness called the "land of the book people." The height of absurdity occurs at the end of the movie when the book people introduce themselves by the title of the book each has memorized. "I'm the Brothers Karamazov," one character exclaims. I felt like vomiting.

Apart from a promotional venture for National Book Week I could not see much value in the movie. Truffaut has presented his future society replete with gadgets, new inventions, and the like, but the problem is that the picture is all exterior. We never get into the substance of what such a society would mean and do to people. All the furniture of 1984 is present but at the center is no vision. Oskar Werner is particularly good as the fireman turned hero, but Julie Christie plays two parts with such blandness that she further deadens an already moribund movie. The photography is quite lovely and indeed at times threatens to ironize the content of the movie—those lovely flames licking up all those dreary paperback books. . . .

Blow-Up, Antonioni's brilliant new film, deals in some way with the same problem as *Fahrenheit 451*—the implications of the technological in human life. But in this film the phenomenon is handled so poetically and so profoundly that the problem itself becomes an exercise in artistry. I have never been a

raving Antonioni fan. I have found his films dazzling technically, often intellectually stimulating and occasionally moving, but for me Antonioni has never wedded imagination and idea in the way a great film must. In this film the two are joined in such union that seeing it is like having the veils of skin drawn back from the naked human heart. In *Blow-Up* Antonioni seems to have borrowed a sense of liveliness and splash from his colleague Fellini—but not simply borrowed it; he transmuted it into an Antonioni world. The plot seems to glide along on the surface of the movie until one realizes that in the limpidity of the gliding, deep prongs have been thrust down into the texture of the movie, into the texture of life itself.



Visually the movie is exquisite. Where colors were not adequate in nature he has created his own color and with a painter's skill they are transposed and related. The acting has a curiously off-hand quality which in the context of the film is just right. No one element dominates the total film—acting, photography, direction are melded to form a work of art rather than a film "about" something.

Part of Antonioni's grace is the impression of effortlessness which permeates the film. There is no sense of exertion or pyrotechnics. Revelation follows revelation with an ominous naturalness. It moves from the silky dessication of an individual into the realm of horror and mystery without jerks or signalling. Indeed, Antonioni in the film bridges the gap between the personal cinema of the 1950s and early 1960s (Fellini, Truffaut, Bergman), and the new impersonal underground cinema (Warhol, Vanderbeek). The film points out the impotence of attempting to explore the modern predicament of this world only through the old psychological investigations. The "serious" film dominated by character explorations will no longer do for modern man and in this film Antonioni shows why. The horror and the wonder is no longer merely personal. Under the pressures of now, the personal answers and symbols explode. The machine draws its own due from us—as does nature—as do the unseen realities which brush by us like phantoms. This is a film of metaphysical horror and tempered wonder and joy. That is why it is so close to where we all live and that is why it is a great, great work of art.

—AL CARMINES

Joachim Jeremias



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JOACHIM JEREMIAS is Professor of New Testament at the University of Gottingen and Chairman of the Septuagint Commission of the Arts and Letters there. He spent much of his youth in Jerusalem, and took his doctorate in Theology at the University of Leipzig. His works include:

THE EUCHARISTIC
WORDS OF JESUS

THE CENTRAL MESSAGE
OF THE
NEW TESTAMENT

THE PARABLES
OF JESUS



SCRIBNERS

afterword

No magazine issue can possibly cover all the ground an editor would wish: there are bound to be gaps. Some of the gaps perhaps will be visible only to the editor and will reflect his failure to find an appropriate writer for a desirable subject; others will be perceived by readers according to their own interests and priorities.

It is already clear, from initial reactions to the material in the issue, that readers may feel that two areas have been slighted. First, it is being argued that there is too little discussion of the impact of technology in the poor countries and, second, that there is too little examination of the political steps required to achieve change. However, while pieces on these subjects would certainly have been desirable, it seems to me that their absence is less critical than appears at first sight.

The lack of emphasis on the implications of technology for the poor countries should not, of course, be taken to imply that technology is unimportant for the course of development of the poor areas of the world. Indeed, it is increasingly accepted that the poor countries must move from the agricultural era to the cybernated era without passing through the industrial age. (See Robert Theobald, *motive*, January 1966.) This means that we must develop a totally new analytic framework adequate to provide the leaders of the developing countries with guidelines for their policies.

However, this does not mean, as is often implied, that America can, and should, continue its emphasis on the importance of product. It is argued by many that it is immoral to perceive American problems as being caused by excessive emphasis on production when so much of the world is not only hungry, but starving. It is suggested by those advancing this view that the prime requirement is to bring about a shift in economic priorities so that the phenomenal productivity of the rich countries can be used to solve the urgent economic needs of the poor.

Quite apart from the questions which can be raised about the political realism of this approach, I believe that it ignores the crisis in man's evaluation of himself which is so graphically depicted in this issue. The present productive system which depends upon man's perceiving himself as an object rather than a subject cannot long survive the new image of man whose growing understanding is recorded here. The preservation of the essential productive mechanism of the rich countries will be possible only on the basis of a new style of personal commitment to the necessity—rather than the inherent value—of the productive enterprise.

The question of the appropriate way to look at the problem of the poor countries is, therefore, part of the great debate now developing. One school in this debate claims that the question should be examined in terms of the misallocation of resources: that the required policy changes can be achieved by altering, "who gets what." This issue states eloquently the opposite view with the various contributors arguing that the present crisis requires a new view of man: that the relevant policy issues cannot be solved until we know what man will be in the cybernated era, and that this will automatically settle the question of "who gets what."

If this latter view is correct, the omission of an article dealing with classical political concerns is completely understandable. Under these new circumstances, change is achieved not by pressure groups and lobbyists but rather by a new understanding of the reality of the world in which we live: the new understanding then causes changes in our views of appropriate policies. This new understanding, however, is not instantly available through the reading of a book or the hearing of a lecture. It can be achieved only by struggling with the insights of each individual and thus achieving a subjective, personal view of the reality which each one of us, as unique individuals, confront. There is no short-cut to an adequate level of personal understanding which will then provide the basis for commitment and action.

This issue of *motive*, therefore, is only part of a wider program which aims to provide individuals and groups with the potential to understand the world in which they live. We start from the assumption that failure to change the present socio-economic system in order to meet the pressures arising from new technologies will lead to profoundly anti-human results. Many initiatives have been started which aim to invent a future in which the true humanity of man can be achieved. Those involved in the initiatives agree that present styles of debate, discussion and education are not well suited to achieving a fundamental rethinking of issues. This means that it is necessary to develop a new mood and style of education. Indeed, many believe that the new mood and style—often called dialogue—has passed beyond theory and is in the process of emerging.

Dialogue is based on a study of problems rather than disciplines, on a recognition that authoritarian relationships cannot exist in real education and that faculty, students and citizens must cooperate in the creation of new knowledge. A growing number of organizations already are cooperating in the devel-

opment of this new thrust and active discussions are proceeding with many others.

Central to this new thrust is the concept of the dialogue-focuser which begins this issue; this document recognizes the reality of disagreement and therefore endeavors to clarify the reasons for the disagreement. The dialogue-focuser has two parts:

1. A statement of the body of knowledge now generally agreed by those at the leading edge of the debate on any particular issue. The area of agreement is usually far larger than is understood by the general public.

2. A clear-cut delineation of the areas of disagreement and the causes of the disagreement. It would appear appropriate to distinguish at least five reasons: disagreement about the facts and the interpretation of facts; disagreement about trends and the interpretation of trends; disagreement about the constraints imposed by the environment; disagreement about the nature of man; disagreement about a desirable world in which to live. (For more information: send for DEG5, Room 758, 475 Riverside Drive, New York, N. Y. 10027.)

The material in this issue, particularly the dialogue-focuser, will be revised continuously. If you have suggestions about appropriate improvements or if you would like to be involved in the process of revision, write to Dialogue-Focuser, Room 758, 475 Riverside Drive, New York, N. Y. 10027.

Technology, however, is only one of the subjects to be studied and for which dialogue-focusers will be produced. A new communications system is being developed which will enable individuals interested in a specific topic to be placed in contact with others who have similar interests. If there is a particular problem in which you are interested and on which you would be willing to work, write: Karen Jones, Room 758, 475 Riverside Drive, New York, N. Y. 10027.

The results of these studies will be published in a new "Dialogue" book series in some cases; in others they will be mimeographed. A coupon listing the available material is published on this page. It should be noticed, in particular, that the material in this special issue is being published in the book series. Single copies can be obtained from the address on the coupon; bulk orders should be sent to Dialogue Series, Attention William Hackett, Bobbs-Merrill, 4300 West 62nd Street, Indianapolis, Indiana. In addition, the tape from which the conversation (beginning on page 52 of this issue) was extracted is available; orders for this should also be sent to the address on the coupon.

More specific information on the implications of technology in various areas is available in a series of audiotapes entitled *Man in Tomorrow's World*. Further information on the series can be obtained

from Karen Blumer, Room 758, 475 Riverside Drive, New York, N. Y. 10027. The cost of the series of thirteen 30-minute tapes is \$45.00; orders must be prepaid.

Plans to reach a wide audience on these subjects are now being made. Central to these plans is the commitment of CBS-TV to create four special programs in the *Look Up and Live* series in November 1967. The University Christian Movement already has decided to make this series central to its fall preparation for the Cleveland meeting in 1967; other student organizations are examining the possibility of cooperation. In addition, a number of voluntary agencies are considering establishing study groups across the country. (Further information is available from David Poindexter, Room 853, 475 Riverside Drive, New York, N. Y. 10027.)

A weekly one-hour radio program will be aired nationally beginning in March. The program will include a half-hour discussion of a fundamental long-run issue, a ten-minute examination of a crucial news development which has long-range relevance, a ten-minute piece on the arts and their role in the society of the future, and some seven or eight minutes of news about resources within the total thrust. Tapes will cost \$100 for a series of 13; reduced prices will be offered to those who cannot afford these rates. For further information, write: Barry N. Schwartz, 1670 East 13th Street, Apartment D, Brooklyn, N. Y.

A ham radio network also is being created to facilitate communication. Those interested should write to Room 758, 475 Riverside Drive, New York, N. Y. 10027.

Subject	Available
A. Latin America	February 1
B. The Draft	February 1
C. Youth	April 1
Price for each: \$2.00 (Bobbs-Merrill books)	
D. Technology	April 1 (reprinted from this issue)
E. Dialogue Education	April 1
F. Women	April 1
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The photography in this issue comes from regulars **TOM DAVENPORT**, New York free-lancer who is soon leaving for an assignment in Europe, and **DON STURKEY**, award-winning staff photographer for the *Charlotte Observer* (N.C.). We are delighted to welcome for the first time in *motive* an outstanding California photographer, **RICHARD STEINHEIMER**. A recent exhibit of his work was sponsored by Kodak in Grand Central Station. He is noted for railroad photography, with two books in that field to his credit: *Backwoods Railroads of the West* and *Western Trains*.

Other contributors to this issue are cartoonist **JIM CRANE**, whose protests of anti-humanizing forces have been in *motive* for almost two decades; **TOM HAMMOND**, who teaches printmaking at Madison College; and **JACK BARRETT**, who teaches at the Ivy School of Art in Pittsburgh.

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JOHN PAUKER will be remembered by our regular readers as the creator of that big-business answer to Dr. Strangelove, Jim Bellwether (February '65 issue). Perhaps the environment of Washington, D.C., where he lives and writes, has driven him mad.

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SOMETHING BEAUTIFUL

They came, swirling like exotic, bright plumaged birds, into the dimness of his room to wish him goodby.

It was not a sad occasion. The old man had lived a long time and he was quite willing to be on his way. Life had little to offer him now. The last child in the world had been born twenty years ago and society had grown increasingly decadent and pointless in the ensuing years.

Zelda, his favorite daughter, perched on the bed at the old man's side and stroked his brow, asking him according to custom, "What would you like as a last request, father?"

The old man tossed his naked, pink head fitfully. His voice rustled out thin and whispery. "I'd like to see something beautiful. Something clean, and pure and wonderful and rare, something without flaw."

Zelda raised her pointed brows. The old man was senile, but a last request must be honored. It was one of the few surviving customs. A custom important in a civilization where everything was dying.

Her voice was reasonable. "But how can we find such a thing, father? Can you be more specific? What particular thing did you have in mind?"

The old man sniveled and wiped at his nose with a dry, yellow hand. "I don't know," he said fitfully. "I just want to see something clean and beautiful once more before I leave."

Zelda shrugged her slender, bare shoulders and looked at Dev, her brother, who had been listening to the exchange.

"The machine," whispered the old man's voice. "Ask the machine."

"The machine?" asked Dev.

"He means the computer," said Zelda, gesturing at the aging machine that filled one corner of the room. "The thing's been obsolete for years. I don't know why he keeps it."

"It's full of truth," muttered her father. "Full of truth and facts and dreams and information that the rest of the world has forgotten, or never knew."

"What can we lose?" said Dev.

They looked at the hulk squatting in its corner. It was grey and dusty. Its lights looked as filmed over as the old man's eyes. They waited a few moments for it to warm up, then Dev, who knew about such things, punched out the question: What is beautiful and pure and clean and rare and wonderful and without flaw?

The old machine whirred and clicked and chewed over the question, lights flickering feebly. Finally it stuck out a narrow tongue of paper. The slip bore two words: "A Unicorn."

"A Unicorn," said Zelda. "What is a Unicorn?"

Dev grunted. "I remember vaguely. A mythical beast, I think. White, built like a horse, with a horn in the center of its forehead."

Zelda turned away. "A mythical beast. Father, your machine has given us the name of a mythical beast. How can we get that for you?"

The old man raised himself waveringly on his elbows. "Ask the machine," he snapped crossly. "Fools," he added.

Dev smiled at Zelda, shrugged his shoulders and punched out the new question and submitted it to the machine. "How can we find, or by what means can we obtain, a Unicorn?"

The old computer took longer to answer this time. The whirrs and groans were louder and a thread of smoke seeped from an unseen crack. Slowly, jerkily, the narrow strip edged out. It was a long and complicated formula for conjuring the desired creature by witchcraft.

It took them a good part of the afternoon to obtain the ingredients. The whole procedure was awkward and the words to be said were tongue twisting, but amazingly, they worked. For a second, a second only, there it stood in the center of the room where they had worked the ancient magic. The old man struggled forward, tangled in his bedclothes, peering nearsightedly, but he only caught a glimpse of the pristine white, smoothly muscled body, the ruby flashing eye and the horn that spiraled from the noble head in a twist of gold. Then it was gone, down the stairs and out the front door with a clatter of shining hoofs and a snort from the chisled nostrils.

"Come back," the old man wailed. "I

couldn't see. I couldn't see." His eyes were running with tears and his toothless mouth gaped. He beat weakly at the coverlet.

Dev and Zelda rushed to the window. Below them the Unicorn was frolicking among the flowers in the garden. He ran and bounced like thistledown. The setting sun dusted his body with gold and the wind ruffled his marvelous mane.

Zelda looked at Dev. "We'll never catch him. He's too quick, and father's eyes are not good enough to see him from here."

"Well, back to the machine," sighed Dev. "It's come through so far, perhaps it can tell us how to catch the Unicorn, or what we can use for bait."

They submitted the question and waited impatiently for the answer. The old man was sobbing quietly in his bed. "I hope it knows," Zelda whispered to Dev. "After all, it's his last request."

The old computer was trying. Crackles and static belched from its interior and there was a faint smell of burning. Finally it spit out the answer. Anxiously, Zelda took it into her hand. Her face fell as she showed the slip to Dev.

"Oh dear," she said. "His last request. How can we tell him?"

The bedclothes stirred and the old man squeaked angrily. "What's the answer? What did it say?"

But they stood looking at him sadly as the room filled with twilight, for how could they tell him that, although the machine had given them the answer, they would not be able to obtain the bait. As far as they knew it could not be obtained anywhere in their narrowing world, for the directions on the slip began: First find one fair virgin maid. . . .

—P. A. BRISCO