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ARTS IN SOCIETY

CONFRONTATION BETWEEN ART AND TECHNOLOGY \$2.00



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CONFRONTATION BETWEEN ART AND TECHNOLOGY

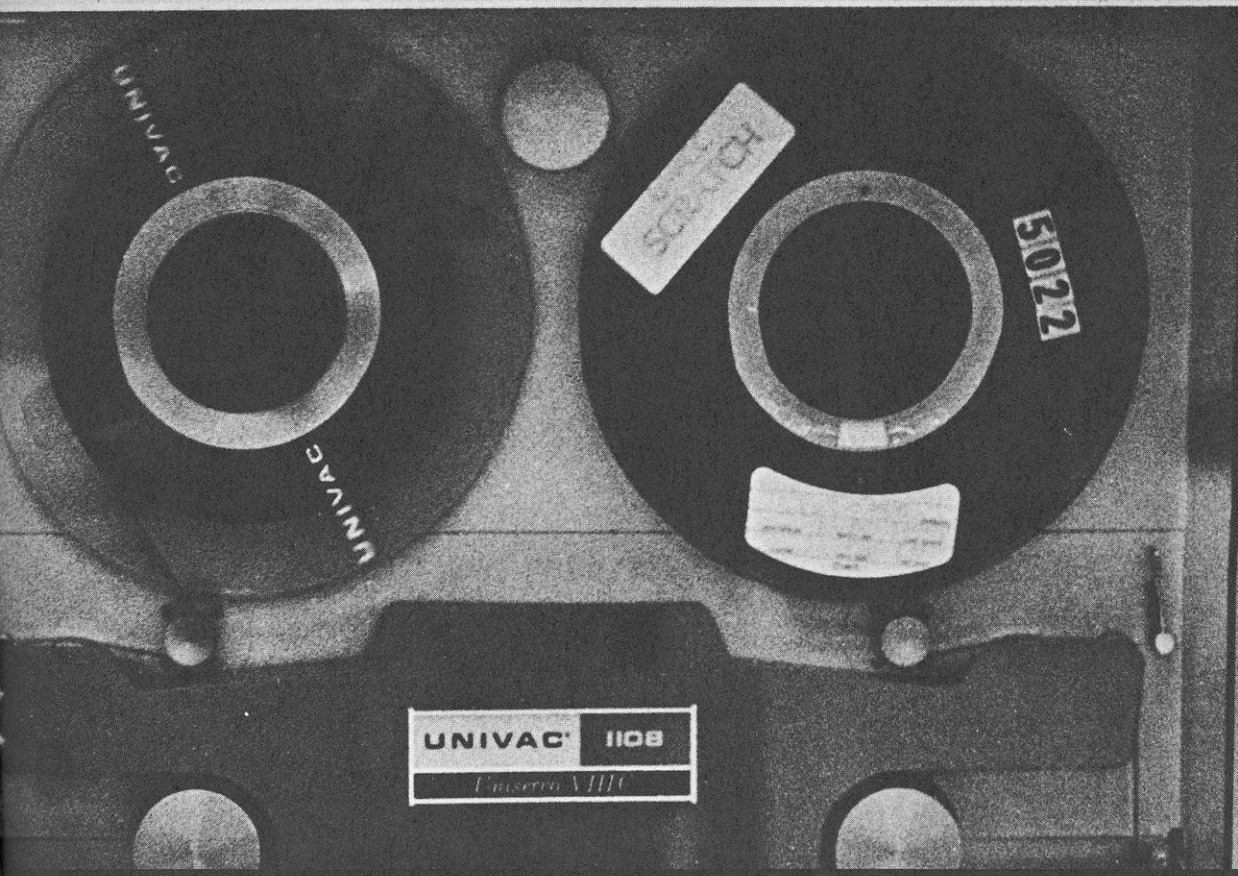
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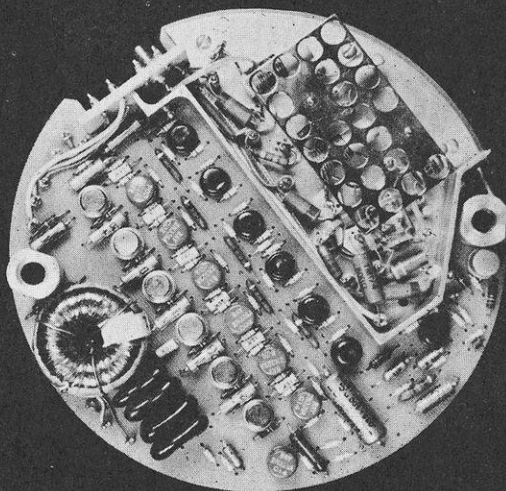
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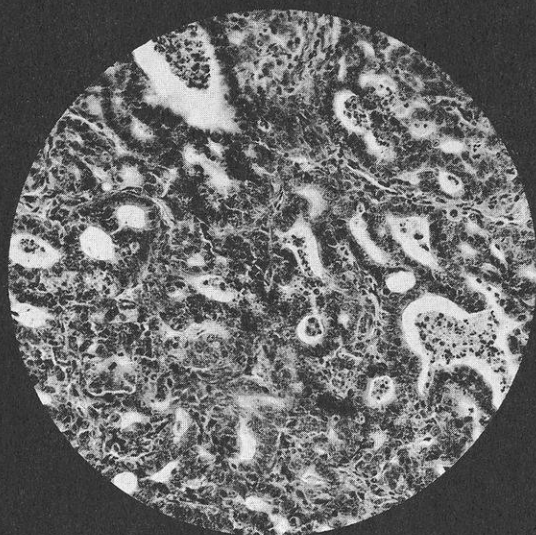
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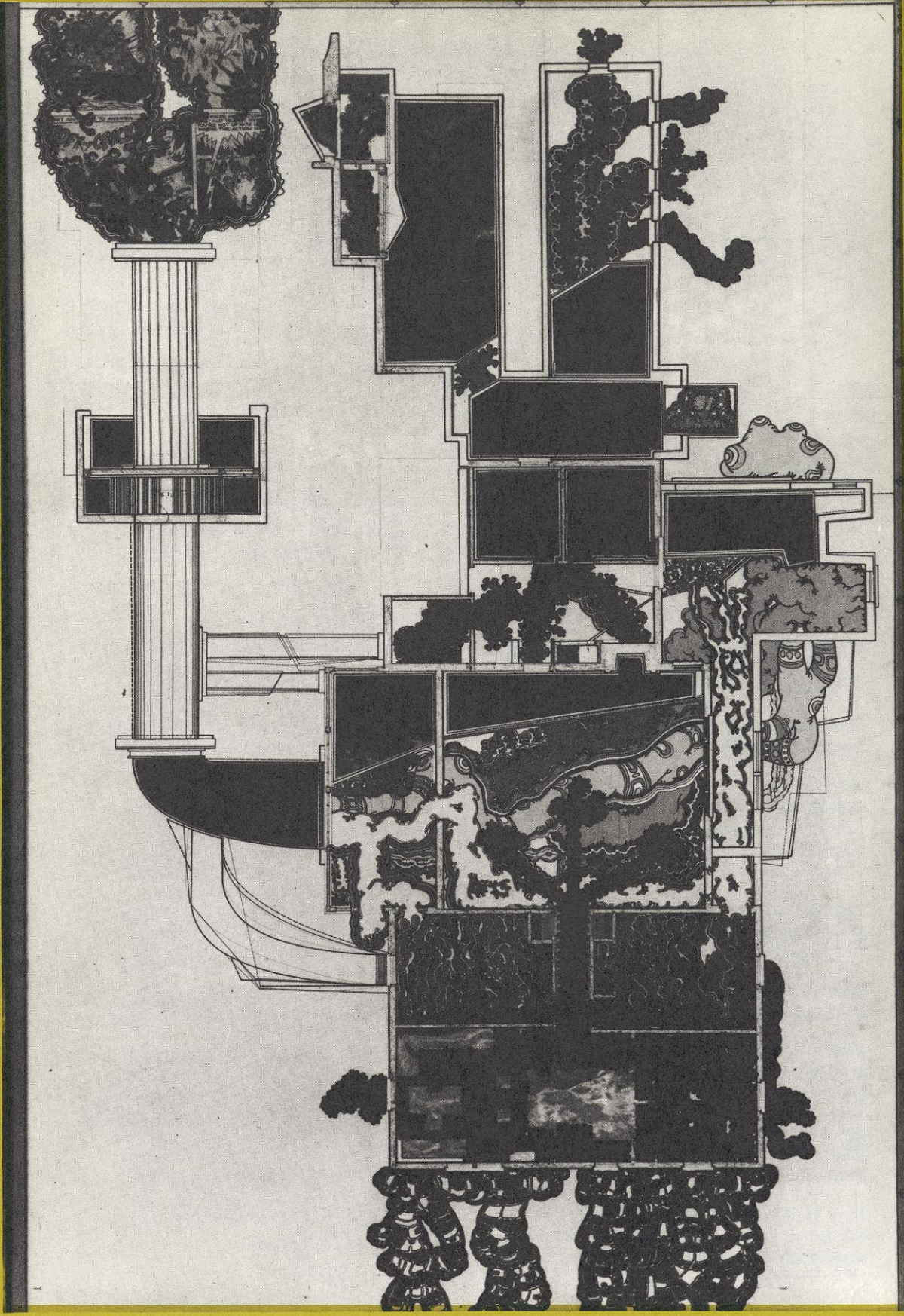
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THE WAR MACHINE by Wendel Pugh

Editorial Comment

CONFRONTATION BETWEEN ART AND TECHNOLOGY

In a recent piece in *The New Yorker* magazine George Steiner writes of the fearsome social and political consequences of the rapidly developing revolution in the biological sciences:

A drastic extension of the life span will make even more acute the rancor between generations—the life struggle for space and economic independence that marks advanced consumer societies today. The range of sexual, medical, psychic options open to man will be fantastically widened. The resultant stress on the individual, the need or availability of manifold choices, may well prove intolerable.

And, of course, almost equally momentous consequences are promised by the other areas of science as the increase of facts, of knowledge, of technique, of inventions, of advances in technology continues to spiral (it is said that the number of scientists now doubles about every ten years). Since the beginning of the seventeenth century the spectacular growth of the natural sciences has propelled the forces of change in society with increasing acceleration, until in our own time their impact has developed into an inexorable offensive, causing in each successive

generation ever more profound alterations in the social, political and cultural fabric and in man himself.

We are at a point in history unlike any that has been before. Change now moves so rapidly that virtually every area of modern life is characterized by deepening crisis. Note, for example, how frequently we now apply the word "revolution." We speak of the youth revolution, the urban revolution, the black revolution, the sexual revolution, the cultural revolution, the agricultural revolution, the revolution in the Catholic church, the revolution in education, etc., etc. On all fronts our institutions and patterns of social organization are increasingly rent with discontent, discord, violence, and threat of chaos. Contemporary man feels himself numbed, alienated, and powerless. In his essay, "The Sealed Treasure," Saul Bellow asks whether the pervasive boredom that people complain of might in fact be an unbearable excitement caused by the greatness of the change. Perhaps no one has posed the paradoxical dilemma of modern man more aptly than Ortega y Gasset when he talks of him feeling lost and impotent amid his splendid abundance.

The long held belief that the many improvements technology bestows upon man's life are worth the price of any social

rupture is now being questioned. Can man in fact continue to meet the challenge of accelerating massive change? Does he possess sufficient imagination, will, and resourcefulness to design ever more complex and flexible arrangements to forestall the possible destruction of society and himself?

Back in 1927, to us now a relatively staticized age, the celebrated British novelist, E. M. Forster, struck a singularly prophetic note when he suggested that it is science's proclivity for allying itself with the needs and demands of power that gives it such a potency for effecting change. There is little doubt that many of the fantastic technical and social transformations in the western world of the last two decades are directly or indirectly a by-product of the Cold War; and it is imagination-staggering to try to conceive of the likely transformations ensuing from the race for space, which now increasingly absorbs the best energies and national substances of the United States and Russia. Such pessimists as Lewis Mumford warn that though each new invention may respond to a human need and may awaken a fresh human potentiality, that it immediately becomes part of an "articulated totalitarian system . . . whose power must be increased, whose prosperity is essential to all existence, and whose operations, however irrational or compulsive cannot be challenged, still less modified." If to any significant degree true, then technology in its impact must now be regarded as anti-human, an enemy of man.

In the confrontation between art and technology one presumes that art is the close ally of man and in fact man's most articulate spokesman. In that light, can art and science, deeply reft as they are in this age of power, effect an understanding and restore the kind of wholeness to life we had in earlier ages?

There can be, of course, no stand-off in this confrontation, because the inexorable offensive of technology rolls on and art finds itself if anything more buffeted and assailed by headlong change than any other activity of life. The institutions of art are by their very nature highly vulnerable in times of disorder, and artistic creation

itself is deeply challenged by a rapidly shifting reality.

Though a broadening cultural stir exists in this country, in numbers at least, it is surely far more symptomatic of a deep spiritual unease and an almost frantic search for value and meaning than of creative vitality. The evidence in fact points to a widespread cultural thinness and a failure of the artistic vision of our time. The sharp decline of interest in fiction and the corresponding rise of interest in non-fiction within the past several decades has perhaps more than passing significance. Novelists far more than other creative artists have traditionally been the purveyors of a comprehensive sense of social reality. Can one presume that few writers today possess sufficient understanding, nerve, and imaginative resources to grapple with the terrible complexity of the emerging new America?

The mad-cap aesthetic of the current avant-garde though at times biting in its commentary on the dehumanizing roles of power and authority finally seems equally dehumanizing in its stress on randomness, disorder, and nihilism. It is an art — and on occasion, an anti-art — that points nowhere, and offers little substance, courage, or vision.

It seems imperative that art confront technology boldly and assertively. Tragically out of effective touch because of language and methodology, their mutual well-spring of creativity must be reunited in the service of man to illuminate his two most pressing problems: the problem of power, and the problem of building and preserving a human reality amidst a world in flux.

Edward L. Kamarck

Research Device: Solar Energy





Untitled by Tom Uttech

The Lost Myth

By Clyde S. Kilby

The background against which I should like to put what I have to say is J. R. R. Tolkien's *Lord of the Rings* and the peculiar fact that in our so-called realistic world there are hundreds of thousands of high-school, college and university students (not to mention doctors, lawyers, scientists, teachers, etc.) who are reading a story about elves and dwarfs, orcs and balrogs, seeing stones and magical rings, and about ordinary Shire-loving hobbits who, having reluctantly accepted a quest involving their own lives and the life of the entire third age of Middle-earth, carry through on that quest in the highest tradition of heroism and in an atmosphere patently free of the hard "realism" that is said to be the archetype of our time. Though I am sure that David Boroff, writing in the *New York Times Book Review* for January 10, 1965, was wrong, one can sympathize with him for supposing the collegiate interest in *The Lord of the Rings* to be a piece of dandyism and mock seriousness. I want to suggest what I think a better explanation of this wide interest in Tolkien.

This explanation might be evidence of the beginning of recovery, or at least the wish to recover, from an old sore. It could be evidence of a desire to recover the Lost Myth.

This Lost Myth, I think, is the myth of man's wholeness.

Even in the fourth century B.C., Plato makes it clear that man was already sundered. Aristophanes, talking with his friends Socrates, Eryximachus and others, told how originally men were supposed to have had four legs, four arms, two heads, etc. and how in time these men began to think they were something and dared to try to scale heaven and lay hands even upon the gods, and how, instead of annihilating them, Zeus finally hit upon the idea of humbling them by splitting them in two—since when, says Aristophanes, in their loneliness the two halves have longed and seached for one another continuously.

Zeus threatened if necessary to keep on chopping man into pieces to cure his pride. Well, today it seems that man is in about as many pieces as can be imagined and consequently his loneliness and confusion are more pronounced than ever. Although Ortega y Gasset's description of twentieth-century man was written a good many years ago, it seems to me fully as true now as then, possibly more true. "We live," he said, "at a time when man believes himself fabulously capable of creation, but he does not know what to create. Lord of all things, he is not lord of himself. He feels lost amid his own abundance. With more means at his disposal, more knowledge, more technique than ever, it turns out that the world today goes the same way as the worst of

worlds that have been: it simply drifts. Hence the strange combination of a sense of power and a sense of insecurity which has taken up its abode in the soul of modern man. To him is happening what was said of the Regent during the minority of Louis XV: he had all the talents except the talent to make use of them." This sense of a broken and adrift civilization is, I think, the most apparent thing on our present horizon.

I should like to discuss mainly one possible factor attendant upon even if not fully causal to our atomized world. And I hope I may be excused if, like so many others, I go back to Lord Bacon and the year 1620. In the preface to his famous *Novum Organum* he says, "I propose to establish progressive stages of certainty . . . starting directly from the simple sensuous perception . . . (and having) no confidence in the native and spontaneous process of the mind . . . There remains but one course for the recovery of a sound and healthy condition, — namely, that the entire work of the understanding be commenced afresh, and the mind itself be from the very outset not left to take its own course, but guided at every step; and the business be done as if by machinery." This was the road, Bacon said, to certainty and health. The thing which had been at fault was "the native and spontaneous process of the mind." The remedy to overcome this outlaw was to destroy, if I may put it so, its mythic tendency. Bacon, with motives which are understandable, wished to have something certain, something men could quietly and surely agree upon, money they could put in the bank and get a receipt for, a golden yardstick that would enable men forever to say that a yard is a yard is a yard.

But how could one begin to establish Bacon's "progressive stages of certainty" and perhaps in time move on to some final glorious climax of finitude and total knowing? Not backwards towards metaphysics and theology. These were the realms that had made Bacon and his century dizzy and given them the longing for certainty. Much earlier there had been a period when the universe appeared a splendid unity. Pythagoras and his Brotherhood more than twenty centuries before had discovered what they believed

to be a cosmos, one world, one whole, inclusive universe, with a great Mathematician at its center and circumference. There are stories to the effect that when Pythagoras discovered the square on the hypotenuse he sacrificed a hundred oxen, also that when irrational numbers were discovered a penalty of death was set for allowing such an heretical idea to escape and work its evil in the world. The Pythagorean spring had welled up into a great river with glorious tributaries such as Socrates, Plato, Aristotle, Plotinus, Augustine, Aquinas and the like. But after all the centuries there was still not the certainty that Bacon zealously longed for. How could that certainty be attained?

"I propose," he said, "to establish progressive stages of certainty starting directly from the simple sensuous perception." We know the direction that was taken, what today we call science (from *sciens*, knowing). And out of Bacon's century and following there have flowed rivers of knowing. One need only mention such names as those of Galileo, Kepler, Descartes, Newton, Locke, the Encyclopedists, the Royal Society, etc. and remind ourselves how chemistry swallowed up alchemy and astronomy swallowed up (or did it?) astrology. I need not take any time describing the ever-widening river of "progressive stages of certainty" that flowed through the nineteenth century and has become something of an ocean in our time. Bacon's method is far more successful today than perhaps he ever dreamed. Many are wondering if anything at all is beyond the reach of the inductive method, from physics to chemistry, from chemistry to biology, from biology to psychology, from psychology to sociology, etc. In medicine, for instance, we can now do for men what we do for automobiles — we can supply new parts and there is talk of starting all over again with some sort of brand new man-made model. In *Brave New World Revisited* Aldous Huxley spoke of his shock at finding his imagined world of total scientific control rapidly coming into actuality within his own lifetime. Dr. Philip Siekevitz, biochemist at Rockefeller Institute, said not long ago: "There is a golden age ahead on earth . . . We are approaching the greatest event in human history . . . the deliberate changing by man of many of his biological

processes . . . man will be remodeling his own being . . . Events in biological research are happening so rapidly that we will soon have to answer a new question. No longer, What creature is man? but, What creature should he become?"¹²

Is ours not indeed a Brave New World? But then one must ask the additional question why people are not filled with deep satisfaction, quiet ecstasy, and great expectations? Why along with Ortega's sense of power do we have an almost overcoming sense of despair? I heard of a man who went down the street and said "Good Morning" to another man that he passed. The second man asked, "In relation to what?"

You recall Sartre's "No Exit" and a group of people discovering they have gone to hell. In the room where they find themselves, one asks: "But, I say, where are the instruments of torture? . . . The racks and red-hot pincers and all the other paraphernalia?" Later, in a frenzy, he shouts: "Open the door! Open, blast you! I'll endure anything, your red-hot tongs and molten lead, your racks and prongs and garrotes — all your fiendish gadgets, everything that burns and flays and tears — I'll put up with any torture you impose. Anything, anything would be better than this agony of mind, this creeping pain that gnaws and fumbles and caresses one and never hurts quite enough." He grabs the doorknob and shouts: "Now will you open?" whereupon the door flies open and he is urged to leave, to which he hesitates and then replies, "I shall not go." In the end all the group remain, tortured and in pain greater than fire and brimstone, because there is nothing to be free for. You recall a similar pessimistic evaluation in Camus' *The Stranger*, where a man about to shoot another man whom he actually has nothing against says, ". . . one might fire, or not fire — and it would come to the same thing."

One wonders how to explain the winds of nihilism, destructionism, fragmentation and the death-wish which now sweep across the landscape, a direction perhaps most clearly manifest in the arts. Lewis Mumford says, "The death of the human personality is the message of modern art." Leonard Baskin declares that in avant-garde

art "it is man that has been excluded . . . that has been denied. A few weeks ago I sat at table with a professor of art history from the Free University of Amsterdam who, on the basis of his study of modern art, felt there was little to look forward to except brutality and the concentration camp. A good many years ago Mark Van Doren said, "We are not even sure what poetry should be about, if it can be about anything any more." *Time* magazine recently said, "Nearly every important American writer — Nabokov, Mailer, Barth, Bellow, Malamud, Donleavy, Roth, Friedman, Burroughs, Heller, Pynchon, Willingham — works from an assumption that society is at best malevolent and stupid, at worst wholly lunatic. The gods are dead and their graves untended, (and) morality is a matter of picking one's way between competing absurdities."

A long time ago I read a book that still sticks in my mind. It reported that libraries double their holdings about once every sixteen years and pointed out that should, for instance, Yale library continue to expand at the same rate for another century as it has for the past two, it will then have 200 million volumes occupying over 6000 miles of shelves. The card catalogue will require 8 acres, and 6000 cataloguers will be needed to handle material coming in at the rate of 12 million volumes a year. We seem to be like Faustus or Byron's Manfred running everywhere and searching for Something Big but without finding it. Two hundred years ago Voltaire said, "The multitude of books is making us ignorant." How much more ignorant, then, we must be today. Yet we can add that quantity is never properly equated with quality, and a man who sets himself to the task can read most of the truly great books of the world.

Nevertheless the mere quantity and bewildering bulk of things presented to the attention today is no doubt part of what Ortega was thinking about when he spoke of our parallel feeling of power and despair.

But of course the search for certainty ought never to be a thing to cause despair. Whether by sharpness of instrument or depth of perspective, any means of arrival at what is permanent and true must always be commendatory. The despair

therefore, insofar as it is related to the progressive stages of certainty described by Bacon seems to be the result of an oversell which was neither intended by the best practitioners of the method nor indeed inherent in the method. Rather the despair is owing to two popular misunderstandings. One is the supposition that science actually does move "as if by machinery" toward its goals, the other that its reach is endless.

Not infrequently leading scientists have pointed out that believing such an apparently obvious thing as the "simple sensuous perception" is actually an act of faith and that imagination is about as necessary in all real science as in artistic creativity. Warren Weaver, vice-president for the natural and medical sciences of the Rockefeller Foundation, declares "the shocking fact is that science simply does not have detailed and precise access to what we ordinarily call the external world." Instead of dealing with hard, real fact, Weaver insists that science is "playing a subtle game with nature, all based on an unproved and unprovable faith that this procedure is meaningful and rewarding."⁵ As to the supposed infinite outreach of science, Dr. Charles Singer of the University of London, writing on the history of science in the latest edition of the *Britannica Encyclopedia*, says that there "cannot be a 'science' of the whole universe; for it is impossible to attain this by adding the sciences together, and there are vast regions of experience, such as art, literature, and philosophy, that are refractory to scientific treatment." It is a popular belief in Science Unlimited, a faith that nothing whatever is beyond the reach of science and that any other approach to truth is as antiquated as an auto graveyard, which has left us, in Matthew Arnold's words, with the feeling of

*Wandering between two worlds, one dead,
The other powerless to be born.*

Another possible cause of our despair is the seeming revelations of science about a mechanistic universe, man's animal origin, psychological behaviorism, and the like, leaving us with the feeling of being hardly more than biological specimens. A minor sign of this, I think, is the increasing frequency of our adoption of words like "react," "interact," and

"feedback." The "Broadcaster," a little sheet of announcements at my college, has more than once read, "Come out this evening at 8:00 and interact with Professor Brown on So-and-So." The suggestion seems to be that no arrival at anything like a truth or even a tenable conclusion is to be reached and that only a kind of low-grade cerebral game on the order of ping-pong will be played. After this little stunt we can drink a bit of coffee, then go on our way as if nothing had really happened. The discovery of any real certainty must be left, apparently, to the computer.

Yet the ancient ideal of Truth, Beauty and Goodness has never been abrogated. The universe, if we are to believe the majority of the scientists themselves, is more than physical, and its structures, harmonies and meaning rise above measurement. The universal must precede rather than follow the sensuous perception before any greatly significant meaning can appear, and the effort of man to dispossess himself of a "given," to stand outside himself and act "as if by machinery," is both impossible and, as to any ultimate knowledge, the surest means of falsification. Hence it is possible, if one will, to find readily at hand a vertical as well as a horizontal and at least a working approximation to the absolute and transcendent. "The cosmic religious experience is the strongest and noblest mainspring of scientific research," said Albert Einstein. "The most beautiful and profound emotion we can experience is the sensation of the mystical. It is the sower of all true science. He to whom this emotion is a stranger, who can no longer wonder and stand rapt in awe, is as good as dead. To know that what is impenetrable to us really exists, manifesting itself as the highest wisdom and the most radiant beauty which our dull faculties can comprehend only in their most primitive forms — this knowledge, this feeling is at the center of true religiousness."⁶

The conclusion seems clear that we must pursue values and truth as wise men have always pursued them, that is, by summoning the whole man to thought within a hierarchical universe. This, then, is my first suggestion for the repossession of our lost myth.

A second suggestion toward wholeness would be the recognition of mystery in nature. Keats talks of a time

*When holy were the haunted forest boughs,
Holy the air, the water, and the fire.*

I have asked myself seriously which of two possible attitudes towards, for instance, the sun is actually more humanly tenable. Is it more truthful, in the long run, to declare the sun to be merely gases, heat and chemical elements identifiable by spectroscopic analysis or else to declare it, as did the early Greeks, a god? Speaking of that word "merely," C. S. Lewis, in his little book *The Abolition of Man*, discusses the "conquering" of nature by reducing it to smaller and smaller bits of less and less living reality and concluding that it is merely this or that. He ends his study with the remarkable sentence, "To 'see through' all things is the same as not to see at all." Some of our best physicists think that Shelley may be right in asserting,

*Every grain
Is sentient both in unity and part,
And the minutest atom comprehends
A world of loves and hatreds.*

More and more it looks as if those things we call atoms may have a will of their own and may be playing a far subtler game with man than he realizes.

I think it would be helpful if we went back and read some of the medieval bestiaries and herbals. Beyond their quaintness we might find in them real values. In those times the most therapeutically useful plants were considered sacred and symbolically assumed to have first grown on the hill of Calvary, a place itself looked upon as the center of the world. Is there the least touch of this kind of thing in our present view of nature? Most of us, I suppose, would think an antivivisectionist in this century little short of a boob, but men like Bernard Shaw, C. E. M. Joad, C. S. Lewis, and Albert Schweitzer believed that vivisectionism in our time marks "a great advance in the triumph of ruthless, non-moral utilitarianism over the old world of ethical law."⁷ I think most of us would be shocked beyond measure if we knew how many thousands of animals

suffer torture every day in laboratories — perhaps a great many more than need be. If any objection is raised to this, or to such things as cutting a four-lane highway through a forest preserve or despoiling a beauty spot such as Glen Canyon, the answer always is that man must be served. But which part of man? I myself have practiced for many years looking upon the morning light as an unmerited and mysterious gift and on life in flora and fauna as worthy of a daily salute and even a bow. Years ago I heard somebody say that all our political and diplomatic conferences ought to be moved out of smoke-filled rooms and held underneath trees. It seemed to me excellent. I wonder if under those circumstances the conclusions reached might not be quite different from what they are at present.

I have a good friend in the South with whom I have often walked through the woods. He has the uncanny ability to estimate the number of board-feet in standing trees and has made a small fortune through the gift. For myself, the walks are as Wordsworthian as my limited sensitivity will permit. Between the two, though of course they are not mutually exclusive, I choose my appreciation to his money. More recognition of mystery and symbol in nature would, I think, contribute to our reacquisition of wholeness. And the effort will by no means be simply a sentimental one.

The third suggestion I make about wholeness has to do with what Charles Williams calls coinherence and exchange, doctrines in part growing out of Williams's inability, because of his eyes, to take part in the military and his realization that simply by being alive he is necessarily involved in other lives and sacrifice. Dr. Donne said, "One man's death diminishes me because I am a part of mankind." We are members one of another. I am not talking of banners and marches. These practices have come into existence because of the loss of a deeper sense of man as a mysterious creature walking about on a mysterious thing in stellar space called a planet, and man filled, as Mark Van Doren says, with the realization that "he is more than he need be and less than he would be."⁸ Much is said now about the necessity of

self-fulfillment. But the question is which of two selves to fulfill. I have never ceased to be amazed at the popularity for years of a book called

How to Win Friends and Influence People.

Was a more truly selfish title ever hatched up? Later Daniel J. Boorstin wrote a book called *The Image* in which he discusses a world more and more filled with pseudo-events and artificial ways of life. What sort of world is it so dominated by the need for "fun" that an entertainer can make more money in a week than we pay the president of our country for his services for an entire year? Anyway fun is no substitute, as we all well know, for the deeper need called joy, an effect which results from a living sense of coinherence, exchange, and substitution.

A fourth avenue toward wholeness is imagination. Imagination was deliberately excluded from Bacon's prescription. You remember Charles Darwin's description of himself not long before he died. "My mind," he wrote, "seems to have become a kind of machine for grinding general laws out of large collections of facts, but why this should have caused the atrophy of that part of the brain alone, on which the higher tastes depend, I can not conceive." He remarked that if he had his life to live over again he would follow the rule of reading some poetry and listening to some music at least once a week, because "the loss of these tastes is a loss of happiness, and may possibly be injurious to the intellect, and more probably to the moral character, by enfeebling the emotional part of our nature." Earlier in this century a president said that what was needed in his time was a great poet who would tell us who we are and where we are. That need grows more urgent as disparity and fragmentation increases. The great secret of poetry is the metaphor and the secret of metaphor is imagination. Imagination enables us to reach up and touch sky and embrace trees and talk to birds and animals and to communicate meaningfully with other humans. Imagination lets us know that man is himself an image, a mystery, a symbol and indeed a myth.

No doubt there are other avenues looking to man's wholeness than the

four I have mentioned — hierarchy, the essential mystery of nature, coinherence and right imagination. I have suggested these as ones that appear important to me.

Now I should like to return to J. R. R. Tolkien's *The Lord of the Rings* and the fact that this story is now being widely read and proving deeply meaningful to thousands. Let me briefly identify in this work the four types of wholeness which I have mentioned.

In the *Rings* we have an unfailing hierarchy whose most obvious element is so completely a moral one that even to mention it seems a little out of place. Edmund Wilson insists that Tolkien's villains are too black and his heroes too white. But he overlooks the fact that in every instance evil is shown to be a corruption of the good. Morgoth and Sauron were in the beginning among those given a celestial vision of the right and who volunteered to help turn that potential good into actual good. The Ringwraiths were formerly good men who were seduced into Sauron's service. Saruman was once a member of the White Council and had long withstood evil before he came finally under the domination of Sauron. If some of the Elvish leaders seem too good, they also have an all but eternal background of good and evil against which their conduct must be seen. If Middle-earth history is overlooked, Mr. Wilson's assertion has truth in it, but to overlook that history means to have misread Tolkien.

Divine Right is a subject I think I have never heard commended, but the conception of a man divinely given the right to rule and fully accepting the responsibility of ruling as a mediator between higher and lower is one of the finest things possible in the blind alleys of this world. All of the "high" characters in the *Rings*, and especially Aragorn, who is literally a king, represent truly the principle of divine right. Aragorn for long years went about as servant and protector of the people and preserved the same excellent relationship when he came to his throne.

In the *Rings* history is not only present but warmly alive to promote and even sanctify actions. Hardly anything is more characteristic of elves than their long

look at their past, a past that is congenitally rooted and in which consciousness and conscience are coeval.

Then can one fail to breathe deeply of the glory and mystery of nature in the story? Just to mention Lothlorien is to evoke beatitude. Nature there and elsewhere is "inhabited." This is especially true of trees. The talking trees called Ents become characters in their own right. Frodo put his hand on one of the great mallorn trees in Lothlorien and suddenly realized that he had never before understood "the feel and texture of a tree's skin and of the life within it. He felt delight in wood and the touch of it, neither as forester nor as carpenter; it was the delight of the living tree itself." The mystery of seeds and of growth are represented by Galadriel's gift of a mallorn seed and the soft gray dust that caused all other trees quickly to repossess the Shire after Frodo and Sam's return. Lewis points out that reading about enchanted trees gives real trees an enchanted quality. It is so in this story.

The fragrant grass filled with star-shaped yellow *eleanor* and the pale *niphredil* in timeless Lothlorien works its own magic, as does Aragorn's discovery in the darkness, by its sweet and pungent odor, of the herb *athelas* for the healing of Frodo's wound from the Ringwraiths. This herb, we are told, had been brought to Middle-earth from Numenor. Its existence was known to very few people, a suggestion perhaps that the essential contact with the perduring good earth is now mostly lost to men. The great horse Shadowfax bears almost a talking relation with Aragorn, and in many other ways the substantial existence of nature in its own right is manifest in the *Rings*.

And again, how thoroughly the principle of coinherence is exemplified in Tolkien's story. One of the elves in Lothlorien remarks that "in nothing is the power of the Dark Lord more clearly shown than in the estrangement that divides those who still oppose him." The fellowship of the Ring consists of a wizard, an elf, a dwarf, four hobbits and two men, each with his own peculiarities and strengths yet all moving together in the accomplishment of a single good purpose. It is a case, I think, suggesting

the truth of Lewis's remark that democracy is not a process of making people equal but enabling clearly unequal people to live amicably together. One of the finest touches, I think, occurs upon the demand that Gimli the dwarf be blindfolded as he walks through Lothlorien. When Gimli refuses and an impasse seems upon them, Aragorn suggests that all be blindfolded and it is done. All suffer for one, and later when the blindfolds are removed they are repaid by a great burst of glory. Williams's coinherence and exchange are illustrated.

At a time when ancient customs of courtesy and ceremony are about as obsolete as dinosaurs, one of the most appealing elements of the *Rings* is the practice of such customs. We recall the order of the gatherings at Rivendell and Minas Tirith as well as the epochal custom of gift-giving as exemplified in Galadriel's gifts to the fellowship. Gift-giving where the gift contains the giver, as in Galadriel's case, is still one of the significances of our lives, though shoddiness of sentiment and commercialism have trepanned the larger portion of it. The courtesy of King Aragorn to his lowly friends Frodo and Sam in seating them beside him on his throne becomes more than a simple incident in the story.

There is also in the *Rings* a courtesy of sex that, though often noted by its absence today, nevertheless still echoes resonantly at some deep level of our being. Aragorn waited a fantastically long time for Arwen Evenstar, but then their marriage bore all the more meaning and depth for it. Both Sam and Gimli found in Galadriel not simply a beautiful woman but a deeply impelling symbol of courtesy and dignity.

Lastly we can say that the *Rings* appears to be one of the genuinely imaginative works of mankind. Its 1200 pages, including over a hundred pages of footnotes which are themselves imaginatively integral, is less an example of imagination than it simply is imagination. Paul Ricoeur says that by means of imagination man recognizes his real existence and exercises a metaphysical prophecy of things possible to him. Imagination, said Einstein, is "more

important than knowledge." I believe the *Rings* reminds us of some country we knew and loved in a sort of previous incarnation, a channel opening on the foam of perilous seas in lands longed for in the depth of the psyche, lands never traveled yet always traveled, never visited yet from which we have never really been parted, lands where the light is bright, the colors unclouded, and where our everyday longing for joy is constantly pointing us.

The three books most popular among college students during the past seventeen years are, in order, *The Catcher in the Rye*, *Lord of the Flies*, and Tolkien's *Lord of the Rings*. In the first a sensitive and lonely boy finds that it is impossible for him to learn anything from the phony adult world in which he lives. The second symbolizes the shallowness of our present civilization and attempts to show that it is only a step back to the jungle. Both these books are negative, even at times bitter, in their inferences. Tolkien's story is utterly different.

162 A generation boasting of its realistic outlook finds multitudes not only reading of dwarfs and elves and talking trees but finding such things pertinent to everyday life. A generation the young of which have been accused of an inner malaise and indifference to human values reads a story replete with dignity, courtesy, heroism in the knightly pattern and of fulfillment not through indulgence but through sacrifice. A generation brought up on Cartesian doubt, alienation, the logic of suicide, the notion that God is dead, of newness for its own sake, and only a quasi belief in religion while its real one is in supposed pragmatic realities, finds that hobbits give more intestinal fortitude than Nietzsche, Sartre and the Bishop of Woolwich.

No one is less "alienated" than J. R. R. Tolkien. In complete contrast with some of the most admired writers of our time, he has a world of certainties. In a time of slackened values he maintains a sure hierarchy. His morals are solidly traditional. He is a thousand miles from the sex angle of much of our current writing, movies and advertising. Though he is not optimistic about our age,

he has no existential angst. In a time when the cult of personality dominates the scene, Tolkien belongs to the tradition of medieval art where the created object completely sublimated the creator of it.

The great majority of discussions of the *Rings* emphasize its continuous moral resonance. In a recent dissertation at the University of Michigan, Dorothy K. Barber says that the real significance of the story is Christian and its basic metaphor is "God is light."¹⁰ A graduate student at the University of Wisconsin wrote that he had found the *Rings* the best reading of his entire life and wished he had discovered it in his teens and had then the experience of what he described as its "therapeutic values." A mother wrote of first devouring the story while recuperating from the birth of a son and bewildering her doctor and family by strange references to black riders, elves and orcs. She went on to say that for her the story illumined "the nature of Reality, the glorious and tragic dimensions of the struggle between good and evil." "You," she wrote the author, "have made courage and commitment and honor more meaningful." A young business man in Oxford told me that he regarded the *Rings* as his "Bible," and that when confused and discouraged he went home and read from the story and was restored in mind and spirit.

I conclude with the question whether the wide reading of *The Lord of the Rings* marks a trend. Utopian books reached a peak about the turn of the century and were succeeded by dystopias or anti-utopias. Now there is evidence, a little at least, of a more optimistic turn of things. In his *Books with Men Behind Them*, Edmund Fuller describes the works of contemporary writers with "a sound vision of man," and Mark Hillegas, in his *The Future as Nightmare*, suggests some little signs of a possible movement not nightmarish. One of the most emphatic statements is that of Arnold Gingrich, publisher of *Esquire*, who, speaking at the Sorbonne in 1959, declared that the "point of vomit" in writing has been reached and predicted a Puritan revival in literature. Three years later he repeated this conviction that total revulsion and reversal were somewhere in the offing and that the reversal would be total —

"hardbound, softbound, periodical and permanent." Gingrich was writing not from a religious view but simply on the assumption that the world has exploited sex and its new liberty to the point of license.

Is it not possible that J. R. R. Tolkien has portrayed by story, image, symbol and mythic depth the sources of our often satirized or ignored, yet real, longings? The actuality of a past that is more than the mere passage of time, a past in which there is lively meaning for the present because meaning is a "given" which we could not escape if we tried. That history is not bunk and the *Tao* is still operative? That time is more than the ticking of the clock? That things, yes even atoms themselves, have "innards" and that inwardness is both inescapable and positively desirable? That dignity is not absurd nor antiquity a thing either to be ignored or belittled? And, perhaps best of all, that there is both a "eucatastrophe" and an "evangelium" at the heart of the cosmos?

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Science and Art as Forms of Communication :

An Inquiry Into The Place Of Art In
A Technologically-Oriented Society

By Lawrence A. Ianni

The artistic and scientific activities of man have often been proposed as distinctively different compartments of our way of life. Moreover, it is sometimes proposed that the walls of these compartments are irremovable because science is objective, rational and valueless, while art is subjective, emotional and value-laden. This line of reasoning continues that art and science are separate spheres of human endeavor not only in their meaning but also in their intent. There is, however, at least one goal in which science and art do not have different intent. Art and science have a similar intent in their being an effort by one human being to communicate with another. Art — particularly literary art — and science are both attempts to comprehend the nature of things and embody this comprehension in a medium that makes it equally available to the originator and others who care to examine his formulation. In this goal, art and science strive for the same result. Furthermore, not only do art and science resemble one another in being instances of communication, but they also overlap in what they communicate about. The difference between art and science is not in what they communicate as much as in the way they communicate it. We should be interested in this difference in the form of communication to get at the important fact that ultimately science and literature are attempts to say the

same thing to man. To recognize that science and art unify rather than dichotomize our modern way of life is the first step toward our becoming comfortable with a *modus vivendi* that often strikes us as schizophrenic and self-defeating.

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The assertion that both science and art are directed toward communicating the same thing, needs some elaboration. First of all, it must be noted that both science and art work on past and projected human experience. Past experience in science consists of observed data that are recreated under experimental conditions. The familiar concept of an experiment as the controlled assembling of a set of circumstances in which variables are introduced one by one with the intent of providing the basis for cause and effect conclusions is based on the attempt to reproduce as faithfully as possible the experiences of the experimenter or some trustworthy reporter. Lyric poetry, fiction, and drama abound with the use of past experience. The very title of a poem such as "On First Looking into Chapman's Homer" or a piece of fiction such as Thomas Wolfe's *Look Homeward, Angel* or any number of plays with titles like *Julius Ceasar*, *Macbeth*, *Joan of Arc*, etc. make it obvious that the artist is also concerned with a comprehensible presentation of past experience. One might hasten to suggest

that artistic treatments of past experience make the communication in such instances essentially different from that in the scientific presentations. This comes precisely to the point. It is not that art and science tell about different things but that they tell about the same things in different ways — which is the proposition here.

Perhaps the one realm in which science and art come closest to communicating in the same way is in the instance of projected experience. In science, projected experience is the basis of hypothesizing about the conditions that would occur under a given set of circumstances. For example, an explanation of the Fitzgerald contraction could be phrased as a concept that proposes to us that a space ship traveling at a speed near the speed of light would, relative to an observer on the earth, contract in size together with everything in it so that a clock on board would slow down and the measuring devices and all other instrumentalities in it would similarly be altered for the earthbound observer although they would not have done so for the voyager on the space ship. Such an explanation is the phrasing of scientific theory in hypothetical rather than past experience. The use of such imagined conditions for exemplifying or formulating scientific concepts are sometimes called thought experiments because they constitute a cerebral production of a potential framework for considering scientific phenomena. Again, one might object at this point that a scientist might do this in an attempt to explain science to the layman but that no serious scientist would actually work in this way. As a matter of fact the history of science provides some impressive examples where hypothesis and subsequent partial validations have leaped beyond the precise validation that people are prone to cite as the "real" way science works. It is noteworthy, for example, that the mathematical validation of Faraday's formulations on electromagnetism were worked out substantially later by Clerk Maxwell. One would hardly say that the reality of the concepts was any less substantial for Faraday because he did not have the same sort of proof that the inheritors of Maxwell's mathematical

characterizations have at their command.

In literature, projected experience takes the form of the allegory, the fantasy and the myth. Works such as *The Fairy Queen*, *The Martian Chronicles*, *The Animal Farm*, or *The Rhinoceros* are projections of what might well be the human situation under a given set of circumstances that are probable or improbable. They are the artist's counterpart of the hypothetical physical situations that engross the scientist when he conducts a thought experiment. One might say, therefore, that the thought experiment is the scientific equivalent of a metaphor as allegory and other non-literal forms are the artistic versions of the thought experiment.

Of course, even in the realm of projected experience artistic and scientific communications do not take identical form. A comparison of the treatment given to the same concept in a scientific and an artistic way will provide us with an illustration of the variant forms that these two communications take. For this purpose, let us consider a poetic and a scientific treatment of the second law of thermodynamics. Essentially, the second law of thermodynamics says that heat can be converted into energy to perform work, and as an inevitable consequence of the conversion of this energy into work, some of the energy is wasted. That is, some of the heat is dissipated. It does not, of course, disappear, but passes off into the environment. This loss of heat is called entropy, which, since it inevitably occurs, is constantly increasing in the universe. The increase of entropy has led to the conclusion that the universe is running down and faces in the remote future a heat death, which is a state where the progressive dissipation of heat will result in a homogeneous heat state throughout the universe that might be called a chaos of formlessness. In view of these potential conditions, then, the second law of thermodynamics says that work cannot be performed without some expenditure of energy resulting in heat loss.

There has for some time been a thought experiment that has intrigued a number of scientists in connection with ramifications of this law.

The imaginative speculation was first proposed by Clerk Maxwell.¹ Maxwell asks us to imagine a closed cylinder with two compartments filled with gas. We are further asked to imagine a little being with the capability of observing the molecular motion of these gases, which, of course, is their heat, since heat is the motion of molecules. Maxwell then proposes that, since the demon can see the molecules, he could by manning a trap door sort them. He could let all the fast molecules go through the trap door into one compartment and let all slow-moving molecules go through the trap door in the opposite direction into the other compartment. This passage of heat from one compartment into another would provide energy to do work with no loss of heat. Presumably in such an arrangement the second law of thermodynamics would not operate and work would have been accomplished with a decrease rather than an increase in entropy. This seeming defiance of the second law is intriguing because of its implications for man and his world. If the reverse of entropy is possible, man's future is truly limitless. Maxwell's demon implies a perpetually operating mechanical device with inexhaustible fuel. With such a device man could differentiate the universe into structures that negate the progress toward the chaos of total entropy. Of course, one could simply take the position that the whole thing is ridiculous because no such demon is possible. A more satisfactory response stems from pointing out that even the necessary circumstance of observation would require the expenditure of heat and, hence, there is, despite the seeming absence of heat loss, an inevitable occurrence of entropy. As Norbert Weiner and others who have considered the paradox have pointed out,² the demon himself would through the process of heat loss reach a point where he could not function. Thus, the second law is not really challenged by this thought experiment.

In respect to our consideration of science as a form of communication, it is interesting for us to note the form in which the scientific speculation is cast. There is indeed a verifiable pattern in nature that we can call the second law of thermodynamics, just as there are

gases and cylinders and compartments, but there is in nature, to the best of anyone's knowledge, no Maxwell demon. This probing of scientific fact was couched in terms of projected experience. That is, it is a scientific metaphor in which the scientific law is examined through the use of a hypothetical set of circumstances. The nature of the scientific law has been dramatized for us by the concoction of a model with the demon, the cylinder, the gases and the compartments all being features of the model. Used in this sense the term "model" means a totality constructed to represent the functioning of the concepts that one is intending to present.

That there would be a poem considering such matters as those just discussed seems dubious; yet it is no distortion to say that Robert Frost's poem "The West-Running Brook"³ is, indeed, a poem about the second law of thermodynamics. The poem is constructed in the form of a dialogue between a man and a woman recently wed. The couple converse about a stream that they have come to. The stream strikes them as being paradoxical since, unlike every other stream in the area, it runs west rather than running east toward the sea. The woman suggests that the stream, in operating contrary to the usual direction of things in the area, is like the couple themselves, who function in their relationship according to principles contrary to the customary arrangements between couples. Her husband carries the discussion of contraries to an even higher level of implication. He notes that in the stream itself there is a wave that persists as a turning of the course of the water back toward the source rather than flowing with the main direction of the stream. He compares this constant swirling white crest to human existence itself:

*. . . that white wave runs counter to itself
It is from that in water we were from
Long, long before we were from any creature.*

It is the nature of this wave, he continues, to appear to remain changeless and constant while it does, in fact, change and dissipate.

*Some say existence
 Stands still and dances, but it runs away,
 It seriously, sadly, runs away
 To fill the abyss' void with emptiness.*

What the man seems to be suggesting is that human life comes from a pattern developed counter to the total progress of of existence. That is, in terms of the second law of thermodynamics, organization or structure — potential energy, in other words — is a definite form counter to the total entropic tendency of the universe. The development of certain forms in the evolutionary process is the emergence of what might be called an anti-entropic enclave, that is, a turning back of a wave against the total flow of the stream of existence. As the speaker in the poem points out, while this enclave may seem to be a constant developmental progress toward greater and greater organization in the universe, this is not as a general rule so. He points out that there has been an expenditure of energy in the creation of the anti-entropic enclave which ultimately results in an increase of entropy. That is, the human demon, like the demon in Maxwell's imaginative model speculating about the second law of thermodynamics, will also fall heir to the vertigo that Norbert Weiner contends awaits Maxwell's demon as heat loss occurs. Consequently, the human species will not be able to function and cope indefinitely with existence any more than Maxwell's demon can continue to indefinitely sort molecules. The speaker in the poem sums this up just as surely as if he were talking about the general heat death of the universe:

*Our life runs down in sending up the clock.
 The brook runs down in sending up our life.
 The sun runs down in sending up the brook.
 And there is something sending up the sun.*

He sees the whole course of human existence as the development of a tendency contrary to the flow of the general course of things in the material world. Yet there was an expenditure in this endeavor that makes the effort inevitably doomed to extinction.

This view is in total accord with the philosophical implications of the scientific facts of the second law, for it is

recognized by the scientist that, while the general tendency of the universe is toward an increase of entropy and toward eventual heat death for differentiation of organization in the physical world, there can exist at least temporarily local heightenings of organization with an increasing diversification of structure that reverses the progress toward a totally homogeneously diffused universe. Man and his way of life quite obviously fit into the notion of one of these anti-entropic enclaves. The speaker in the poem repeats his earlier recognition of this in saying:

*It is in this backward motion toward
 the source,
 Against the stream, that most we see
 ourselves in,
 The tribute of the current to the source.
 It is in this in nature we are from.
 It is most us.*

The poem, then, recapitulates entirely man's history as an anti-entropic development. The comment by the woman that they as a couple in their union run contrary to the normal flow of things, together with her suggestion that as they are married to one another they should conceive of themselves both being married to the stream, suggests mankind as a result of greater structuring in nature. The man's viewing the stream as he does make clear enough that whatever significance there is in the second law of thermodynamics for man's ultimate fate when one views it as a scientific concept is just as faithfully and securely present in Robert Frost's poem. Just as Maxwell has, Frost has constructed a model that represents the total functioning of the second law. In the various features of the stream, its counter-swirling wave, and the other concomitant natural elements, we have a poetic metaphor which is the equivalent of Maxwell's scientific metaphor.

These two treatments of the second law of thermodynamics emphasize that both science and literary art use a symbolic medium of communication. This is a statement which is simultaneously over-obvious and easy to misunderstand. Although it is accepted by even the most naive that both the mathematical

language of science and the verbal language of literary art are symbol systems, it is doubtful if the far-reaching and significant nature of this fact is appreciated. The nature of any symbolic system is to have a substantial independence from the thing it stands for. Hence, the numerical symbols and mathematical relationships in which scientific formulations are cast are not accurate because they must be but because the arbitrary symbols appropriately accord with the experiences of independently functioning observers or users. Numbers and mathematical operations are objective, non-real, tokens that serve as appropriate symbolic measurements for occurrences in nature. Language is no less a system of tokens by which man takes the measure of the universe. This is a fact seldom sufficiently appreciated, particularly by literary critics who are fond of hunting symbols in works of literature. The deliberate and piecemeal hunt for symbols in literary analysis seems often to contain an unspoken assumption that language is normally a rather literal and necessary correspondence between noises and things except in the rare instances where a writer has taken the conscious trouble to construct symbols. Where it is held, this is an unfortunate assumption because to be a symbolic system generally is the very heart and nature of language. Even our most literal statements are the product of the application of a symbolic system. It should be fairly obvious that the two sexual varieties of *homo sapiens* in nature are not actually the words "man" and "woman" but are tangibles to which we apply the labels of English with some degree of consistency. Thus, like the mathematical abstractions of science, the medium of literary art is a comprehensive symbolic system of communication. Both the scientific and literary endeavors are attempts to produce symbolic models that stand for human experience.

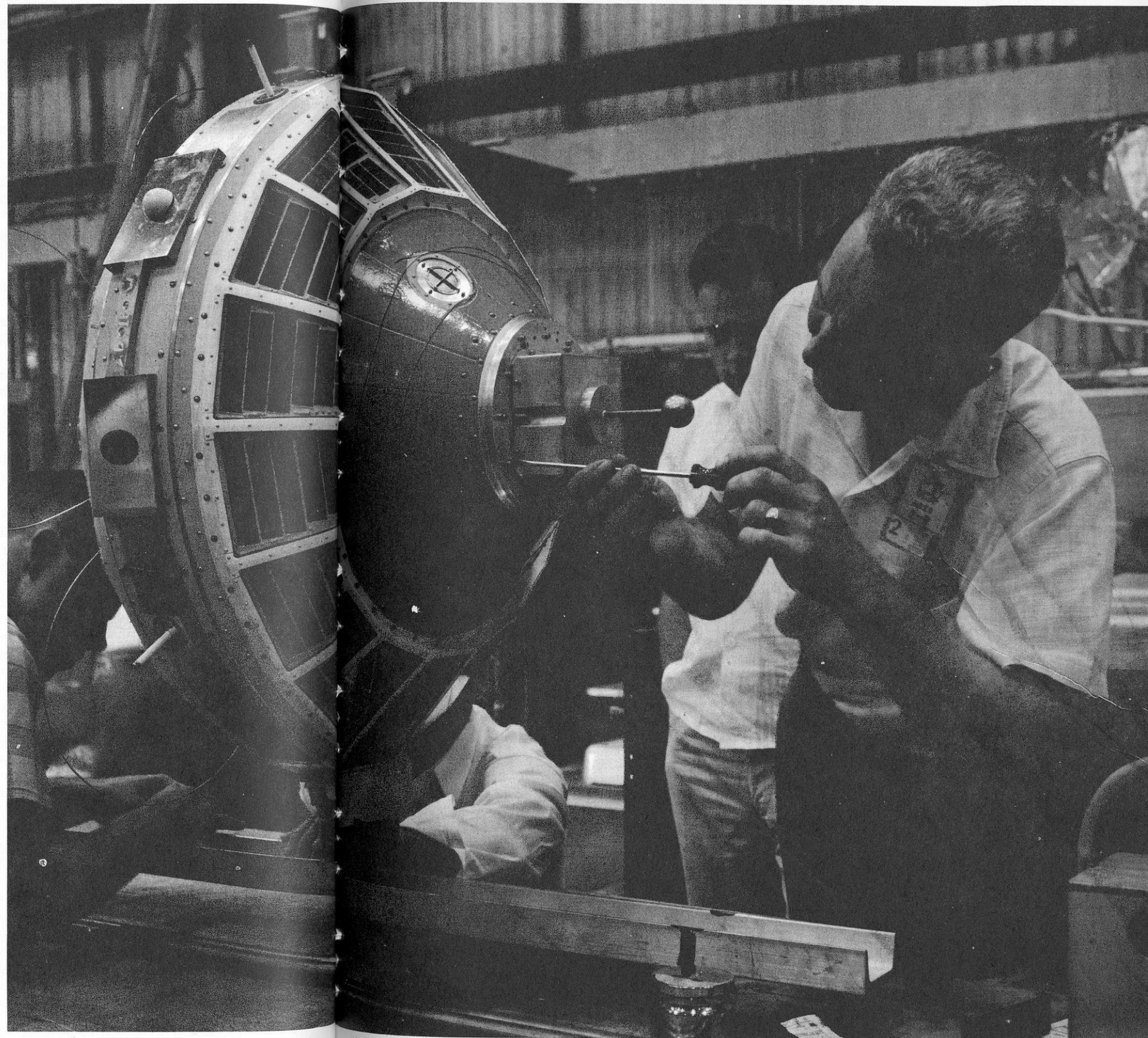
Having briefly examined a poetic and a scientific model of the same feature of existence, we may now ask ourselves what it is about these two models of experience that gives to science and art their distinctiveness as forms of communication. Probably the most general thing that could be said

is that the scientific and poetic models differ in their degrees of precision. This, of course, is only suggested in Maxwell's paradox where the second law is not considered in terms of the usual measuring units of scientific endeavor, such as calories, ergs and joules. These precise discrete quantities, together with the mathematical operations that describe their relationship in an energy conversion are characteristic of science at its best. However, even in the thought experiment that has been mentioned, gas in the scientific model compares with the term "brook" in the poem; molecules are comparable to the term "wave" in the poem and heat, as a single distinct feature of existence, is comparable to the term "existence" in this poem. Thus, while both models have implications about the sum total of everything, the scientific model restricts itself to a treatment of a few precise features of reality and avoids making any generalizations about the relevant implications for other aspects of existence. The poetic model, on the contrary, not only deals in entities from the less precise macro-world of reality rather than the micro-world that interests science, but also leaps to generalizations about the implications of one truth for other aspects of existence. That is, in Frost's poem, what is true about the wave is soon asserted to be true for man also.

This difference between science and art is characteristic rather than unique to the example used. If we were to examine a number of instances in which science and poetry treat the same subject matter, the most encompassing and significant difference we would find is that the scientific model of a fact or phenomenon — either past or projected — will be cast in much more precise, discrete entities and more exact units of discernment than will an artistic treatment of the same or projected experience. It is only when science turns to the thought experiment or projected experience that it becomes quasi-metaphoric and approaches the kind of imposition that is characteristic of artistic models of experience. But even at that, the validation of a scientific thought experiment is sought in terms of measures and precise units of consideration that

are alien tests to the validity of an artistic embodiment of projected experience. No Utopian novel in all of literature, for example, could bear close scrutiny even in terms of the most rigorous sociological conceptions, although sociology and other behavioral sciences are not generally applauded in some quarters as being overpoweringly precise. On the other hand, the excellence of scientific models lies in the extent of their precision. One impressive example is simply to recognize that the Einsteinian basis for astronomy as opposed to a Newtonian one yields a correction of forty-two seconds over the period of a century in calculating the orbit of the planet Mercury.⁴ No artist ever worried about making distinctions that resulted in differences of this kind, or indeed, was even interested in achieving such precision.

This substantially greater precision of scientific models of experience over artistic ones could, in our technologically-oriented age, be adduced as evidence for the preferring of scientific models over artistic ones. Certainly conclusions based on such evidence have figured in the prestige of science as opposed to art in these times. Not only has society in general cast its lot with forms of progress that stem from scientific development but even in literature our age is in many ways an age of non-fiction and non-drama. It has not gone unnoticed, for example, that even in our popular magazines there has been a great tendency to publish articles to the exclusion of short stories. The large segments of our society that are oriented toward hard fact have tended to look upon art as precious or slightly irrelevant. In response, artists have tended to look on science as cold, ominously threatening and anti-human. The polarization of these two feelings have led to the concept of the two cultures. The adherents of one or the other of the two camps have been vigorous though perhaps unfair in either case. It is possible that the lack of understanding has resulted from failing to recognize what both art and science are communicating about the same things. In believing that art and science are about different things narrow-minded zealots for each of the factions



Composite Radiation Experiment

Courtesy: National Aeronautics and Space Administration





of the so-called two cultures have proposed the inherent superiority of what their area of interest communicates. The scientific scientist, who in his very narrowness contradicts the open-mindedness of science, simply feels that the great precision of scientific models of experience precludes the value of any other conceptions. Ironically, he is usually the type of person most vehemently engaged in hinting about the inherently humanistic values of the sciences while he can neither grasp nor articulate them himself. Behind the other barricade is the precious, super-sensitive artist or artistic enthusiast who whimpers about the valuelessness of science as opposed to the rich humanity of art, which he is busy killing with kindness and cliché as bizarre bad taste is piled upon rehashes of outmoded and unsupportable values.

This wrench in the structure of society stems from the failure to grasp that the difference between the artistic and scientific models is a matter of degrees of precision and not of subject matter. On the other hand, when the differences in precision are recognized, the conclusion that greater precision of itself makes an inherently superior model of experience has also created difficulty. Such is simply not the case. The greater efficacy is not always on the side of the greater precision. It has been pointed out by John Von Neumann that mathematical formulations, which are the very type in which science deals, are capable of substantially greater precision than any other type; yet concomitantly with this precision comes a decrease in reliability. That is, in the mathematical sense, greater exactness in formulation increases the chances for something going wrong. Thus, as precision increases the potential for error increases so that a system constructed of these formulations can be highly precise and highly unreliable. On the other hand, it is possible that a model or system can be much more severely limited in precision yet quite high in reliability.⁵ That is, a conception or model of experience may not be exact, but to the extent that it is valid it is consistently valid. This is another way of saying that a sound generalization, while it may

ignore a number of particulars and the variety in those particulars, nevertheless holds consistently true in a certain way. It is, in other words, reliable though it is not exact. The models of experience proposed to us by art accord with this principle. Good artistic models of experience are low in precision and high in reliability. For this reason, the rise of science in human society does not make art outmoded unless art chooses an obsolescent course for itself. Science can only shove art into the background to the extent that art fails on its own to present man with relevant models of new human experience or more reliable models of familiar human experience that still communicate to him the implications that science treats in a more precise way.

In some respects art has deluded itself in defending its existence by proposing that its contributions to the science-fascinated society is in providing the humanistic values that science lacks. The plain fact of the matter is that it is impossible to keep values out of scientific considerations. Man inevitably sees the coldest and the hardest and the most objective of facts within a value framework. The most abstract, coldly logical mathematical conceptions cannot help but remind us that it is no longer possible for us to see the world as it was. Thus, the relevance of art in a technologically-oriented society is not in being an exclusive purveyor of values that it concocts. Science shares with art the task of giving value to human life by providing art with a reservoir of implicit values. The ultimate benefit of the artistic form of communication resides in its ability to transcend the limitations of science. Art speaks just as surely to the intellect of man as does science. The seeing of art and science as having separate provinces of the emotions and reason respectively has contributed unfortunately to the dichotomizing of man's existence and intellectual life. The job of art is to talk to man about the same things that science tells him — to talk about them in a way that gets beyond the limitations of being precise and exact.

What art says to man may not be exactly true but it is true nevertheless — and

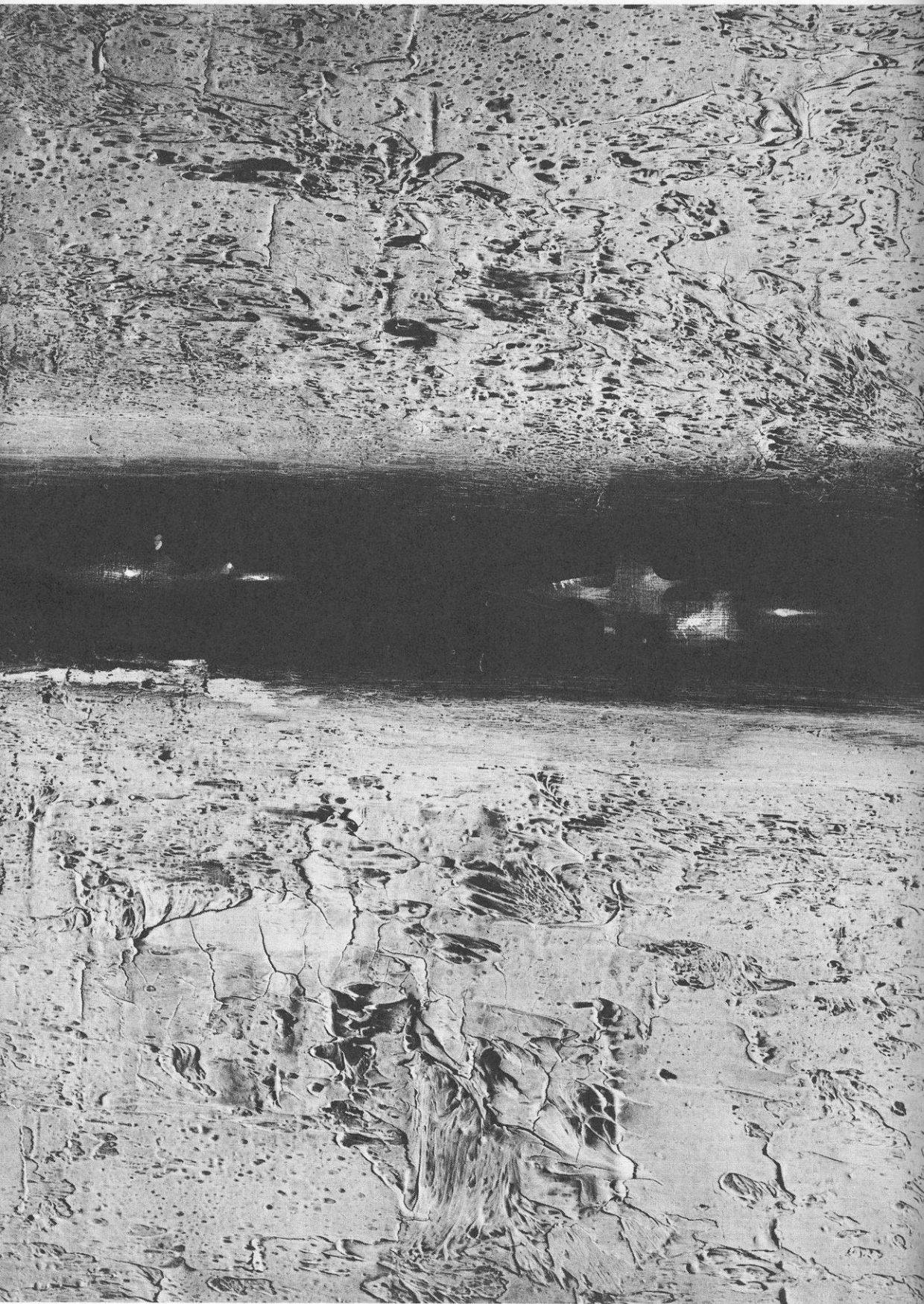
so substantially true must it be that the essential validity would remain intact even if details were clarified and corrected. Where art fails at this, it loses its impact. Recently it was reported that, on viewing a production of his play *The Chairs*, Eugene Ionesco vigorously criticized the director for making a comedy of his tragedy. The director responded that he need only come on successive nights to see exactly the opposite audience reaction, where the comedy would be turned back into a tragedy. I submit that the unreliability that such a work has in communicating so that the reaction of the audiences runs to such diametrically opposite extremes reveals a failure in communication on the part of the work. Durable art can not speak exactly and can not speak exactly the same thing to any two people, but it must speak in a way that the communication has reliable similarity for the vast majority of its recipients. Any work that does not achieve this reliability in communication has limited value, no matter how interesting or momentarily fascinating it may prove to be.

Art and science, therefore, do not talk about different things nor do they appeal

to different facets of man's nature. They talk to him in different ways about the same things. Each of the ways has its own strengths. For this reason, neither is inherently inferior or superior to the other. Once we stop dichotomizing the areas of concern of art and science, the compartmentalizing of modern society into two irreconcilable camps happily disappears, and man stands before us once again more fully prepared to cope with the exigencies of existence because he can bring both art and science to bear on the problems of being. We can help our thinking about the parts that art and science play in man's life by not thinking of them as two tools for man to use but rather as parts of the same tool. Art and science together are man's third hand. Just as the proficiency of his other two hands was immeasurably increased by the development of the thumb to work opposite to and in accord with the fingers, similarly art is the thumb and science the fingers of man's third hand, which he can use to proceed along the next segment of his great journey in the way that the use of his other two hands has brought him to this point.

1. W. Ehrenberg, "Maxwell's Demon," *Scientific American* Vol. 217, No. 5. (November, 1967) pp. 103-110. This is a most helpful article because it gives Maxwell's own text as well as a treatment of the subsequent considerations of the problems by other physicists.
2. Jagjit Singh, *Great Ideas in Information Theory, Language, and Cybernetics* (New York: Dover, 1966), p. 77.

3. Robert Frost, *Selected Poems of Robert Frost* (New York: Holt, Rinehart and Winston, 1963), pp. 163-166.
4. Clement V. Durell, *Readable Relativity* (New York: Harper and Bros.), p. 134.
5. John von Neumann, *The Computer and the Brain*, (New Haven: Yale, 1963), pp. 77-79.



Who's Afraid of Fantasy?

By Rudolf B. Schmerl

Science and literature, as activities, as pursuits, have nothing in common. Science, which rests on the reproducible experiment, knows no limitation of subject other than that imposed by its single method. Literature, which has for its subject matter the infinity of experience involved in being human, knows no restriction of verbal method with which to explore that single subject. But science and literature are not only pursuits, they are also — now more than ever — enterprises. And in a certain sense, they are competing enterprises. Their purveyors share a concern to relate what they do to what society may become. If humanity has learned anything in the last couple of centuries, it is that the future may be different from the past; and therefore the purveyors of science and literature find us unusually attentive to their various prophecies. It happens, perhaps because of the fundamental difference between science and literature as pursuits, that the most arresting visions of the future entertained by scientists rarely corroborate the most compelling foresights of artists. Hence, competition, which may be good for enterprises, even for fantasy, but is not always good for all of us. We are left floundering between conflicting futures, most of which are presented as inevitable, at least as highly probable, and there are too many credibility gaps already.

Obviously, science is part of the nation's business as literature is not. The gesture of respect accorded Robert Frost by the late President Kennedy is not comparable to the post of Science Advisor to the country's chief executive. The budget of the National Foundation for the Arts and Humanities is about two and a half per cent of the funds allocated to the National Science Foundation. The various state councils for the arts are not trying to entice poets to change their residence, but similar seduction of engineers and scientists is a regular part of the business of any self-respecting state chamber of commerce. Municipalities, seeking counsel, turn to social scientists, transportation experts, specialists in pollution abatement, but not to playwrights, novelists, essayists. Scientists and, even more, managers of science have the governmental ear; literary people talk mostly to each other.

Aware that this state of things is relatively recent, certain that they are being neglected to the nation's detriment, men of letters often decry science and society alike. Once in a while their hostility to society is newsworthy, at least briefly, as when Robert Lowell snubbed President Johnson's invitation to the White House Conference on the Arts. But their hostility to science, frequently camouflaged as hostility to amoral technology, is generally a much

quieter antagonism. Deeper, perhaps, but quieter. After all, to attack something without understanding the first thing about it is somewhat precarious, especially in the community in which so many scientists and literary people hear of one another: the University. It is safer and much more pleasant to voice anxiety only about the big questions — about where we're all going (to hell, is the usual implication), about where science is taking us, about the disproportions in support of the sciences, who are getting too much, and the humanities, who are being starved to death. Even starvation, it turns out, is a matter of proportion.

It has seemed to me for some time that the literary establishment is unnecessarily defensive. (There are, of course, several literary establishments, as there are scientific ones, but the precise taxonomy probably wouldn't change my general impression.) That the literary man sees himself as confined to the slums and the scientist as a resident of the opulent suburbs is understandable. And the literary man's notion of a Scientific Power Structure, influencing his life at every turn, often for the worse, probably has some validity. But the slum dweller is demonstrating his ability to attract attention, if not to his immediate problems, then to the way he intends to share his plight with more fortunate citizens. And the literary man, similarly, has shown that his imagination, his awareness of what exists and what might therefore come about, can penetrate the official versions of our future and stir fears of far wider desolation than any yet experienced in our country.

Of the several variants of fantasy, the one of greatest interest to most people seems to be, not surprisingly, the one that attracts the greatest diversity of contributors: fantasy about the future. The alternative is usually fantasy about far-away places, where most of us don't expect to go. But we do think that we'll get to the future, and we are quite certain that it will be different from the present. We have any number of experts who spend much of their time and our money telling us just how it will be different and even what to do about it: government officials who tell us that

we can look forward to ultimate victory if only we will stop criticizing them; investment counselors who tell us that cities may go up in smoke but Wall Street will go on forever; revolutionaries who predict revolution and reactionaries who prophesy reaction. Nevertheless, there is no dearth of platitudes about the constancy of everything really important, about the eternity of verities and the veracity of eternity. This should allow us to have the best of both worlds, the present and the future. Living in the present obliges us to pretend that we understand it, and paying people to foretell the future obliges us to pretend that we're getting our money's worth. But we are not at ease. We are caught between conflicting fantasies, and the resulting uncertainty is terrifying.

What has emerged, more and more clearly, in our experience with scientist-managers over the last two decades is our own confusion. If we look to science to give us the ultimate weapon, the impenetrable defense, Fortress America, we find that the experts of this year are the old fogeys of the next. If we ask science to rid us of disease, to save our children and comfort our aged, we find that our resulting numbers may pose a graver threat to our survival than the bubonic plague. If we turn to science for better living through chemistry, we find that pesticides can poison crops, detergents wash the shores of many of our streams and lakes, and the air over our cities is heavy with noxious contaminants. Scientists, of course, can be counted on to chant, as they do endlessly, that more research is needed; the rest of us may feel that if only they would leave bad enough alone, nature might still recover from their onslaughts.

This is all unfair, of course, but in general it is possible to view the prospects of indiscriminate application of science to the innumerable problems of our relationship to our environment, and to each other, with something less than unmitigated enthusiasm. Are we freeing a portion of humanity from tedious labor and debilitating illnesses so that they can cower in fear of the rest of mankind? Are we lengthening life without knowing what to do with it? What

are the implications of achieving greater and greater control of nature — think of the Bomb and the Pill both — when that control, clearly, rests in the hands of scattered groups of accidental men? What is so frightening, ultimately, about so many visions of the future conjured up by so many scientists is that they all rest on concepts of the purpose of our existence as defined by someone else, not us. We are told that we will soon have the power to alter humanity's genetic stock, to manipulate group relations, to leave the planet, to live on the bottom of the ocean, to multiply unimaginably because we will eat unimaginable things, and we are asked to believe that these achievements, if that is what they are, will cost us nothing except money. But we know better. We have read *Brave New World* and *1984*, *Fahrenheit 451* and *A Canticle for Leibowitz*. We recognize the scientist's lust for power because artists have described it powerfully. And credibly. What lies ahead, in the enthusiastic projections of men whose power can be doubted no more than their brilliance, is a world in which their ability to control our lives will be immeasurably greater than it is already. No sugar-coating of smarter progeny, bigger rockets, seaweed delicacies, mesmerized minorities, or electronic creature comforts makes that pill any easier to swallow. And therefore we may not swallow it. The projections of Huxley and Orwell, Bradbury and Miller are far more vivid, if much less enthusiastic, than those of H. J. Muller and Wernher von Braun. Historians of the future, if there are any, may have an interesting time trying to assess the influence of twentieth-century anti-Utopians on the development of science.

The significance of fantasy lies in its relation to the real world. To read *1984*, for instance, merely as a sick man's nightmare, as the despairing prophecy of an Edwardian with an incurable nostalgia for the supposedly tranquil days of his pre-World War I childhood, is utterly to miss Orwell's real concern. This was to show that the essence of his projected world was already forming. But *Darkness at Noon* had been written. Realistic fiction with a political theme is based on a reality that constantly recedes

from men's consciousness. It seems likely that, in 1949, the Communist purges of the thirties had been shoved back in Western memory by Nazi concentration camps, the Hitler-Stalin pact by the defense of Stalingrad, the uneasy awareness of Communist tyranny by an overpowering desire for peace. The war had been won, which meant that today was an improvement over yesterday, and tomorrow might be better still. Against this sort of desperate complacency, *Darkness at Noon* had little chance of making a deeper political impression than *All Quiet on The Western Front*.

It happens that fantasy is a peculiarly appropriate literary method with which to attack totalitarianism, established or incipient. Totalitarianism itself rests on fantasy, about race or history or supernatural beings or the miracles to be achieved by unswerving loyalty to The Cause. The manipulation of time and space, the invention of mysterious creatures and magical devices — this is the stuff of which fantasy has been made from the beginning. And as a didactic response to totalitarianism, fantasy has the advantages of allegory. Remarque's *The Spark of Life*, a realistic concentration camp novel, ends with the liberation of the camp by the Americans. It has reminded the reader of what Hitler's tyranny was, has portrayed concentration camp life with unusual vividness, and has demonstrated, by showing that there are things worth fighting for, that the war had to be fought. But ending as it was written, realistically — almost factually — the novel does not succeed in making of Nazism an experience from which any general conclusion can be drawn. Fantasy, however, by refusing to deal with real particulars can be more ambitious about real generalities. The Nazis in *The Spark of Life* are diversified and credible characters. In Rex Warner's *The Professor*, Vander, a Nazi figure, is a speech rather than a man, a long and complicated challenge to the reader to deny the National Legion's — that is, Nazism's — theory of the nature of mankind. Warner here sacrifices characterization to strengthen his message. Similarly, in the C. S. Lewis trilogy, Ransom becomes more and more of an allegorical figure from one novel

to the next until, indeed, in *That Hideous Strength*, immortality is conferred upon him. The methods of fantasy, in the hands of the responsible fantasist — the writer concerned with the real world — reveal that world to the attentive reader, not as it appears to be but as it appears to be evolving. To put the matter another way, fantasy, by presenting a future in the past tense, can illuminate present processes in ways simply not available to the writer of realistic fiction, who must write about events as if time were always coming to a stop.

In 1932, when Aldous Huxley published *Brave New World*, it seemed important to ask what democracy was aiming at. By 1949, when Huxley published another version of the future, *Ape and Essence*, and when Orwell also published *1984*, it had become apparent that the question was futile unless democracy was going to continue to exist. The events of the intervening years had demonstrated that it was not a question of what democracy was aiming at but what it was coming to. In the eyes of C. S. Lewis and Rex Warner, it was at least threatened by corruption and ruin; in the eyes of Huxley and Orwell, it was coming to disaster. "The essence of democracy," Zevedei Barbu wrote in *Democracy and Dictatorship* (1956), "is human dialogue." Dialogue is possible only when there are a number of common assumptions, when there is an underlying similarity between the bases of two points of view. But when the moral fundamentals of one party are regarded as absurdities or weaknesses by another, there is nothing to discuss. In an essay called "Reflections on Gandhi," also published in 1949, Orwell pointed out that Gandhi's assumption — "that all human beings are more or less approachable and will respond to a generous gesture" — may not be tenable "when you are dealing with lunatics." And what are our criteria for determining rationality? "Sanity," Aldous Huxley had said in *Proper Studies* (1927), "is a matter of statistics"; but as Orwell asked in his essay on Gandhi, "is it not possible for one whole culture to be insane by the standards of another?" To ask the question is to answer it. I want to illustrate its pertinence, and to delve a little more deeply

into the differences between scientific and literary fantasies, by examining the racial situation.

Some time ago I heard Lerone Bennett, the historian, writer, and editor of *Ebony*, criticize American social scientists for their obsession with studying black Americans. The Germans, Bennett pointed out, studied the Jews; in retrospect, it is only too clear that it wasn't the Jews who needed studying. The more I think about Bennett's point, and the more I see of officialdom's reaction to the crises in our cities, the louder Orwell's question reverberates in my mind. I don't mean to imply, as I'm sure Bennett didn't, that the parallel is exact. To prove the inferiority and culpability of the Jews, the Nazis established a "Forschungs-abteilung Judenfrage" in their Reichsinstitut für Geschichte des Neuen Deutschlands, and published nine volumes of ostensibly scholarly treatises to give their racial theories the immense respectability of German *Wissenschaft*. I am reasonably certain that the motivation of the hordes of social scientists now invading the ghettos with their questionnaires, their sampling techniques, their computer programs, is quite different. But the means determine the ends. The implication is that the Negro is ill and in need of diagnosis, and true to the Parkinsonian laws that govern the scientific enterprise, one diagnosis always leads to another. More research is needed: more interviewers, more samples, more data. Commission reports may bulge up to the rafters, but proposals to add to them continue to flow to Washington. In the meantime, ladies in Dearborn, persuaded that they are about to be attacked on their well-cultivated lawns by swarms of black Detroiters, are attending classes in the use of firearms. Who is ill? Which is the culture that is insane by the standards of another?

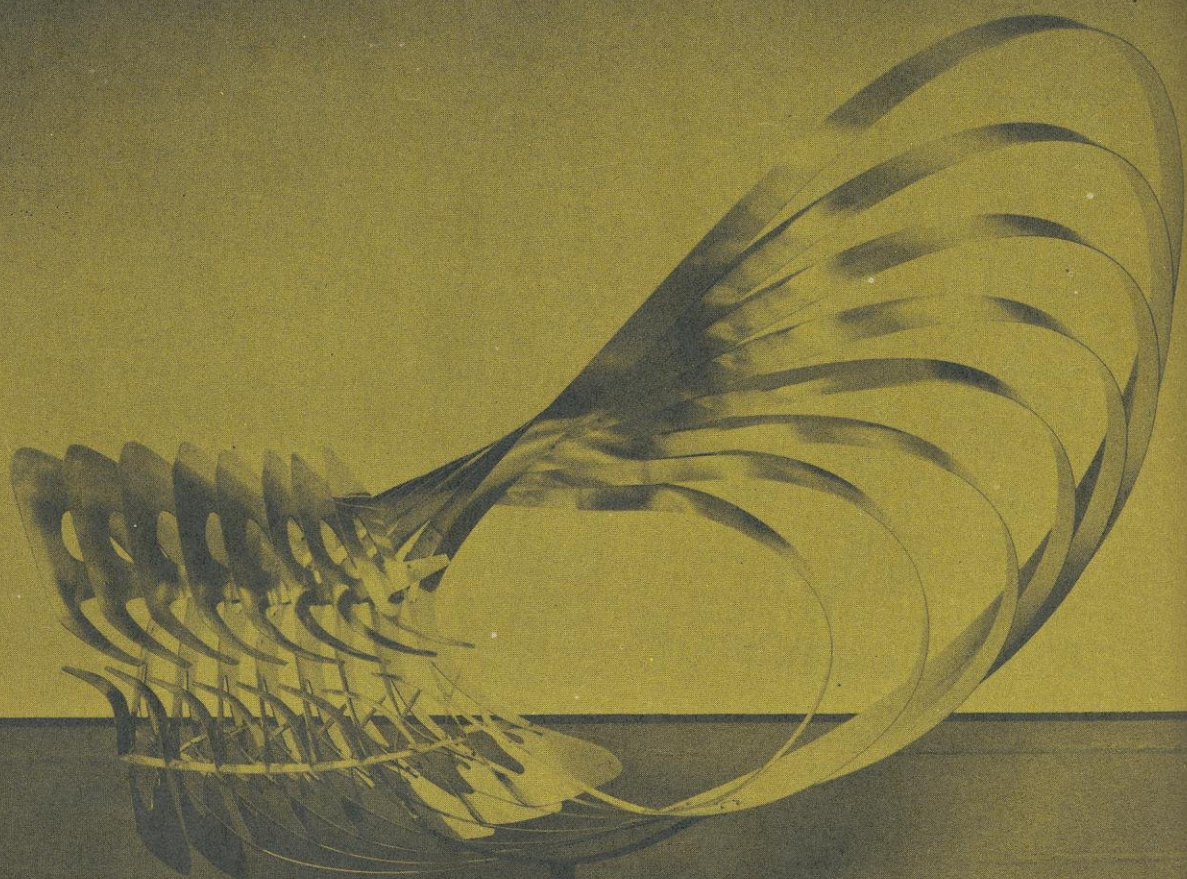
It happens that we do know something of the fears and fantasies that must dominate a place like Dearborn, a town of 110,000 people, including, at last report, exactly one Negro family. (Dearborn's mayor, who has been its mayor for a very long time, claims that that family got in by mistake.) We don't need complicated analyses of social mobility,

income levels, immigrant experiences, and economic data to glimpse the nature of Dearborn's illness. In fact, such analyses might obscure our understanding of the vision each of those pistol-packing Dearborn mamas must have in her head as she steadies her aim and squeezes the trigger. What we know about Dearborn's pathology comes not only from our own lives, which we rationalize and lie about all too often, but also from the wider, because more sharable, experience provided by literature. White psychoses about Negroes — the cause of the cause of the riots — have been laid bare by white as well as black writers, most obviously, perhaps, by Faulkner ("Dry September" serves as a powerful example), but also by far less gifted writers, for instance, Sinclair Lewis in *Kingsblood Royal*. *Kingsblood Royal* is a very bad novel, but it contains a summary of white fantasies about black Americans that seems to me to make the riots far more understandable than the mountains of statistics being gathered about life in the ghettos.

Why, ultimately, are white people, even those we like to characterize as being of good will, so pessimistic about the chances for rapid progress in the quality of life available to their black fellow citizens? The answer usually has something to do with history, that is, the Negro's history, as if it were separable from the history of the country in which the Negro has been created. What nonsense. What people in the history of the world has started with more disadvantages and climbed more rapidly in such a short time? The pessimism of whites of good will may be justified, but it should be related to whites, not Negroes. Ellison's *Invisible Man*, in its very title, suggests how our national vision is obscured by fantasy. To give up his various fantasies about Negroes, the American white man would have to re-define himself, and the only conclusion he could come to — a negative one, that he is not black — would confront him with the

necessity of forging an identity for himself on the basis of what he is, not on the basis of his superiority to a figment of his imagination. That appears too much to hope for. What the racial situation in our country illustrates, among other things, is how deeply satisfying the terrors of fantasy can be. That black Americans are not immune from these fearful pleasures, although of course in different form, should surprise not even social scientists.

Until comparatively recently, Western civilization was dominated by a vision of the future totally unlike the visions that obsess us now. The future of collectivities was not in question, only the future of the individual. He was to go either to heaven or to hell, and there was considerable argument about whether he had any say in the matter. The Christian religion has not played any tangibly important role in determining the choices men make for some years now, and the futures we are asked to contemplate are not our own as men and women, only as citizens, workers, parts of a machine. We have not been able to find a substitute for religious belief that does not minimize the importance of the individual. If orthodox faith is abandoned, one alternative to facing the metaphysics outlined by Bertrand Russell in "A Free Man's Worship" is to dance around a golden calf, disguised by the names of nation, party, race, or class, in the grosser instances, and by the names of progress, destiny, human spirit, evolutionary potential in the more subtle ones. The work of the responsible fantasist — and I include those writing such scripts as "Dr. Strangelove" as well as those whose media are perhaps more enduring — is comparable to that of Moses, to call our golden calves by their right names, to interrupt our fantasies with the harshness of the truth, and to continue to search for the Promised Land. The search may be all we have.



SPACE LIGHT C by Cosimo Carlucci
Courtesy: The Bradley Family Foundation, Inc.
Gift of Mrs. Harry Lynde Bradley



Research Satellite
Courtesy U.S. Air Force



Photo Courtesy: Cutler-Hammer, Inc., Milwaukee, Wis.

The Poet Looks at Space --- Inner and Outer

By Dick Allen

In Robert Heinlein's well known short story, "The Green Hills of Earth," poet Rhysling becomes a legendary figure — the first major poet to accurately reflect the passions of space wanderers. But, surprisingly, our own Space Age has not yet produced any leading poet primarily identified with chronicling extra-terrestrial exploration. Neither has it given us any major poet writing from a future-oriented basis. What we do have, however, is a large number of disparate poems which more or less indicate attitudes of contemporary poets to space exploration, as well as to other aspects of mankind's improbable present and probable future. These poems range from those which only passingly use a word or an illusion from space terminology to the mystical interludes of inward-searching post-Beatniks. Their authors are establishment figures and young folk-rock composers, hardcore s-f professionals and radical young academics.

What they have in common is a difficulty with the language of space. The older contemporary poets, working usually in a quite fixed form and exercising new critical care on the choice of each phrase, have been naturally reluctant to avoid terms which allow humorous Buck Rogers connotations. Words such as "spaceship," "blast-off," and "planetfall" conjure up unwanted

associations with what they were trained to consider unreachable and juvenile fantasies. Moreover, due primarily to the increased influence of William Carlos Williams' poetics, American poets of the modern period have been careful to accurately record precise American speech patterns and vocabulary phrasings in their work. The Cape Kennedy vocabulary still does not flow easily from the tongues of most older Americans. Individual words seem to call too much attention to themselves, hampering the effect of the loose natural phrase and the poem as totality.

The younger poets working with space concepts and vocabulary have a reverse problem. The language of space belongs, properly, to the television generation. Yet their ease with it and their inclusion of it in their work sounds phoney to the older generation — non-serious, "popish." They are, with much justification, accused of composing push-button poems: A-Bomb = BAD, Trip = GOOD. Still, when "A-OK," "splashdown" and "retro-rocket" become completely comfortable, their young poems will seem more acceptable to the makers of anthologies. The equivalence is striking when we recall how the "tele" words have become so easily assimilated into the contemporary poets' working vocabulary: "television," "telephone," telegraph." And witness the

ease with which "transistor" and "mini-" have been absorbed.

A second common difficulty is the familiar one of labels. All serious poets have a dread of being called writers of light verse. Space-oriented poetry has been (like science-fiction short stories and novels) considered as a sub-genre, mediocre best-seller type of literature, to be read as one reads a gothic, a western or a detective story. The serious poet fears that as soon as his reader sees a phrase heard on *Space Cadets* that he is in for a humorous poem or one of those miniature verse monstrosities sometimes produced by established s-f novelists.

Despite these handicaps, the challenge of writing about space is a compelling one to the contemporary poets. If they wish to capture the important essences of their time they cannot ignore quasars and lasers, radio probes and magnetic storms, free fall and the Big Bang versus Steady State theories. And in a time when contemporary poetry seems on the verge of turning, finally, from its submission to the lyric toward increasing emphasis on longer narrative and dramatic forms, the possibilities of creating epic heroes and of establishing concerns large enough to support the longer poem, are extremely compelling.

This is in addition to the natural compulsion which comes from any man's natural wonder at the universe. Walt Whitman put it best in "When I Heard the Learn'd Astronomer":

*When I heard the learn'd astronomer,
When the proofs, the figures, were ranged
in columns before me,
When I was shown the charts and diagrams,
to add, divide, and measure them,
When I sitting heard the astronomer
where he lectured with much applause
in the lecture-room,
How soon unaccountable I became
tired and sick,
Till rising and gliding out I
wander'd off by myself,
In the mystical moist night-air,
and from time to time,
Look'd up in perfect silence at the stars.*

Perhaps the inspiration of most poets

comes from an experience such as this: an experience of space, a feeling of being lost in the universe, a feeling of having to do something about it, to write your name, to create order as a brave defiance to everything out there which is impossible to order. The Russian Cosmonauts have told us that they have been up in the Sputniks and they looked around and God was not peeking at them. But if there is not a God, then perhaps we have been using the wrong definitions — for at the very least there is a feeling of the unknowable; there is a necessity for acceptance, much as Job is supposed to have felt. The great English poet and novelist, Thomas Hardy, puts it this way in Chapter Two of *Far From the Madding Crowd*:

*To persons standing alone on a hill during
a clear midnight . . . the roll of the
world eastward is almost a palpable
movement. The sensation may be caused
by the panoramic glide of the stars
past earthly objects, which is perceptible in
a few minutes of stillness, or by the
better outlook upon space that a hill
affords, or by the wind, or by the
solitude; but whatever be its origin the
impression of riding along is vivid and
abiding. The poetry of motion is a phrase
much in use, and to enjoy the epic form
of that gratification it is necessary to
stand on a hill at a small hour
of the night, and, having first expanded
with a sense of difference from the mass of
civilized mankind, who are dreamwrought
and disregardful of all such proceedings at
this time, long and quietly watch your
stately progress through the stars . . .*

Contemporary poets share this kind of attraction to universal awe, or operate in reaction to it. Their work, it seems to me, can loosely be placed in four major categories. First comes the poetry which, although not primarily future-oriented, uses many allusions to current space concerns. Related to these poems are those occasional ones by major contemporary poets which, although not written as *per se* science fiction, do fit the general category. Third come poems by science fiction novelists and short story writers and s-f addicts. And fourth — perhaps most important — are the song-poems of the



RELATIVITY A Film by Ed Emshwiller

folk rock and psychedelic music writers.

Poets using allusions to space include almost every major contemporary figure. In his already famous "Waking Early Sunday Morning" Robert Lowell ends a despairing survey of American life with the image of an Everyman astronaut:

*Pity the planet, all joy gone
from this sweet volcanic cone;
peace to our children when they fall
in small war on the heels of small
war — until the end of time
to police the earth, a ghost
orbiting forever lost
in our monotonous sublime.*

Robert Bly's poems call forth deep responses from the subjective surrealistic life of us all. He writes in "Those Eaten by America":

*The wild houses go on
With long hair growing from between
their toes
The feet at night get up
And run down the long white
roads by themselves
The dams reverse themselves and want
to go stand alone in the desert
.....
The world will soon break up into small
colonies of the saved*

and in "Watching Television":

*Sounds are heard too high for ears,
From the body cells there is an
answering bay;
Soon the inner streets fill with a
chorus of barks.
We see the landing craft coming in,
The black car sliding to a stop,
The Puritan killer loosening his guns.
.....
The filaments of the soul slowly separate:
The spirit breaks, a puff of dust floats up,
Like a house in Nebraska that suddenly
explodes.*

In "Outward" another Pulitzer prize winning poet, Louis Simpson, writes,

*The astronaut is lifted
Away from the world, and drifts.
How easy it is to be there!*

*How easy to be anyone, anything
but oneself!
The metal of the plane is breathing;
Sinuously it swims through the stars.*

He is the same poet who has written about American poetry, "Whatever it is, it must have/A stomach that can digest/Rubber, coal, uranium, moons, poems."

One could go on endlessly, picking up quotes here and there. Suffice it to say that to poets not writing straight s-f poetry, space and surrealistic fantasy are good sources of symbols, of allusions to fresh words and worlds. Their poetry shows they have been touched by the new space, but are not, of course, exclusively involved with it. The main trends in establishment poetry are still toward the working out of the small, individualized subjective experience, related primarily to this time and this place.

Poems by major poets which would fit easily into any modern s-f anthology are numerous. The names here encountered include Richard Wilbur, W. H. Auden, John Ciardi, Richard Eberhart, Andre Vosnesensky, Edwin Muir, Allen Ginsberg, and Edward Field. Eberhart's reaction to the Space Age is one fairly characteristic of his generation of poets. In "On Shooting Particles Beyond the World" he says,

*On this day man's disgust is known
Incipient before but now full blown
With minor wars of major consequence,
Duly building empirical delusions.*

In a fine, tightly-controlled but angry poem he goes on to compare man to a "little creature in a rage" throwing his rockets like toys. He says man ridiculously ignores the possibilities of his own planet, has not searched deeply enough. Now, man's "particles of intellect will spit on the sun." Eberhart concludes with,

*Not God he'll catch, in the mystery of space,
He flaunts his own out-cast state
As he throws his imperfections outward bound
And his shout that gives a hissing sound.*

Eberhart's poem is an extreme reaction,

but does point out that in the work of many older poets space and the bomb, nuclear destruction, are somehow combined. That old distrust of science is seen. These poets would say that since we have too many earth problems, why give ourselves others. Space can become an escape for not facing up to things here: it is a stock car race, a bloody Ben Hur movie.

This uncomfortableness with space is shown in the work of another of our older and well-respected poets, W. H. Auden. In a recent collection of poems, *About the House*, Auden tries, as so many poets before him have tried, to come to terms with new conceptions of the universe — principally the conceptions of modern physics. The question is, how can we handle what we cannot understand. How can we become comfortable with this Einstein and Hoyle and Whitehead universe? In "After Reading a Child's Guide to Modern Physics" Auden writes,

*Our eyes prefer the suppose
That a habitable place
Has a geocentric view,
That architects enclose
A quiet Euclidean space:
Exploded myths — but who
Would feel at home astraddle
An ever-expanding saddle?*

Auden is less distrustful than Eberhart, but still holds back his enthusiasm. He explores and states but finds the new age difficult to wholeheartedly accept. On the other hand, his "Directions for Reaching Atlantis" is a classic and his translation of Andre Vosnesensky's "Parabolic Ballad" masterful.

In this poem Vosnesensky demonstrates the influence of Space Age sensibility on modern poetry as well as any other living writer. "Along a parabola life like a rocket flies,/ Mainly in darkness, now and then on a rainbow." Gauguin escaped his critics and he "rose like a howling rocket" which "didn't steal into the Louvre by the front door/ But on a parabola smashed through the ceiling" for "Worms come through holes and bold men on parabolas." Vosnesensky writes,

*Forgive me for this idiotic parabola.
Cold shoulders in a pitch-dark vestibule . . .
Rigid, erect as a radio antenna rod
Sending its call sign out through the freezing
Dark of the universe, how you rang out to me;
An undoubtable signal, an earthly stand-by
From whom I might get my flight
bearing to land by.
The parabola doesn't come to us easily.*

And in the poem "Antiworlds" there are "no women —/ just anti-men./ In the forests, anti-machines are roaring." All is strange, other-dimensional. We all share the quality of double negation.

Another poet who shares Vosnesensky's embrace of science-fantasy is Allen Ginsberg. His leading success in this field is, I think, "Poem Rocket." In it (and as always influenced by Whitman) Ginsberg attempts to make a large statement about the new possibilities of Space-man and to show how these give rise, in turn, to new possibilities and responsibilities for poets. His poem tries to absorb the entire universe. The moon is a "goof moon." And "as God is possible as All is possible so we'll reach another life." Addressing himself to creatures he imagines man will discover, and speaking about the all-inclusiveness of the religious experience, Ginsberg wonders if we will find "slave camps on Saturn Cuban revolutions on Mars . . . will Catholic Church find Christ on Jupiter." Will the future beings "eat my poems or read them/ or gaze with aluminum blind plates on sunless pages." The final planet is the one where "the Great Brain of the Universe sits/ waiting for a poem to land in His golden pocket."

More fantasy, but of a different sort, is found in Edward Field's *Variety Photoplays*. Field loves old horror movies, and in his work merges their characters with contemporary ones. In "Curse of the Cat Woman" he writes, "It sometimes happens/ that the woman you meet and fall in love with/ is of that strange Transylvanian people/ with an affinity for cats." At some point she turns and attacks you; you kill her and she turns human again. Field also has a marvelous poem on Frankenstein, in which the monster becomes the symbol for

all the hunted and lonely of earth;
another called "She" and a third
titled "The Bride of Frankenstein." The
last makes the modern exploitation of
childsex hideously apparent.

Writing in a completely different style,
Richard Wilbur has produced two
s-f classics. The first of these, "Advice to
a Prophet", deals with the familiar
theme of the wiseman who will tell us
of mankind's imminent self-destruction:

*When you come, as you soon must, to
the streets of our city,
Mad-eyed from stating the obvious,
Not proclaiming our fall but begging us
In God's name to have self-pity,
Spare us all word of the weapons,
their force and range,
The long numbers that rocket the mind;
Our slow, unreckoning hearts will be
left behind,
Unable to fear what is too strange.*

As Eberhart, Wilbur asks us to remember
the beauty of ourselves, the possibilities we
have too often ignored. We could
believe the danger if the prophet told us
"that the white-tailed deer will slip/
Into perfect shade, grown perfectly shy,
The lark avoids the reaches of our eye,
The jack-pine loses its knuckled grip."

Wilbur's other is called simply "Shame"
and personifies the word as "a
cramped little state with no foreign
policy" where "The grammar of the
language/ Has never been fathomed,
owing to the national habit/ Of allowing
each sentence to trail off in confusion."
The people's "negligence is reserved,"
the poem says,

*For the hoped-for invasion, at which
time the happy people
(Sniggering, ruddily naked, and
shamelessly drunk)
Will stun the foe by their
overwhelming submission,
Corrupt the generals, infiltrate the staff,
Usurp the throne, proclaim themselves
to be sun-gods,
And bring about the collapse of the
whole empire.*

Three other poems — out of hundreds to
choose from — can be mentioned here.
The first is Edwin Muir's "Horses,"

a beautiful work which deals with
the destruction of one civilization and the
beginnings of another. The poem
starts, "Barely a twelvemonth after/
The seven days war that put the world to
sleep,/ Late in the evening the
strange horses came." They appear
following the failures of radios which
the survivors would not care to hear again,
in the days when "Sometimes we
think of the nations lying asleep,
Curled blindly in impenetrable sorrow,
And then the thought confounds
us with its strangeness."

John Ciardi's poem, "An Island Galaxy"
draws a comparison between a tire
rut full of pollywogs and our own
universe/ What created both?
"Universes happen. Happen and are
come upon./ I stood in the happening of
an imagination." Ten days after first
encountering the tire rut, the poet returns.
The "universe" is gone. "The rut
lay baked/Twenty upthrust shoreline
yards of time/ Slept in the
noon of a finished imagination."

Maxine W. Kumin poses a familiar
possibility to us in "To An Astronaut
Dying Young." The satellite has failed, the
astronaut remains orbiting in his
coffin of space:

*But there you go again, locked up in your
perfect manhood,
coasting beyond the reach of
the last seraph in the void.
Not one levitating saint can rise from the
golden pavement
high enough over the ridgepole
to yank you back into His tent.
This was a comfortable kingdom,
the dome of it tastefully pearled
Till you cut loose. Your kind of death is
out of God's world.*

Poetry related to space which seems to be
written in acceptance of the s-f label
is generally mediocre, pretentious
mock-Beowulf stuff or light verse.
Dorothy Jones' "The Elf in the Starship
Enterprise," appearing in the
September, 1968 *If*, provides a sample:
Mr. Spock has discovered "emotions —
and does not know what to do with them":

*Bewildered creature made of steel and lead,
You wander through the empty*

hallways weeping,
And cannot name the fountain of your grief,
That yesterday lay sleeping.

The poem concludes with the rather clichéish, "The pale, cold-hearted elf who lately died/ Today is born a man." Hilbert Shenik's humorous poem, "Ed Lear Wasn't so Crazy" is, however, clever and amusing:

*The owl and the pussycat went into space
In a modified Jupiter C.
They took some lox, and standard clocks
And an ape with a PH.d.*

and so on.

The one s-f poet whose work stands high above others in the general field is the English writer, D. M. Thomas. A good sampling of his work appears in *Penguin Modern Poets 11*. In the Acknowledgement to the volume, Thomas pays tribute to writers whose stories helped provide myths for the poems: Ray Bradbury, Arthur C. Clark, and Damon Knight, among others. The poems work well, are quality productions which go far beyond the limitations of hardcore s-f, even though the themes are perhaps too familiar to science-fiction readers. In the dramatic monologue "Missionary" Thomas deals with the inability of mankind to change its war-like nature. "Tithonus" is a brilliant tour-de-force about the first immortal: the brain of Edgar L. Cummings "bottled greyly in solution" and displayed to sightseers. Here is a sample section:

*Take a crane-fly wandering in from the river,
Settling on a door you've sprayed with paint.
One leg goes, in the frenzy to escape
— Two more — a wing-thick pencil scrawls
Grotesque millimetres away; now it knows
Not even God could separate paint
from crane-fly
And leave enough of the latter.
So it subsides,
Despairing. When you come along —
my God, the paint! —
You expect it to welcome the
tenderly offered rag,
The quick-crunch-and-it's-over. But
no, it fights!
It tries to cringe. Not that it
has any illusions
About ever getting away from*

*this obscenity, it knows
The kindness of your gesture, but it
just CAN'T
But try to protect its tiny brain from your pity.
Its little ego shrieks silently,
LEAVE ME INTACT!
YOU DON'T KNOW HOW VITAL I AM.
Here, in this case, we've kept that ego intact.
I think I used the word excision,
As though what we cut out was expendable;
Call it rather a vast amputation
Of the body hacked clear away
from the brain.
The man remains; meditates,
desires, remembers.*

Thomas' "A Dead Planet" deals with a dead man awakened by explorers who wish "To see what kind of animate was slain." The man wakes:

*'Master!' his lips compounded while the skein
Was falling from the eyes he had just shut
On wife, on child: his faith was not in vain!
'Dear Christ! . . . how blissfully
Thou dost abate
The grave's —' His gaze took in the plain;
The ring of orbs devoid of love or hate,
The ray-guns poised to mow it down again
When they had sorted out its true estate.*

"The Strait" poses Android woman against human woman; "Hera's Spring" deals with the relationships between love, chance, and immortality. In short, D. M. Thomas brings to poetry the skill of a quality poet and the ease with s-f terminology and themes which point the way to vast possibilities for future development. The only major weakness is that his poetry assumes space exploration and the future, rather than merges the future experience with the difficulties of our own transition period into full understanding of the Space Age.

The poetry of folk rock and psychedelic music makes up the final category this brief survey is considering. Here, we encompass works from Pete Sloan's crude but nonetheless popular "Eve of Destruction" to The Rolling Stones' "2,000 Light Years from Home." The song-poem's importance comes more from the listener's total electronic experience than from the polish of the lyrics, but in this total experience, this wedding of music and poetry, I think we are seeing the beginnings of a

time when we will buy our poetry on records with books tossed in as extras, rather than vice versa.

The pop music composer's love of space allusions and imagery has a twofold source. First, space exploration and terminology allows a useful way of speaking in somewhat veiled terms about the drug experience: "liftoff," "touchdown," "floating." The rocket off to wander becomes a symbol for mind seeking freedom from normal confines, for reaching some sort of mystical union with the All. It is interesting to note that hippies throughout the country would not have dreamed of seeing the last section of 2001 unless they stoned themselves during intermission.

More important is the use of surrealist satire, extremely strong in the works of Bob Dylan and the Beatles. In this type of work the poet begins with the assumption that the universe is most rationally met as an experience of Absurdity, change, chaos, fantasy. Anyone who still believes that straight lines never meet, or that subjective reality is not more real than objective reality, is to be satirized. All Time flows together, for instance, in Bob Dylan's "Desolation Row" where Einstein and Eliot meet. In a Dylan "Dream" song nuclear destruction and the discovery of America occur on the same time plane. The Beatles take us on a *Magical Mystery Tour* where we meet the mystical creature called "The Fool on the Hill." They send us down "Penny Lane" and into "Strawberry Fields."

Earlier they have made us fall in love with a girl who has "kaleidoscope eyes," bidding us to follow her into a land "where rocking horse people eat marshmallow pies." Simon and Garfunkle sing, "Wish I was a Kellogg's Cornflake/ Floatin in my bowl takin movies" and ask "Where have you gone, Joe DiMaggio?/ A nation turns its lonely eyes to you (Ooo ooo ooo)." And "At the Zoo" the animals are more real than those watching them. The Byrds take us "Eight Miles High" after pleading with one "Mr. Spaceman" for a humorous escape from Earth/rationality. In *Their Satanic Majesties Request* The Rolling Stones send us on a record-long trip into where both inner and outer space

merge.

Clearly, the young are turned onto a McLuhan sensibility, into group art. And, since science-fiction is so avidly read in both the high schools and universities, space song-poems are surrealistic time-jumbling fantasy put-ons of those who do not understand fifth dimensional concepts. Which is more real — Mayor Daley's Chicago or Andromeda? Or perhaps the question is "Which reality do you prefer?"

I think what we come down to is this: the modern poet, particularly the older modern poet, finds space and the space age frightening, upsetting his Euclidian concepts of the universe, tied up with the same developments in science which he distrusts — the developments which led to possibilities of nuclear war. He looks at new concepts of space exploration and cannot help but recognize their potentialities, the changes they are increasingly making in our human philosophies, our religions. But he also senses that one of his duties as a poet is to hold off, hold back; to let us realize *what* we are doing before we go too far. He sees us leaping into space without an understanding of what we are doing — leaping into space as machines (2001's HAL?), moving so fast it will be impossible to catch up with ourselves.

Another reaction is that of fantasy, amusement. If you can't quite understand what is happening, you write a child's garden of space poems, or funny ditties about Buck Rogers subjects, or you just give up and move into the fantastic, into the fantasia, the subconscious, as a way of reproducing the exterior fantasia which has become everyday contemporary civilization. Nursery rhymes seem to be fitting. After all, we are children trying to become masters of something so huge it is and always will be beyond our individual comprehensions.

A more hopeful reaction — seen in Ginsberg and the folk-rock psychedelics — is the attempt at a reconciliation. Space, the sense of our smallness in it, can make us once again awed with the universe. We have, in one sense,

conquered Earth with telephone wires and automobiles and bombs. Space we can never fill. It, and the new planets and the possibilities of other life — inner and outer — can relieve our sense of incredible culture staleness. Perhaps one solution is in going away from an increasingly two-dimensional, campish, planned obsolescence culture. Perhaps looking back at Earth from the moon, or wherever, our new realization, our mass popular realization of how small man really is, can make us spend our energies in exploration rather than in wars. The Bomb made Death a mass culture concept; Space becomes a mass Escape and Religion concept. At least that is the hope of some of the kids. A vacation away from Earth wouldn't really be such a bad thing, after all.

Great poetry can always comment beyond its immediate frame of reference. Just as Robert Frost's "Mending Wall" is useful in understanding Berlin, so does his "Birches" speak to the problems and possibilities of space:

*He learned all there was
To learn about not launching out too soon
And so not carrying the tree away
Clear to the ground. He always
kept his poise
To the top branches, climbing carefully*

*With the same pains you use to fill a cup
Up to the brim, and even above the brim.
Then he flung outward, feet first,
with a swish,*

*Kicking his way down through the air to
the ground.*

*So was I once myself a swinger of birches
And so I dream of going back to be.
It's when I'm weary of considerations,
And life is too much like a pathless wood
Where your face burns and tickles
with the cobwebs*

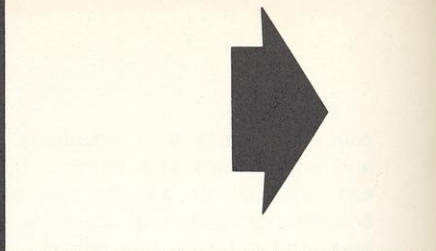
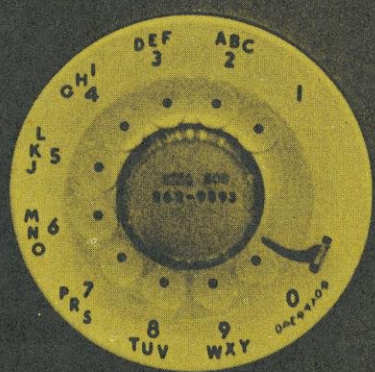
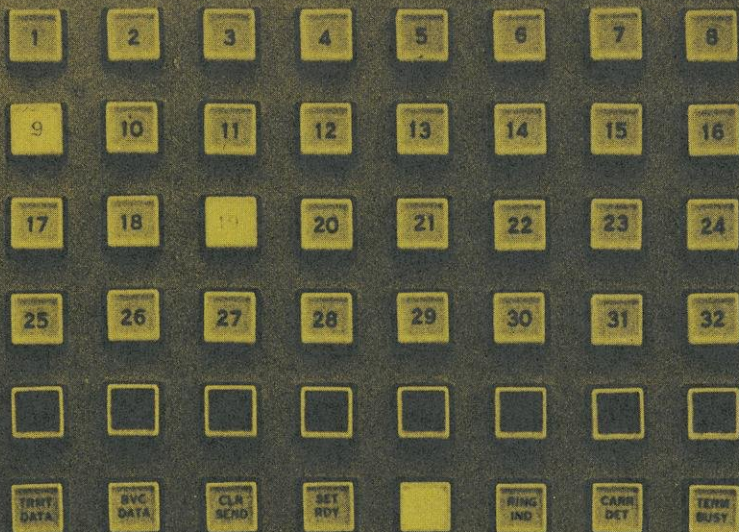
*Broken across it, and one eye is weeping
From a twig's having lashed across it open.
I'd like to get away from earth awhile
And then come back to it and begin over.
May no fate wilfully misunderstand me
And half grant what I wish and*

*snatch me away
Not to return. Earth's the right place for love:
I don't know where it's likely to go better.
I'd like to go by climbing a birch tree,
And climb black branches up a
snow-white trunk*

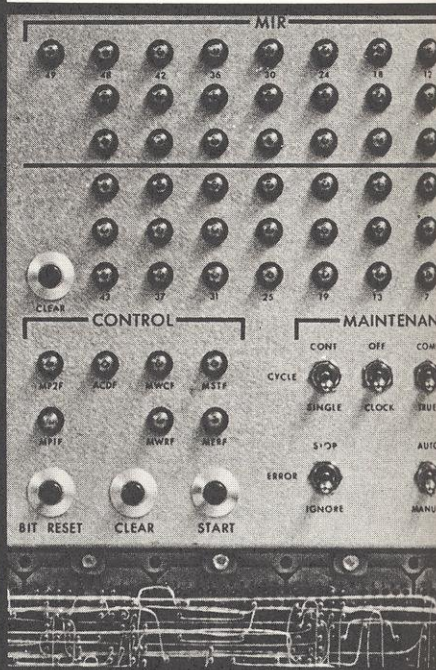
*Toward heaven, till the tree
could bear no more,
But dipped its top and set me down again.
That would be good both going
and coming back.*

*One could do worse than be
a swinger of birches.*

And one sees that to harp upon a subject is not the same as to pluck the strings.



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The Computer Center
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Madison, Wisconsin.
Photographer — Karin Denissen



Systems and Art

By Jack Burnham

In trying to teach kinetic art to a group of students in 1962, I came to realize that most educational approaches to this medium degenerate into technique courses in basic electricity and mechanics, and that aesthetic development tends largely to be forgotten. The entire rationale of kinetic art as a successor to static art seems to be based on false premises. It is usually conceived of as being closely patterned on concepts of abstract art — but made to move (electrical and mechanical programming are simply the means to have this happen). The more fundamental relationship of man and the machine — or more broadly, between man, his natural environment, and the entire energy-information web which he calls technology — rarely comes to the foreground. I concluded that the essential task lies in defining the aesthetic implications of a technological world.

The need for this definition is not hard to justify. As every social critic from Ruskin to Galbraith has pointed out, our scientific-industrial culture is dominated by "rational" leaders, who are largely oblivious to the aesthetic and humanistic consequences of their decisions, and thus increasingly man finds himself unable to adapt to his inventions and discoveries. As the general environment becomes progressively more ugly and hostile to human use, the making of

beautiful packages, sculptures, or buildings becomes absurd, or at best ineffectual. In a mechanistically functional world the making of art in the traditional sense appears to have little relation to cultural reality.

Surely we are in an age when kinetic art and electronic media could say much to man. But instead of using scientific motifs and patterns to produce fantasies that may charm the galleries, it appears more logical for artists to take up the challenge of the phenomenon of technology itself in its role as an extension of human facility.

The increasing complexity of modern life now makes it necessary for us to view nature and the man-made environment in a single conceptual framework. We have in this country since the 1950's gradually developed a technique for this kind of comprehensive analysis. In response to the vast planning and logistical problems faced by industry and the military in a growing America — man-machine relationships involving costs of billions of dollars — scientists have formulated a methodology which permits them to assemble vast numbers of components into coherent, functioning programs. This is the **systems analysis and design** approach to problem solving.

The systems concept has not had a

flattering press. It has been pictured as characterized by an icy Pentagon-esque logic which largely subverts human values in favor of such abstract expedients as cost-effectiveness, systems balance, and long-term usefulness. The systems approach however, has many uses and seems to be the one technique which can embrace an understanding of the span of present-day technology and its consequences. New models of society are being devised by sociologists with the aid of computer-supported systems techniques, and systems theory has also lately invaded the fields of conservation, pollution control, and human ecology. Even demographers have attacked the emotion-ridden dilemma of population expansion with this technique. It has become apparent that systems are not only interrelated but that some systems are stable and harmless to surrounding systems, while others are highly disruptive. In general, those systems relating technology and human growth have taken the latter course.

Until the present, rapport between art and technology in school has come about through the employment of the Bauhaus pedagogical methods, which are characterized by product design through the use of the abstract motifs. This idea of "making objects" — either for aesthetic purposes or for use as industrial prototypes — has too long dominated design thinking. A systems grasp of technology and its problems appears to be much more relevant to our contemporary classroom situation.

In the spring of 1965 a syllabus for an "Art and Systems" course was submitted to the deans of the Technological Institute of Northwestern University. This was accepted into the liberal arts program and made an elective for selected engineers in the following year. The intention was not to introduce engineers to art, or make art students more familiar with the facilities of the Institute, but to develop an aesthetic encompassing the most advanced engineering techniques for problem-solving while making this comprehensible to the undergraduate with no technical training.

The rationale was described as follows in the preface of the syllabus:

In viewing the formative trends of the last twenty-five years, the silhouette of the future must be determined by the following shifts: The understanding of biological life not as mechanical structure but as an electro-chemical control system, politics giving way to living priorities based on stable ecology, system analysis instead of machine design and plant layout in the former sense, books and files replaced by electron information storage and retrieval, and the concept of architecture challenged by atmospheric control.

While this list could be easily extended, in each case a palpable object is being substituted for the fluid consistency of a system — one more compact, versatile and adaptable than its static counterpart. This environmental transition will be accompanied by similar changes in our scale of values. Instead of our present "thing consciousness," more likely we shall become "systems conscious."

This course outline called for making "art systems" rather than art objects. These were intended to have only a given life duration; after their usefulness as pedagogical devices had ended they were to be destroyed. Only records of these "art systems" were kept. These took the form of reports, charts, films and slides.

By and large liberal arts students with some background in the arts or communication were recruited. Gustave Rath, a professor in the industrial engineering department and a systems analyst, selected the student engineers. Rath was instrumental in getting the first facilities for the systems class and he supplied much of the basic literature on systems analysis. Before the course commenced I attended some of his lectures in other classes, and I came to realize that if we were to treat systems as potential art works, the class would have to have rudimentary knowledge concerning the nature and behavior of systems.

Part of systems theory stems from cybernetics with its emphasis on elements of control in the relationships between animals and machines. Most systems have some means of control which determine the goals of the system. Control can be implicit in the structure of the system,

or it can be a separate function with a hierarchical assembly such as the human brain and the nervous system. A different level of systems is concerned with organisms and their information and energy exchanges with the environment. Man-machine relationships presume such exchanges also, but are structured differently. It was the purpose of the course to change the student's perceptual sense so that he would be able to appreciate these frequently invisible interactions between interlocking and neighboring systems in higher and lower relationships.

The reason for applying a systems context to such an art synthesis may still be unclear. It is necessary to realize that the trend in research and industry to conceive of machines, information processing equipment, and personnel as a single totality has a distinct affinity with some of the more sophisticated happenings and art environments of the past few years. The best contemporary museums today are less storage space for art objects and more laboratories for mixed-media events.

The comprehensiveness of systems theory covers very dissimilar physical assemblies. Analysis includes changes in time or the "states" of a system. Such changes are defined by a system's transforming functions. Both the nature and duration of systems may vary radically. For instance, systems might include sports, means of communication, transportation terminals, plant life, star systems, motion picture making, waste disposal — all very dissimilar, but all classifiable within a systems context. Quite possibly some of these have similar characteristics in terms of their behavior and structure as systems. Such common characteristics provide the basis for analysis and can also establish revolutionary new criteria for aesthetic concerns.

For hundreds of years we have dwelled on those qualities which reveal the beauty of a painting or piece of pottery. Yet what makes one system aesthetically superior to another? Are our value judgements in this respect connected to our own self interests? For many, including the systems analyst, the answer would be yes: we do tend to

judge systems in terms of their usefulness and compatibility to ourselves. Yet for certain advantages humans tolerate destructive and ugly systems. Then how do we make adjoining and linked systems compatible? How does technology relate man-made to natural systems so that they maintain a healthy stability? Which man-made systems need to be abandoned or revised because of their harmful effects? Many of these appear to be solely practical, and at times utopian, considerations; actually they are aesthetic concerns of the highest priority.

A systems aesthetic presumes that the patterns of advanced technology should not be abandoned for simpler life patterns. Machines and information systems are not alien to human welfare, but appear to be compatible extensions of it. Within this context the place of the artist becomes less precisely defined. He is not so much an artisan forming hand-crafted artifacts in the traditional sense, but someone supremely sensitive to the evolving environment. While his role may still be to comment upon this environment in the aloof fashion of gallery art, he actually becomes responsible for forming that environment. Until the industrial revolution this task was traditionally the artist's and any future rapprochement between art and technology demands recognition of this fact.

During the winter of 1966 these and other concerns were projected in a series of papers written by engineering students. Dr. Rath, who guided these pilot studies, was mainly concerned with defining the objectives and methodology of an effective systems course whose major focus was the delineation of pertinent aesthetic criteria. The first "Art and Systems" course was offered in the spring of 1967. It was held in the Technological Institute because of needed facilities, despite the fact that deans of engineering are by inclination reluctant to make such concessions. (A later project in the course was that of designing the ideal systems classroom.) We discovered that an effective systems classroom should provide extensive working areas, a media storage area for keeping records of systems, and most importantly a portable "demonstration"

facility which could be brought right into the classroom. In appearance this classroom should look like a theater-in-the-round with a movable bleacher stand. As yet most universities build for specific departmental demands, which in the more retarded disciplines, are usually projections of present curricula. The desire for large flexible working areas, equipped with sophisticated electrical and audio-visual facilities, can grow only as interdisciplinary courses prove their value.

To the outsider, a systems and art course, if it involves pure problem solving of a practical nature, becomes a kind of parody of engineering protocol — which is not bad in itself because this brings into question the routine practices of decision-making. As one student put it, often in technical classes teachers build "invisible electrical fences" around their subjects. These avoid questions about the objectives of various industries. The engineering student may learn the method of his field, but not the moral implications of his job. In some instances this has been changed, and a few universities now give courses in engineering ethics.

By and large most deans of engineering avoid mixing technical training with the philosophical bent of the humanities. While the student engineer may be obliged to devote several semesters to such liberal arts subjects as English literature and art appreciation, such teaching rarely impinges directly on his professional training. Some educators already feel that engineering training is inherently far broader in scope than equivalent exposure in the liberal arts. With some degree of justification, they point out that technical training is more in step with the realities of our society, and that the real educational deficiencies lie elsewhere. Thus it would seem that an art course introduced into a technological school might prove disruptive, or subversive in its impact on the young engineer's education. There is probably some truth to this.

Introductory lectures were begun with a philosophical approach to systems, its use in science and industry and effects on art up to the present. The latter dealt not only with kinetic and

environmental art, but with protection and conservation systems in the museum. It should be noted that while the systems frame of reference is easy to grasp, it can also attain almost unlimited complexity. Also emphasized were the hierarchy of types of control for systems, input-output criteria, and the organization of systems. Simplified check lists were devised, defining problem-solving protocol and aesthetic concerns. While these were mostly intended for the non-technical student, they were not meant to be "rules" but rather more intuitive guidelines.

During the first week the chief task was to teach students to conceptualize projects in terms of systems thinking. For this simple problems were devised. One was a kind of charade where participants acted out complete systems in as abstract terms as possible. Work games were played wherein diverse systems with similar properties were listed. Also *haiku* were written. These contained three short lines, each of which represented a state in the history of a system.

Games are probably the natural and most human form of systems. We found these could be played before television cameras as a kind of mixed-media event. The audience had to learn the rules of the game by gradual participation. Tapes of these events were later played back to the audience, after a lecture was delivered on "human communication systems." It became apparent that many games contain subsystems which are subtle variations in human communication and response. The first year we used a single Sony closed-circuit T.V. unit. This proved flexible but limited in editing and picture quality. The year following, a training T.V. studio with monitor, director, and three cameras proved more adaptable to capturing the essential aspects of systems. The director was given editing power with the premise that activities were to be viewed not as dramatic events but as goal-oriented procedures. Rehearsal was rejected because it was felt that this defeated spontaneity. One game involved building a wooden structure with an aluminum foil covering around the outside entrance to a self-locking door; anyone going through the door would lock himself in the aluminum foil cage. Actually the "rules" for this game

were developed during the building of the cage. The game had no other goal than to make the T.V. director angry through constant noise and interruptions, so as to cause him to stop building short of completion. In such a way the best systems usually provided some degree of environment invisibility.

We discovered that classwork was best facilitated by having technical and non-technical students working together. Groups were changed after each project. It was our experience that large groups working on the same project — unless given a specific task — were ineffectual in making decisions. As a technique the systems approach presupposes that problems will be approached step by step on a logical growth basis (this is best elucidated in Carl Gregory's

The Management of Intelligences: Scientific Problem Solving and Creativity, McGraw-Hill, 1967). However, this in itself takes a good deal of indoctrination and training in systems thinking. Such autonomy in decision-making needs discipline which basic classes cannot be expected to have. Dr. Rath felt that ideally a systems class should be "self-organizing" in that it becomes capable of creating its own problems, which are a natural outgrowth of earlier efforts. Too often in past instruction, with the prime example being the Bauhaus Vorkurs or basic design course, techniques and problems have become codified to the point where they are stale. But we found that much class time is wasted unless the direction of the class is set towards concrete ends. As a method, the systems approach is eminently perspectivist. Yet the teaching goal in such an atmosphere is to allow divergent ideas to build towards solutions rather than constant dissension.

Not only should systems be designed, but a major aspect of the course should be the analysis of man-made environments, stressing those features which might allow a system to be considered an underground work of art. Aesthetic merit does not necessarily rest on the visual level. "Nice looking" systems were rejected because frequently their assets were too obvious. Once a system was picked, students spent a good

deal of time experiencing it and making detailed reports of their reactions. These reports were synthesized and the results made into a flow chart showing the system's structure. This was supported by slides and photographs where possible. A final stage consisted of abstracting the system into some form of analogue or model.

Such analysis can be made about almost any phenomena. Some of the more unusual in our classroom were the experience of "seeing a lighthouse," the destruction of a black ghetto apartment building, the operation of an automated food dispensing area (known by the students as the ro-"Bot Room"), daily activity on a subway between two stops, a sewage canal and its processing plants as a communal feature, and management strategy for discouraging the writing of graffiti in a men's room with counter-tactics.

This year a final problem centered on ritual, particularly its function in a society where meaningful relationship has been reduced to interaction between people and mechanical systems. Research was done on the function of ritual as it has traditionally circumscribed human need. As the anthropologist Claude Levi Straus has shown, games and rituals present a dichotomy of human attitudes — games separate people by establishing winners and losers, while rituals conjoin by diminishing differences. One might say that the purpose of our system approach was that of creating a ritual with contemporary meaning. This is far from simple since rituals evolve over long periods of time. They should have a sense of rightness about them that springs from existing custom, resources, climatic conditions, scientific knowledge level, and collective need.

Originally systems thinking grew from the necessity of breaking questions into discrete, concrete, quantitative problems which could be fed into a computer. If the systems approach is anything it is logical. And this very insistence on logic runs counter to the nature of art. Historically in art goals and the means for reaching them have been derived from intuition. Thus the goal of

making a ritual was an arbitrary act. The process by which the format of the ritual was evolved was a systems problem. Here a series of alternative physical events within a given environment had to be discovered. As important as goals are to systems thinking they cannot be predetermined originally through such methodology.

At first the class as one group discussed the problem of designing a ritual. Gradually several parameters began to take shape in view of the goal. Chief among these was the decision to hold our ritual on the Lake Michigan shore in the early evening. At this point it became evident that our objective was only partially revealed. After two weeks of rather futile discussion the class one day sat silently on the beach together for a whole afternoon. Then without guidance they came to the conclusion that their ritual would be based on the lake's gradual pollution.

At this point a systems approach became feasible. Not facing a typically complex engineering problem they were able to employ a fairly simple check list to create the ritual. These are the traditional set of questions which the systems analyst asks himself periodically throughout the course of his investigations.

1. Define the objective or objectives of the system under consideration as precisely as possible.
 - A. What criteria indicate achievement of the objectives?
 - B. What resources and constraints exist?
 - a. Talents and capabilities of the designers
 - b. Sources of supply and assistance
 - c. Time limits and tentative schedule
 - d. Relevance of existing physical systems
 - e. Societal sanctions
 - C. Evaluate feasibility of objectives in terms of resources and constraints.
 - D. Consider alternatives, if necessary, to present objectives. (recycle problem through above outline if necessary)

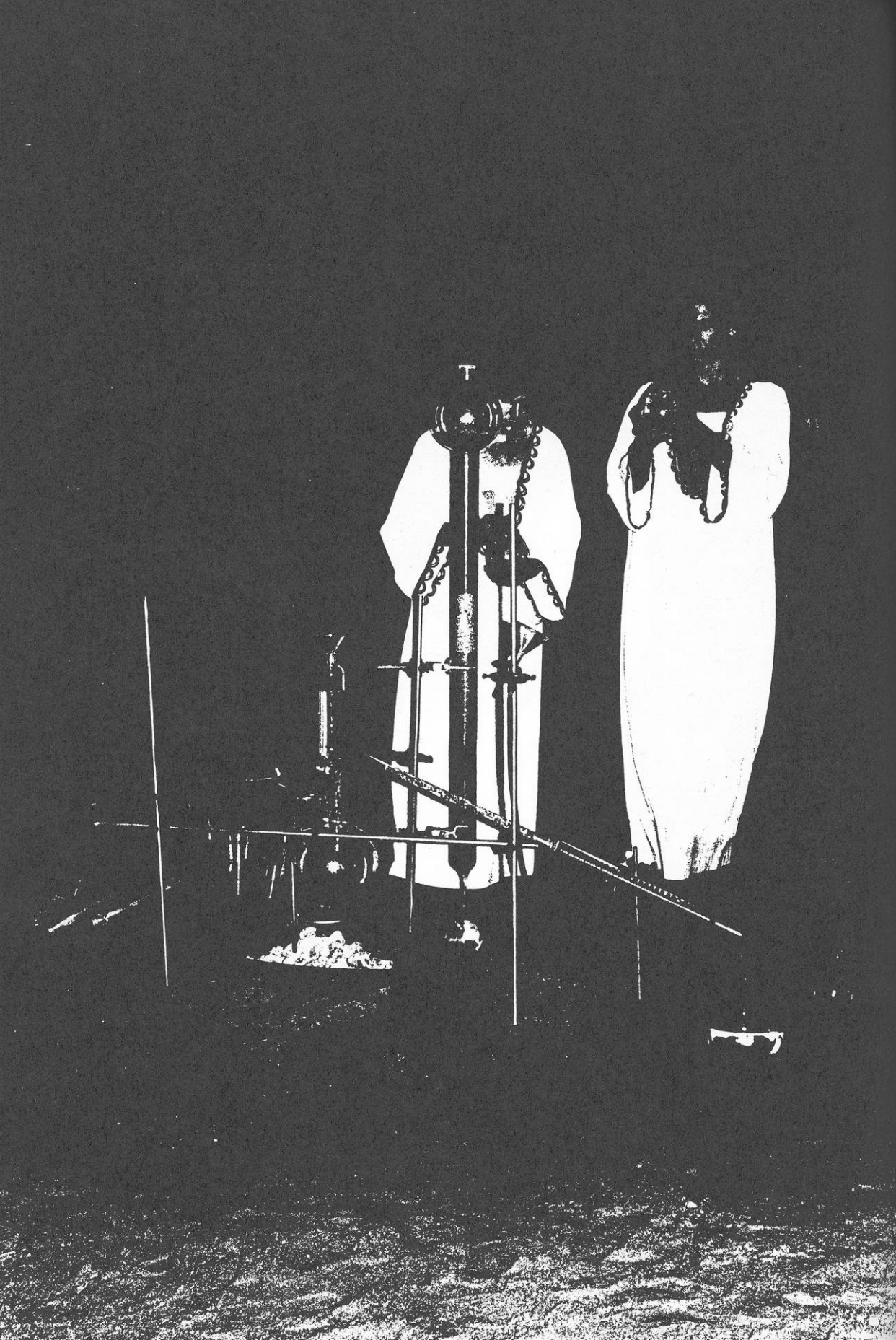
2. Designing the Art System
 - A. For each system indicate its components or subsystems. Also consider the system as a subsystem embedded in a larger supersystem.
 - B. What are the working boundaries between systems levels?
 - C. Define the structure of the system. (Graphs and charts showing input-output, transfer functions, states, sequences, timing, etc. can be prepared as elaborately as needed. Techniques for getting at these are extensions of systems methodology. The point of such planning is to make as few assumptions as possible.)
 - D. Transcribe subsystems to their physical equivalents in terms of function and selection.
 - E. If necessary propose alternative components.
 - F. Measure system chosen against ultimate objective.
3. Systems Assembly
 - A. Allocate work tasks and target dates.
 - B. Test assembled subsystems for performance and compatibility.
 - C. Evaluate system as a totality.

The class as a group met to draw up a table of answers to the first section and to part "A" in the second section. Groups were formed to work on each of the subsystems plus several contingent needs such as scheduling, getting permits, generating publicity, and locating materials. Other groups worked on the ritual itself, some constructing the ritual, some designing musical instruments using water, and others designing and building a tall glass water still with the help of a chemistry department glass blower.

In a sense much of the protocol here resembles the typical divisions of labor as they occur for any stage production: scenery design, lighting, stage crew, director, actors, etc. From a systems viewpoint the important thing is to provide collaborative efforts with a frame of reference for their work task, especially when these involve new goals, new physical environments, and technical requirements. Once work tasks are assigned, implementing the system becomes a



The Age of Aquarius — A Problem Centered on Ritual



matter of routine. Group creation is probably one of the hardest activities to structure and the use of a systems checklist under such circumstances becomes a matter of intuition. Too much insistence on formalized procedure tends to dampen general enthusiasm. Some students work best alone and this has to be taken into account, as do inevitable antagonisms.

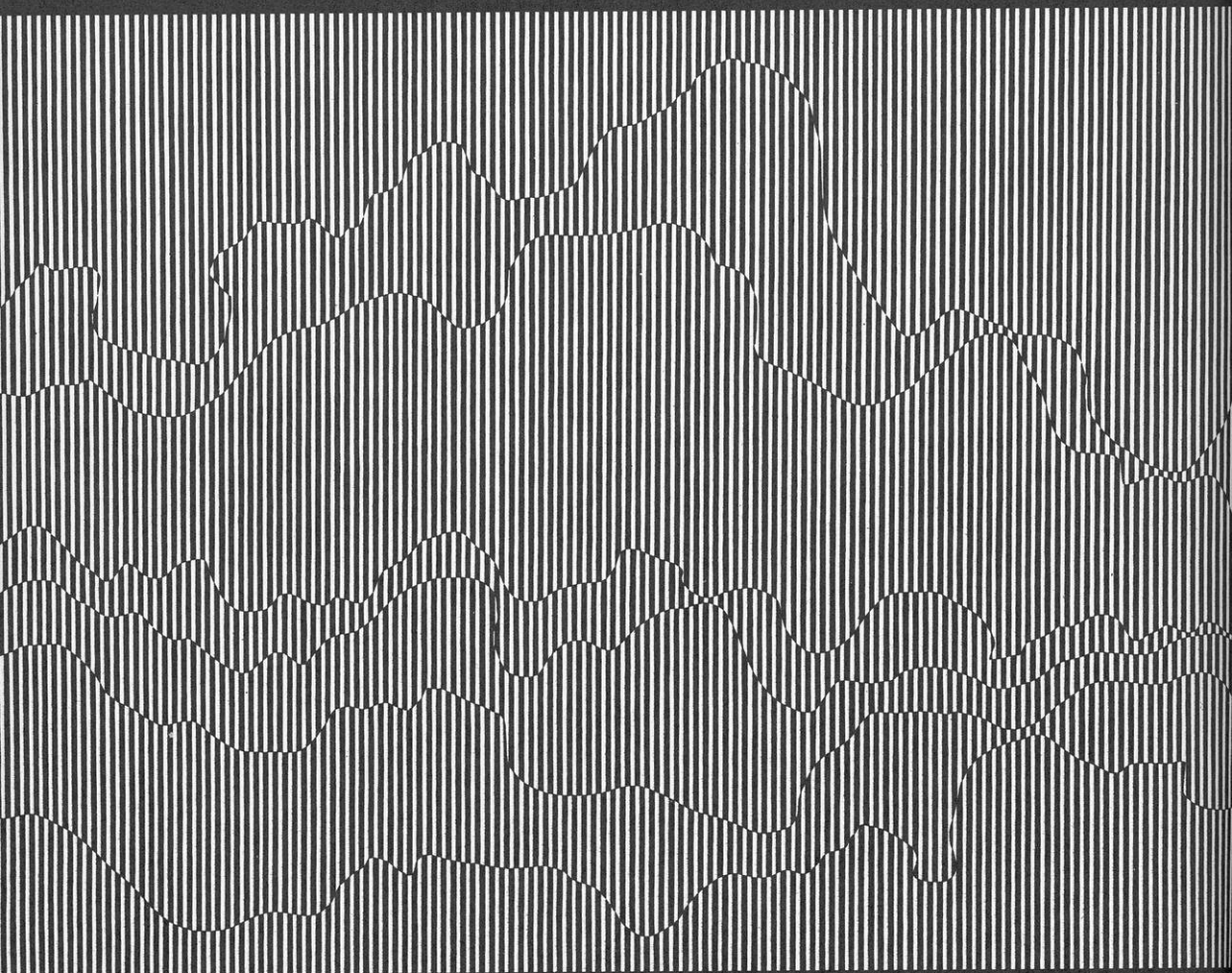
Two days before our purification rite, which was called "The Age of Aquarius," all systems were set up for a dry run on the beach. The still had been tested in one of the chemistry labs. A kind of dais was constructed by the four "masters of the ritual." At the edge of the beach, stones were removed from the sand for a fifty yard radius.

At 5:00 p.m., May 30th, 1968 we prepared for the ritual by raking the ring and setting forty truck flares at its outer edge — these last were to be lit at the beginning of the ceremony, just at sundown. The musicians set up their water tubs, glass rods, and drinking glasses. Somehow the purification rite became a self-organizing process. People instinctively sat down and were quiet. An Evanston police car which had been watching from the road, radioed back that we didn't look very dangerous and drove away. Somehow the fact that one hundred people were sitting on a beach, watching a charcoal fire under an assembly of flasks and tubing, began to take on a significance which none of us had expected in the planning stages.

Except for bits of music in the background the ritual was silent and symmetrical throughout. Reminiscent of a Japanese tea ceremony on a larger scale, it centered around the processing through the still of rather doubtful Lake Michigan water. As the water dripped into a large green flask, all participants were offered small glasses of the result. Some refused to drink, pouring their water into the sand. All of us contemplated the water we were drinking and except for the class no one had been told that they would have to drink it. While the pageantry was spectacularly beautiful, the pathos of the event was certainly not lost on the more sensitive.

Two years ago a student in engineering management, well versed in systems analysis, wrote a paper for the course. His theme was to define those aspects of systems which people enjoy. The substance of his conclusion was that people enjoy participation, and the more this involves the whole range of their senses and interests the better. Beyond this he speculated that too many of our "systems" (technologies, transportation means, media, education) do not involve people enough and seem to be constructed as if people were outsiders looking in. In this sense much of daily life has been made non-participatory, not only in socio-political ways, but in the most sensual ways. If systems thinking does nothing else, it makes us realize that we ourselves are on-going, self-organizing systems that need to resonate with the systems around us.

THE DUEL by Julian Stanczak — Courtesy Martha Jackson Gallery



Jazz 1984: Two Voices

By Rudolph Landry

Fourteen years ago, French philosopher Jean-Paul Sartre wrote this (in *Literary and Philosophical Essays*): "Today, we know what to think about jazz. We know that it has more of a past than a future. It is a music of popular Negro inspiration, capable of limited development and in a process of slow decline. Jazz is outliving its day."

From such a formidable witness of cultural history as Sartre, an ominous declaration like this insists upon assent. Prepare a eulogy for jazz. Is this true? Is jazz outliving its day? Would it be facetious to argue that there will be jazz so long as there are jazz musicians, or that since jazz has been enthusiastically received by younger people around the world it will have a bright future? Certainly it is not facetious to suggest that Sartre's prediction is extravagant if not frivolous. It is plain to see that Sartre's statement is buttressed by the common conviction that jazz is not now nor has ever been more than a peripheral art form, that it is a youthful art form which has aged prematurely. In spite of recent general acceptance of jazz as a distinct musical voice, in the view of many musical and cultural commentators it is other than "serious" music and its simple geometry reveals quickly its limitations. For example, John A. Kouwenhoven in *Made in America* places the

aesthetics of jazz alongside the vernacular arts of journalism and radio serials. To cultural "classicists" jazz is somehow an illegitimate rascal that has stowed away in the vast, admirable vessel of Americana. From this premise then, any discussion of the future of jazz is troubled, for it is difficult to be objective about music deemed plebeian.

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Whenever we talk about jazz, of course, we are confronted by the urge of definition. Jazz musicians and jazz listeners find definitions generally superfluous because the music speaks for itself. To the general public, however, definitions are needed and provided, but they are usually unsatisfactory because they are either too narrow or too broad, and because the genealogy of jazz is the genealogy of a subculture of the saloon not of the salon, and therefore it is less than respectable. Yet the jazz idiom is an emphatic one and can be described perhaps validly by a consideration of its boundaries. Jazz music as jazz music is not prevalent in the mainstream of American "popular" music. Even though Broadway music, Tin-Pan Alley, dance music, rock 'n roll, embody now and then ingredients of jazz, emphasis of melodic and rhythmic freedom and improvisation is seldom allowed to develop and consequently dismantle the conventional structures of these types. On the other hand, the jazz core consists

of improvisation, melodic freedom, personal phrasing, and a driving rhythmic fluidity such as we find in the blues, swing and bebop. I am speaking of the music of "Jelly Roll" Morton, "Fats" Waller, Sidney Bechet, of Duke Ellington, Charlie Parker, Errol Garner, of Dave Brubeck, Stan Kenton, Stan Getz, or of Max Roach, Miles Davis, and John Coltrane. To be sure, jazz is not a "pure" music (whatever that means), but it has always exhibited a whole range of phrasing and drive which gives it an unmistakable character.

It seems only sensible that to speak meaningfully of the probable future of jazz, we must consider the music in its proper context; otherwise agreement or disagreement with Sartre's prediction is empty. Therefore, two distinct points of view will be presented so that contrast will shed more light on the subject; I will consider the characteristics and environment of jazz and weigh its future, and jazz composer-musician Stan Kenton (in the interest of balance and fairness, an artist ought to be heard here) will close out the discussion.

As an urchin art with lingering connotations of erotic squalor — one probable meaning of "jazz" in old Creole slang was copulation — jazz has developed into the indigenous music America has given to the world. Jazz is now a complex music demanding more and more skill on the part of jazz musicians. It continues to receive very much of its energy from the Negro environment in which it was nurtured, and today, while jazz can claim no racial singularity, it is very popular among Negroes (e.g., the only radio station in the Northeast which plays jazz exclusively is WLIR-FM in New York's Harlem). The jazz listener black and white is very likely somewhere between the ages of twenty and forty, and has probably been to college. Generally he listens to the music; he does not merely overhear it. He may live anywhere — even in France, or Denmark, or Japan.

Examined from a historical viewpoint, jazz manifests a paradox. It is an aboriginal music which grew on the trellis of electronic development, specifically the radio and the record

disc. At the dawn of the twentieth century, the Negro musician in New Orleans or in New York (Willie "The Lion" Smith has recently reminded jazz historians that jazz could be heard in many American cities at about that time) knew little and cared less about electronics. All he knew was that, recently up from slavery, he needed to express himself musically, and so he fumbled with primitive instruments, imposed upon them religious and earthy songs and melodies, and fit them into a rhythmic superstructure, and thus he discovered that he could create music that could be as virile, as exciting, as free, and as singular as possible. But since the Negro was clearly a subordinate in the American social structure, his music was welcomed chiefly as entertainment for "illicit" amusement in the cabarets in our large cities. The insistent feet of the jazz musicians in Storyville's Basin Street responded to the metronome and marched right out of New Orleans and into the heart of the American culture. So remarkable was the development of jazz that critic Leonard Feather (*The Story of Jazz: From Then Till Now*) shows that in a miniature scale, jazz has paralleled about nine hundred years of western classical music. It is not too radical to suggest that creative restlessness and the radio and the record collaborated in the blazing development of a new music form. With the record and the radio, jazz freed itself from the "live" performances in the cabarets; and the recordings preserved the tones and the improvisations, the personalities of the performers. Thus electronics became a major ally in the evolution of jazz. Curiously enough, the present use of electrified instruments underscores the paradox; jazz pianist Hank Jones has recently been playing an electronic harpsichord, and so a very old instrument has a brand new sound.

The uniqueness of jazz can be appreciated in another way. It is a music which regards the traditional concepts of solemnity and aristocracy with frank disdain. Instead, it has cultivated its own ersatz class which is remarkably informal: "King" Oliver, "Duke" Ellington, "Count" Basie, "Lady" Day, Willie "The Lion" Smith, "Sassy," "Bird,"

"Prez." Its knighthood is granted with laughter, affection and intimacy. Rustic in its roots, jazz now belongs to the city; compositions entitled "Harlem Fuss," "St. Louis Blues," or "New Orleans Stomp," or "Storyville Story" have become more typical of jazz than the "Sharecropping Blues." The jazz composers created a range of emotions and voices: humor, pity, complaint, joy, burlesque, parody, harlequin, screeching, shouting, murmuring, mumbling, scatting. Jazz is basically Dionysian, festival music. Now and then, intellectual introspective "cool" jazz has been created, notably by groups like the Modern Jazz Quartet, by people like pianist Lennie Tristano and saxophonist Lee Konitz. But generally jazz is lyrical. It generates excitement but does not usually sustain it. The essential beat of jazz, whether it be 4/4, 5/4, or 9/8, serves as a machine substructure over which melody and harmony rise and fall and curve and sweep with exhilaration or with a strange kind of anguish. Frequently, the physical skill and endurance of a musician contributes to the driving jazz "feel" and becomes part of the voice of the performer. It is a music Walt Whitman would have thought ideal for the Open Road. Jazz is embracing, pulsating pyrotechnics, declaring "all of God's children got swing!" Since jazz is creating, not ever really created, jazz is always new, aboriginal. Jazz is genesis. This is the characteristic of jazz which is its basic energy and its destiny. There will be no eulogy for jazz.

Jazz can and will have a future, and it will exist as an art form as distinct in music as the drama is distinct from the novel and as the novel is distinct from the epic. To extend this comparison, if western classical music is in the category of the epic, then jazz can be in the category of the sonnet. No one is likely to exhaust the vitality of the sonnet; similarly, it is indeed presumptuous to say that jazz is too limited in form to survive.

The future of jazz can be bright if jazz resists the temptations of commercial adaptations, and if it does not sacrifice spontaneous creativity and freedom for the sake of popularity. Should

it succumb to these forces, it would become an art relic with the limitations that have been imposed, for example, upon martial music, or country and western music. Jazz must maintain its identity; to capitulate with the "vernacular" music is to surrender discovery, to admit the stereotype. Abraham Kaplan, the modern philosopher, has recently indicated that the mass appeal of the popular arts in a democratic society shows that "popular art is not the degradation of taste but its immaturity." On the other hand, the consequence of trying to make jazz reach the dimensions of classical music is to juxtapose two forms of music which simply cannot fit together. We are faced with the fact of magnitude.

It is not enough to say that because jazz is genesis, it will survive. Actually jazz is vulnerable because it is a human activity, and as such it is subject to a phenomenal number of influences which could radically affect its future. One such influence is electronics. Since electronic development has revolutionized our way of living, we can certainly expect it to be a force in art; we have already seen how it participated in the evolution of jazz. It could also lay the groundwork for the decline of jazz. Need we be reminded of the fact that perhaps the greatest triumph of electronics has been over traditional experiences of clock-time? Electronic speed saves time by making it obsolete. What once took hours, days or years to do can now be done in micro-seconds by sophisticated computers and machines. It is curious that time-saving has become a form of wealth in our culture. When we turn our attention to art and specifically to music art, we find that, up to now anyhow, it has used clock time as its basis, not micro-time. Could electronic time spell the obsolescence of art as we know it? Measured in fantastic speed, could electronics signal entirely different possibilities in art? In a way such questions are really academic. To think of instant art is for us distressing; it seems like a contradiction. What is relevant to our consideration though is that jazz music depends very much on tempo and speed as elements which generate excitement. The

climax of a jazz drum solo for example consists usually in an electrifying exhibition of skill in achieving ear-splitting volume via speed. In melody, quality again frequently depends on speed; witness the trademarks of musicians like "Dizzy" Gillespie, Art Tatum, or Julian "Cannonball" Adderly, to name but a few jazzmen who are at their best when playing swinging "hot" jazz. Yet even at top speed, human tempo is terribly slow when compared to electronic speed. We could compare human tempo to the audible beat of the steam locomotive, electronic tempo to the steady drone of the diesel locomotive. The steam locomotive is practically obsolete. The whole point of the comparison is that it is conceivable that the dehumanization of speed by electronics could diminish the humanity of jazz. Jazz will be doomed insofar as human autonomy is subordinate to the impersonal will of the machine.

Less remote and significant but more common is the threat the jazz fan and the jazz critic present to the future of jazz. Both fan and critic are necessary and inevitable, and yet each in his own way constricts the vitality of music. The former generally seeks immediate emotional transport and will display impatience and uneasiness when he listens to a slow, quiet instrumental composition. Jazz musicians in clubs and at concerts have been known to ask for silence and attention when they play *lentissimo*. Also many jazz fans are bigoted; intolerance exhibited by those who disapprove of jazz altogether is outdistanced by cultish intolerance of jazz aficionados. Jazz traditionalists become nostalgic antiquarians and jazz modernists frequently resort to pharisaical haughtiness. Such clannish bickering serves to diminish the value of music which is meant to be heard, not claimed or possessed. Then of course, there are the "beats" and "hippies" who use jazz for adrenalin much as many jazz musicians use drugs for inspiration and for creative extension. To be sure, these dubious alliances evoke grim humor and pathos, but in fact, jazz is extrinsic to both drugs and beats as a tree is extrinsic to the bear that periodically rubs himself against it for physical

satisfaction.

The jazz critics of course must be recognized as the protectors and promulgators of a special art form. We are all indebted to them. It is unfortunate that several major critics have a tendency to force jazz to pander to marginal non-musical interests. They write with such verbal fecundity that their brilliance upstages their judgments, and they carry the readers along as captive audiences to "solo" performances which are clever but not really enlightening, and in which jazz serves merely as exercises in paraphrase. Whitney Balliet of *The New Yorker* magazine writes this way invariably. Perhaps the most astute critics are the musicians themselves. Especially reliable are the aesthetic and technical opinions of musicians who are recorded in the now famous "blind-fold" test of *Downbeat*, a jazz magazine. Enthusiasm or disapproval is frequently tempered by humility. Looked at from a distance, it does not seem probable that jazz should be radically affected by either fan or critic.

One thing is certain. Jazz will continue to evolve rapidly. Recently jazz musicologist Gunther Schuller (who plays french horn for the New York Metropolitan Opera orchestra) hinted that the jazz blues may have originated in India. This unlikely source may be tapped again in modern jazz. Ravi Shankar, the noted sitar player, is presently very popular in this country. Indian music is being heard more and more. Add Indian to Afro-American motifs of jazz, and the musical possibilities should be encouraging, to say the least. In retrospect, it has become apparent that the tones and the esoteric improvisations of the late tenor saxophonist John Coltrane contained oriental motifs and melodies. Critic Richard Goldstein has suggested that young jazzman Charles Lloyd may be including in his compositions eclectic elements of raga-rock and folk-rock. He also noted that jazz may soon feel the effects of an "extraordinary electronic instrument known as the Moog synthesizer" (which can be played "from a keyboard or programmed by computer"). Here is something to think about.

Fortune telling is at best a gypsy craft, and in the light of the nature and mobility of jazz, I feel justified in saying that in several ways, Sartre's prediction was indeed reckless. At the same time, I must hasten to add that my own assessment does not bear the seal of infallibility. Therefore, I would like to introduce here the commentary of a well-known musician and composer whose views are a clear departure from mine, so that further reflections on the future of jazz may be more meaningful and provocative.

In a recent interview with Stan Kenton, I learned his ideas on the future of jazz, and since he is an artist very much involved with orchestral jazz experiment and development, I think his remarks bear scrutiny. His point of view is especially interesting: he is always cognizant of the needs of the listeners of America.

"I think that jazz came along and all of music will never be the same again because of jazz music because it has given all of music a whole new dimension and I think that in order for music to come close to satisfying the aesthetic needs of modern or of man in the future, no music is even going to come close to that unless it has the ingredients of jazz. Jazz has completely changed the whole concept of playing music, of communication through music. I don't believe that jazz music is a thing by itself going ahead; I think rather that it has affected the main body of music so that music will never be the same again. Jazz music has gone in many directions and it has lost its identity in all of music. Today, jazz is played everywhere. It appears in all forms of music. The modern symphony conductors insist frequently on having jazz musicians in brass sections because they want that excitement that comes from the jazz approach to music. Two or three years ago, as part of a panel discussion on jazz at U.C.L.A., I was quoted as saying that jazz is dead. I didn't mean that jazz is dead; I meant that all of jazz has been absorbed in music, and now I think that music will develop with the ingredients of jazz in it.

"There is really no longer any difference between so-called serious and

frivolous music. In the past there was the traditional musician who knew nothing about jazz — couldn't feel that he had any perception of it whatsoever. He played traditional Western music. And at the same time there was the jazz musician who had no idea of what went on in the symphonic world. But the modern musician today is very well aware of both worlds of music, and he is frequently capable of playing in both worlds of music. I think that as time goes on, you are going to see it more and more prevalent that the modern musician will most likely be a jazz musician as well as a traditional musician. In order for music to have this vitality and this life and to satisfy these tremendous demands made on it today by man, it's got to have the ingredients and the foundations of jazz.

"Incidentally, improvisation in jazz is even more important today, because I believe that we are now moving into a period where people are going to begin to use music almost as naturally as the food that they eat and the air that they breathe. They are going to turn to music and they are going to make such demands on it, and they are going to have appetites that will compel them to devour one piece of music and be ready to devour another. Consequently, it doesn't seem likely that we'll have traditional pieces of music or even classical pieces that will last for generations; there will be a fantastic need for music that is ever new and fresh in order to satisfy the needs of man because modern man is moving so fast today it's incredible. He will be capable of absorbing so much more, he will be insisting on so much more creativity. I have gotten to the point now where I don't think that music is an art in the ordinary sense of the meaning of that word. I think that it transcends any of the other arts. Of course, being a musician I can think of people who would immediately contest this. I don't think you can talk in terms of drama, literature, sculpture, even the dance, in the same terms with music, because people gain something from music if they really feed on music the right way and use it the right way, the way they should, they get

something from music that they can get from nothing else other than maybe from some strong religious faith."

Stan Kenton is not particularly worried about the influence of electronics on jazz: "Once you take a horn out of a musician's hands and away from his body, you lose the basic means of communications. They can possibly electrify or magnify his particular sound, but you are not going to create the sound with electronic instruments. The contact between the musician and his horn is vital; they belong to one another, because that is humanity. I really do not believe that experiment with electronics will yield much art. Art is simply not scientific. None of the arts are."

I asked him about his experiments with orchestration. He explained the purpose of the Los Angeles Neo-phonic orchestra he has organized and which he leads.

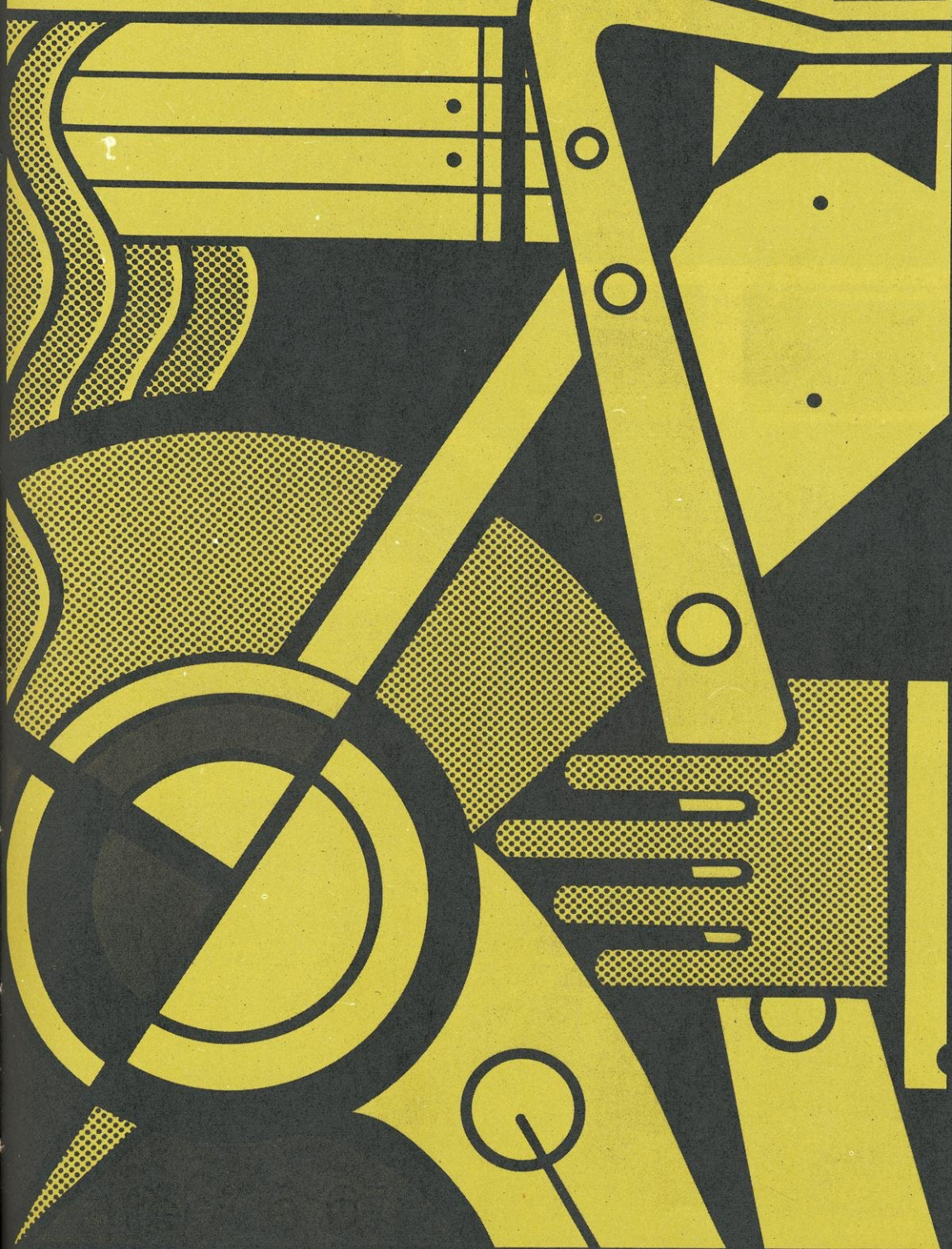
"The Neo-phonic orchestra was founded mainly because it is supplying a need on both the composer's part as well as for the people that are hungry to hear music of this sort. You have to remember that this is the second and even third generation of jazz composers now. The jazz composers today know the formal theories and the formal foundations of music. They are schooled and they write in the jazz idiom. They cannot get their music performed properly by the symphony orchestra, the traditional symphony orchestra that is, because the musicians do not know how to interpret the music in the

jazz idiom. Jazz musicians are needed. Therefore, the Neo-phonic orchestra was founded as a showcase for these composers who are looking for an outlet. I would like to think that one day possibly every major community will have its Neo-phonic orchestra and its symphony orchestra too." Among the composers involved with the debut of the Neo-phonic orchestra two years ago were Frederick Gulda, Lalo Schifrin, Hugo Montenegro, and Marty Paich."

Kenton believes that jazz has a fine future in rhythmic development awaiting it. "Orchestration cannot go in many directions now until we get new instruments. The only thing we can do now is to develop music rhythmically. In America today, we are so far behind in our rhythmic culture that I am glad things are breaking loose and we are all striving to develop new rhythms; after all, rhythm is the charm, the delight, and the energy of music."

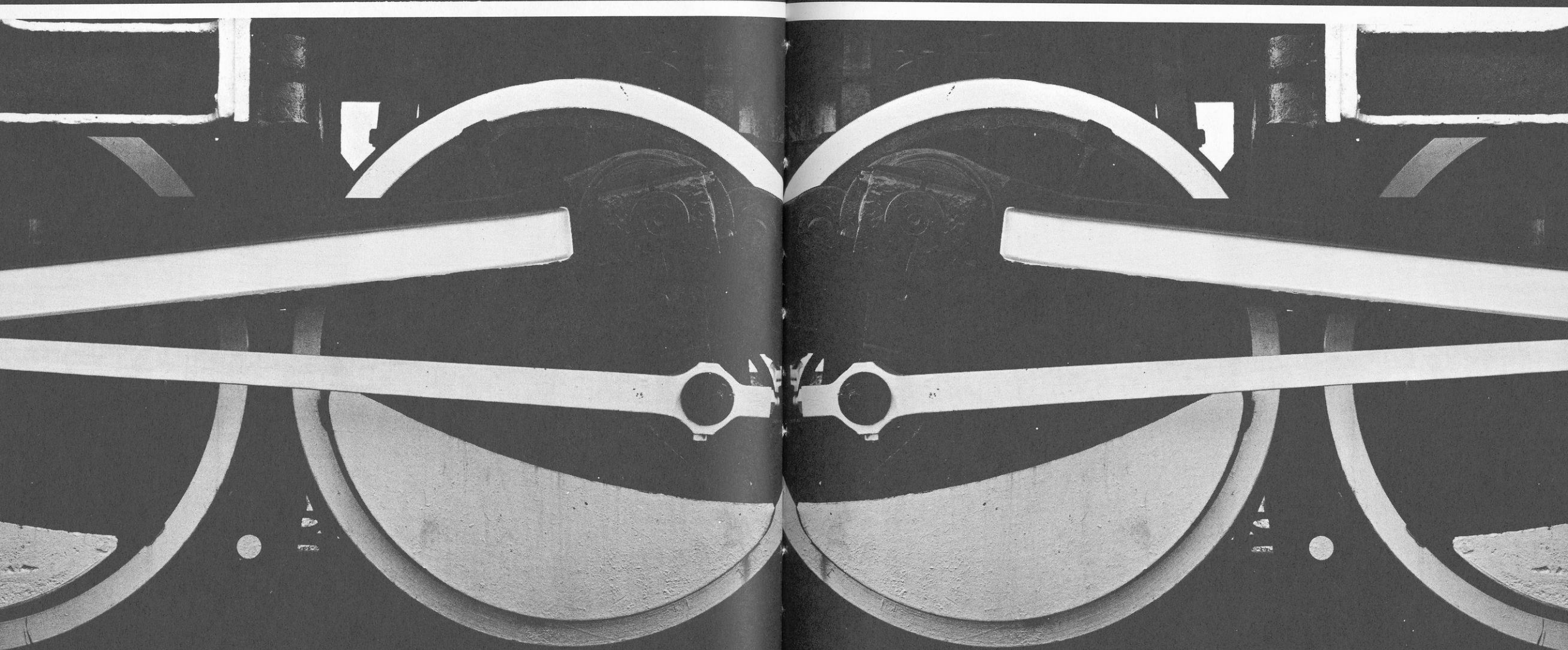
Regardless of what will in fact happen to jazz music, jazz is genesis and jazz can illuminate our sense of discovery. It surprises us. It is a bewildering road of musical creation. Even though it may be viewed by some people as elaborately skillful clowning, jazz has managed to repel the charlatan; it demands the best of musician and listener. What Dylan Thomas wrote about response to poetry can, by extension, be said also of jazz: It's "what makes me laugh or cry or yawn, what makes my toenails twinkle, what makes me want to do this or that or nothing." In any case, it is a marvelous way of celebration.

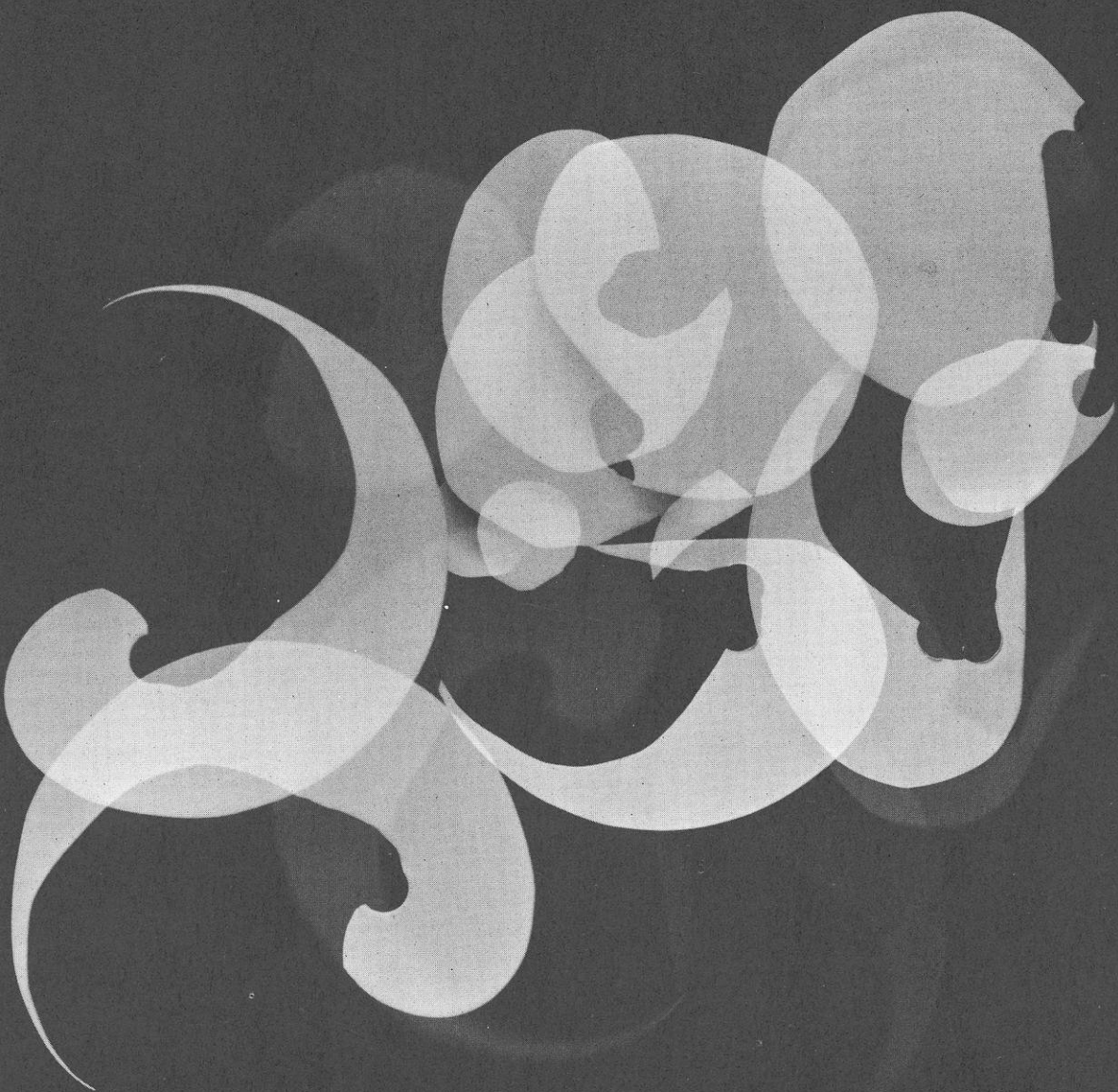
Aspen Winter Jazz



BOOK

REVIEWS





HATCHING EGG by Jean Tinguely
Motorized Construction of Painted Metal and Plywood
Courtesy: Museum of Modern Art, New York
Gift of Erwin Burghard Steiner

Between Scientist and Humanist

By Eugene Kaelin

Robert E. Mueller, *The Science of Art*.
The John Day Company, Inc., 1967. \$6.95.

Since publishing *The Two Cultures and the Scientific Revolution*, C. P. Snow has been more renowned as a critic of culture than as either scientist or writer. The schism he found between the "two cultures" is by now a well-reported fact. Although irreverent Americans could refer to his jeremiad as an unconscionable snow-job, hardly anyone dares push his irreverence so far as to refer to the harried critic as a beknighted snowman. F. R. Leavis, one of the most outspoken of Snow's harriers, is himself a reputable critic of English letters; in his reading of Snow's essay he found only "... a document for the study of cliché." But that was merely for openers. Speaking of the essay itself, he cast the following pearls before a bemused audience:

- "Snow rides on an advancing swell of cliché."
- "*The Two Cultures* exhibits an utter lack of intellectual distinction and an embarrassing vulgarity of style."
- "Snow's argument proceeds with so extreme a naivete of unconsciousness and irresponsibility that to call it a movement of thought is to flatter it."

And there was more. Moving onto the author, Leavis tried to make his case by doing away with his adversary; and since vitriol is too slow, he used poisoned darts and a blow-gun. Snow, he claimed, was an "intellectual nullity."

And . . . "as a novelist he doesn't exist; he doesn't even begin to exist. He can't be said to know what a novel is." Choicer yet, we read, "Snow is, of course, a — no, I can't say that; he isn't: Snow thinks of himself as a novelist."

In exchange for the "Neo-Wellsian" scientific culture Snow seemed to be stumping for, Leavis proposed this positive alternative:

What we need, and shall continue to need not less, is something with the livingness of the deepest vital instinct; as intelligence, a power — rooted, strong in experience, and supremely human — of creative response to the new challenges of time; something that is alien to either of Snow's cultures.²

In a word, humankind must establish a viable culture — one instead of two —, an expression of the human spirit valid for both scientist and humanist. Why, by the efficacy of what secret impulsion, does the power and the fertility of the humanly creative mind split into two and turn against itself? Is the scientific revolution effect or cause, or only symptom of some subtly hidden cause of our cultural malaise?

Answers to questions such as these, of

course, demand inquiry, and not character assassination, and when anyone has sunk to *ad hominem* argumentation, he can always be said to have already lost the argument, as Leavis did. Snow's thesis was simple: in the wake of the scientific revolution — or technicization, if you will, of all significantly human concerns, including those of society and letters — two distinct cultures seemed to be developing. The one is scientific — optimistic and forward-looking, this; the other, humanistic, but unfortunately, pessimistic and looking backward towards the many golden ages of the past, whose glitter only seems to brighten in retrospect. The sciences progress steadily towards their clearly statable goals; the arts and letters of our time, looking inward, find nothing but themselves to contemplate. Where science looks out upon nature or society and finds solutions to problems for better or worse, artists and writers produce paintings about paintings or novels about novels until only an artist or a writer is capable of receiving the message.

- 216 Observations such as these were not false, but both Snow's interpretations of them and his suggested solutions to the alleged cultural crisis were a bit misleading. The purpose of science is to discover what's true; of art, to discover what's significant. And what's true may or may not be significant. This was the essence to Leavis' plaintive response to Snow. Humanists have long known that what's significant need not be true even if it does have to be artfully expressed for anyone to appreciate the significance. Whence, the ironic title of Leavis' lecture, "The Significance of C. P. Snow." Like the problem itself, the significance of its author doesn't exist.

Less sanguine readers of *The Two Cultures* have taken another tack. What is to be gained, they ask, by exchanging a second, meaningful culture for a single culture which limits the range of significance to what might naively be called 'true'? We cannot be had by your metaphors: the masculinity of the all-knowing sciences poses no threat to the femininity of the all-feeling arts. Like Plato's androgynous creature, if

someone were to cut our culture in two, the parts would do everything they can to come together again. And here only the middle ground is important. Even the homosexual Pierre was considered lucky because he was always in the middle; only the out-men were odd.

In his *Science of Art* Author Mueller purports to have found the *tertium quid* or healthy neutral ground. The book is interesting and rewarding, in spite of its considerable difficulty of substance and monotony of manner. The substantial difficulty stems from the author's conversance with contemporary developments in both science and the arts: the reader who knows little of the arts will find in this exercise in cybernetics and information theory an encounter with nothingness, as fraught with anxiety as any existentialist's; and he who knows nothing of modern science will, like readers of most existentialism, find themselves in the need of someone who understands, in order to explain the explanation. Any such gulf between the author and his readers would seem to constitute some ground for Snow's description of our cultural uneasiness; but Mueller, sure of his terrain, proposes another way out of the chasm between the cultures. If only we look at the limitations of the methods of both science and art, we shall find that each represents a facet of a single phenomenon: the creativity of the human mind. Each in his own way, the scientist and the artist can be said to create; and nothing prevents the creations of one cultural expression to be effective in the other. Thus modern technology has produced many materials and thereby developed many media for aesthetic exploitation, and in cybernetics and information theory it has produced a method for interpreting the significance of artistic discovery.

In order for his aesthetic doctrine to constitute the mediating ground — a no man's land or DMZ — between scientific and humanistic domains, however, Mueller must establish that artistic discoveries in some way affect the methods and results of science. And evaluation of the greater argument of this book therefore depends upon our ability to discern the ultimate,

almost impalpable influence of art upon science. If such influences can be discovered and described, then at least we should have a rational ground for rejecting Snow's pessimistic description of the divorce between human cultures, as well as his faithless espousal of the values of one at the expense of the other in his determination to bring the two together again. Humanists were right resolutely to refuse turning themselves into a bawd, to be exploited for extrinsic values, and scientists should realize that this is all to their own good; for in this denial they could no longer be said to be on the make. As in most such affairs, the lady may be had, but only on her own terms — which is to say that the union of lover and beloved must be theirs, and not his alone. His may be the tool, but hers is the reciprocating ground.

Before taking up the difficulty of Mueller's thesis in detail, however, I should like to dispose of the question of monotony in his style. The book contains ten chapters, each of which may be thought of as standing alone, but the summation of which constitutes one alternative to Snow's two culture theory discussed above. Beyond the preface, which lays out the author's scientific and artistic qualifications, we read:

- I Art and Science
- II Cybernetics and Art
- III The Creativity of Art
- IV The Communication of Art
- V Music as a Message
- VI Visual Communication
- VII Vivifying with Words
- VIII The Computer Apprentice
- IX The Modern Artist
- X The Artistic Vision

Within these chapters we find a complete aesthetic, developed by applying the principle of mathematical induction, according to which the question is divided into its significant simpler parts, with consideration given each in sequence. The part in its turn is then handled in the same way.

The monotony of the procedure, I suggest, may be avoided by considering the following organization of the book's contents: the first chapter sets up the context of the problem,

to determine the ways in which science may be said to have influenced art. Chapters two through four contain a theory for interpreting art as a creative communication process. This interpretation is meta-scientific, or philosophical, if you will. The next three chapters illustrate the theory in various artistic media; and the last three attempt some definitive answers to special problems of the theory: the limits of robot assistance in the creation of works of art; the "modernity" of modern art; and the meaning of art for the continuation of science. Unfortunately, however, so many data are amassed in the illustrative chapters that the lackadaisical reader may lose whatever interest the theory itself succeeded in evoking.

Along with the monotony in the division of the question and the style in which its import is developed — which is surprising, coming from one who has dabbled in poetry and the novel — there is a considerable number of embarrassing solecisms: one reads 'deducted' for 'deduced' at least twice (69, 265); 'media' for 'medium' at least twelve times (9, 101 twice, 121 twice, 122 twice, 286 thrice, 290, 291); 'sensual' for 'sensuous' eight times (74 twice, 90, 91, 128, 129, 310, 317); 'schema' for 'schemata' thrice (35, 197, 199); 'human beingness' for 'humanity' or one of its synonyms almost consistently in Chapter III (*passim*). And on page 142 there is at least one ellipsis which impedes any kind of sense whatsoever:

If you realize that chess, with but six basic pieces, thirty-two in all, moving over sixty-four squares, has fascinated man and given him many worlds of perceptual and intellectual experience since before and Middle Ages (sic). . . .

Surely, the 'and' before 'Middle Ages' should be 'the', or the expression 'during the' should be added between the 'and' and 'Middle Ages.' The ellipsis is an editorial fault, but the solecisms are the author's own.

With all these lapses, the book is still well worth reading. Indeed, it should be read by graduate students of both

the arts and the sciences, and will be rewarding for the general reader interested in understanding the mechanics of cultural communication. If not well-written, it is imaginatively insightful, and may stir the average culture-vulture to look at least for some easier prey. For those with a visual interest, the book contains a number of 'schemata,' defined by the artist (the author himself) as "... a visual music of lines and dots which has attracted my creative energies for nearly twenty years." (35). The designs are rich, and illustrate effectively how a drawing may "render space visible."

II

The Science of Art is a misleading title. A clear reading of the argument of the book does not bear out the immediate suggestion that art is a kind of embryonic science. Even should we accept the suggestion given by Harold Lanier, as Mueller does (317), that there is a continuity of intellectual assimilation between aesthetic impression and scientific explanation of natural events:

Man first draws an ellipse because it is artistically pleasing to him. Then he finds the mathematics of that form. Then he discovers that the planets also take that form in their paths around the sun.

the identity of art and science would not follow. Art is still art, and no one should be caught begging the question between what one finds pleasing and what is actually aesthetic. Aesthetic inquiry may establish such a conclusion, but Mueller's doesn't. The fact of the matter is that Mueller has written an aesthetic theory, which uses some of the most sophisticated scientific procedures of explanation, the virtue of which is precisely to have adroitly avoided the question of "aesthetic values." Instead of aesthetic pleasures, he talks about creative communication. He finds it in both the arts and the sciences, and therefore concludes that there is a unity of human expression, which cannot be meaningfully divided into two mutually distinct categories of behavior.

The description of this unique human culture

could be called a "philosophy of mind," or, if one's delusions are toward grandeur, "a philosophy of human culture." In short, *The Science of Art* is neither art nor science; it is about both, but is practiced at least one level removed from those areas in which men are actually solving problems in either.

This sort of second-level inquiry reflects some philosophers' growing interests in solving problems of men. *The Science of Art* is a philosophy of art and science in which the author employs a scientific hypothesis to interpret and unify our knowledge concerning the field of creative communication. He makes no predictions, and cannot, for he has enunciated no general laws; and, given the peculiarities of its style, the book does not achieve the status of fine art.

I propose in what follows to examine the thesis of the book in accordance with the alternative division of its contents outlined above: (1) the context of the problem; (2) formulation of the hypothesis; (3) the application *ad hoc* to various art media; (4) the consequent answers to special problems arising from the relatedness of the arts and sciences in the further development of human culture.

i. The context of the problem.

The central problem of evaluating the relative importance of art and science is nothing new; it has grown up around the simplistic dichotomization of intellectual activity into separate areas of human significance: feeling vs. ideas, intuitions vs. concepts, synthesis vs. analysis, *l'esprit de finesse* vs. *l'esprit de geometrie*. And even where the results of such activities were admitted, in some sense, to yield "knowledge," the value of such knowledge was thought to be of a higher or a lower order, depending upon who was making the judgment. The poets amongst us elevated the intuitions of their feelings into a "knowledge" of the higher order of spirit. The American transcendentalists are perhaps an extreme example of this illusion, and many of their critics rejoice in pointing out to them that, as a matter of fact,

intuition is not a privileged access to any higher truths, if indeed to any truth at all. Although Bergson's metaphysics likewise elevates feeling and intuition into a mode of knowing anything worthy the name of "reality," he had the decency to admit that this "knowledge" is entirely useless. Analysis on the other hand, using concepts, produced useful, practical knowledge which had the unfortunate consequence of not being demonstrably true. But this is an attitude easy to counter, as it was when modern positivists interpreted poetry and aesthetic judgment in general as the expression of personal feelings, such that to call a poem "good" was considered equivalent to the clapping of one's hands in approval. We soon came to comprehend that attitudes taken toward the relative values of art and science are easily reversible. The question remains, whose attitude is more acceptable? Both may be called wrong, even wrong-headed, as no doubt they are since they rest on the assumption that human significance is controlled by only one of the ways in which human awareness is observed to develop.

In his first chapter, *Art and Science*, Mueller treats of this dichotomized version of culture, and indicates the only possible solution of the problem it has created:

The problem is to make a basic reevaluation of what we generally mean by the disciplines of art and science in order to determine if we are in fact overlooking something meekly hiding beneath a dichotomy with no meaning. (20)

In a word, since our problem is methodological, it must receive some kind of methodological answer. Our task then is philosophical, and can only be conceived properly at the level of second-order reflection. Mueller makes his point by reflecting on the many ways in which science and modern technology have influenced the practice of the arts in contemporary society. If this is true, as seems obvious, there are no grounds to conclude the exclusiveness of our first order categories. So far the author has succeeded in stimulating our interest.

ii. Formulation of the hypothesis.

Mueller's elaboration of the hypothesis for the interpretation of the broadest scope of human significance is developed in his next three chapters. From cybernetics he draws the consequences of the concepts, "feedback" and "control." The principle of feedback refers to the manner in which any error is sent back to the source of control guiding the development of a process, so that within the working of a system the error may be corrected. The principle has been successfully applied to simple physical guidance mechanisms, and to the behavior of minded organisms. Consider the case of the artist faced with the materials of his medium. He selects this, that or the other means to lay out the context of his developing work of art, beginning with, say, a blank canvas and an arbitrary palette. What at the outset was a field of unlimited choices becomes limited with each stroke until after many additions, corrections and new beginnings there is no longer any informational feedback. When nothing more is to be achieved by adding or subtracting further strokes, the work is considered done.

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This first stage of the communicative cycle is enlarged when the work is presented to the critical appreciation of an audience, in which the feedback principle is once more called into play. Depending upon the artist's talent and the appreciator's sensitivity the process may end here, as it does when the work is judged to be successful. Where it does not so end, and if an audience were not capable of extending its sensitivity, no communication can be said to have taken place between artist and audience through the expression being viewed or interpreted. The history of art is replete with examples of artists extending the sensitive possibilities of audiences, and with audiences "catching up" with artists; in this process, audiences have overcome the natural limits of communication: time, the medium, and the neuro-physiological functioning of the brain (51).

In sum, it might be said that all artistic communication takes place between two extremes: an infinite transmission

of information — the infinity hypotheses — and a definite, well-ordered transmission of no information at all — the null hypothesis. Both infinity and nullity are defined, of course, with respect to the known ordering processes for the given medium — all culture grows from existing culture — but neither hypothesis is capable of explaining precisely what is expressed in a particular work. The technique for evaluating the amount of communication in each particular work is then borrowed from information theory.

As a work approaches maximum disorder, its entropy may be said to be increasing to infinity; as it approaches maximum order, decreasing to zero. "Entropy," then, is a term borrowed to describe the degree of disorder of any physical choice-order system (50). Using statistical analyses, one may establish correlations between an arbitrarily selected group of works in a given medium and an individual work whose entropy figure is in question, provided that it is expressed in the same medium. Analyses such as these have already been performed for natural languages, and constitute the basis for crypto-graphic linguistic translations. The O.E.D. is very high in entropy; a sonnet by Shakespeare, on the mean; and a folk-ballad, very low. The mathematical model for the measurement of the significance in the information passed is simple:

Too much structural redundancy in a language makes it too well ordered to transmit any significant new information, and too little makes it too random to transmit information without losing much of that information, especially if it occurs in the presence of other normal interference. (56)

What information is received is measured in "bits" and these units in turn are known by the degree to which any uncertainty concerning the message is reduced in the transmission.

The limitations of such statistical analyses, however, make the process of art interpretation somewhat risky. The analyses are performed only on the medium itself, considered as a

physical choice-order system; they always leave open the question of precisely **what** is encoded in the informational transmission. In traditional aesthetic terms, only the formal means of aesthetic expression are amenable to the calculation of entropy measures; the content escapes analysis. Thus all we have learned so far is that works of art, considered as choice-ordered physical systems, can be given a mathematical tag; that some are more organized than others; that uncertainty is a virtue (since certainty purveys no information); that the resolution of uncertainty is the communication itself; and that all "receptor channels," including the minds of an artist's audience, have certain limitations in their capacities to receive information (60).

But psychologically, man is motivated to maintain uncertainty within the means of his communication; otherwise nothing new can be learned. And yet at the same time he is driven to seek only the clearest, best organized (or least disorganized) forms of perception and expression. Out of the resultant vacillation from one of these attitudes to the other man has built whatever technological control he has achieved over nature. Like the scientist, the artist seeks the intuitions of best organized form which he accepts to replace the felt disorder of nature — "as reflected in his agitated body and confused psyche . . ." (60). These new meanings then become a part of the ongoing life of the artist, and so far as they are communicated, become bits of information for his culture and, therefore, modifications of the receptive channels themselves through which further communication is possible. These in turn will become challenged, as under the force of the uncertainty motivation-man looks for still more information.

Within the process, man's mind is active; its activity however is limited to that of correlating inputs: of discovering correspondences between simultaneous or contiguous sensory inputs, between a new and remembered one, between remembered ones called out by some external stimulus, or between two or more remembered inputs not suggested by an external stimulus (65). According to

Mueller, this activity may be conceived as performed by an "art demon," imagined on a likeness to Clerk-Maxwell's thermodynamic demon, whose job was to continually separate hotter from cooler molecules in order to counteract entropy in a closed thermodynamic system. Maxwell's demon failed, in spite of all its ingenuity, because whatever entropy loss the demon effectuated had to be absorbed, as information, by the demon himself. The system would therefore continue to cool, and there is no perpetual motion machine. Mueller's art demon, on the contrary, merely goes on discovering correspondences, as long as the artist himself is alive and perceiving.

The perceptual order of nature is therefore open to continual modification as long as artists continue to shuffle back and forth between their dual motives of certainty and uncertainty. New ways of ordering perceptions may indeed produce newer "scientific" systems. More important, however, are the ways in which entropy levels may be raised, as they are when an artist discovers new uncertainties: either by finding new or unused physical qualities which may be combined in sensuous manipulation, or by organizing older orders in closer-knit forms, or by modifying the old with respect to the new (74). Whence, our arts are plagued with the contemporary development of new media, constant attempts to perfect older media, and innumerable cases of constructions in mixed media.

To understand what is transmitted informationally, one must consider the various manners of encoding made possible by the invention of artistic media. This principle likewise seems clear:

... the mental information of the observer, the information of the communicative means by which he interprets nature, must be greater than the entropy communicated from an area of nature before he can expect to encompass and comprehend its significance, since no communication is otherwise possible. That is what we mean by meaning. (78)

Its interpretation, simple: when the

information contained in our means of communication, be it an artistic medium or a scientific theory, is at least as great as that received from nature itself, then in applying the first to the second we can be said to "understand" it; if the reverse is true, the human inquirer must invent the informational means to interpret the perceived orders of nature. This is human creativity, and takes place in both science and art. It most obviously has been motivated by the technological advances of modern society because applied science has so enlarged the area of means available for the construction of informational orders — which artists and aestheticians refer to as "media" —, and the creative act takes place precisely at the artistic moment of perceiving sense in what was previously non-sense, at a time when the orders for the interpretation of sense were lacking. In this way, it is claimed, the sciences feed on the arts. Given units and structures, a scientist may interpret the sense of the universe; given units and inventing structures, the artist is dedicated to the same proposition.

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One serious question remains to be asked. Since it has been admitted that information theory may be applied only to the forms of communicative media, does Mueller's hypothesis necessitate the exclusion of "content" or "meaning" from entering into aesthetic analysis? To pose the question is to misunderstand the process. "Content" or "meaning" is the surfeit of form, the differential between existing statistical informational data (the known techniques of a given epoch) and the information previously received from nature. This does not mean that all art is imitative. Even the most literal of the arts, the most exact of natural representations, differ from the ordered stimuli of nature itself. What a painter communicates is still controlled by the manner in which he orders his medium to portray what he does. What is being claimed is only that the significance of the realistic portrayal is a function of a surplus of meaning: that **created by** the state of the statistically ordered choice-system which is the painter's medium as opposed to the state of our perceptual apparatus

prior to this particular portrayal. It is for this reason that there may be many different, equally significant portrayals of the "same" scene. The medium is the message. In what sense, then, can it be said to contain it?

Mueller seems to agree with McLuhan,³ in that "... a medium has its singular strength which always influences us incommensurately with our knowledge of the message it contains" (293). But he fears that McLuhan's cryptic pronouncement may be misinterpreted by "modern abstractionists." So he hastens to correct:

As a creative communication . . . the medium becomes integral with and creatively part of the entire exchange, being submerged as a psychological influencing factor in proportion to its success as a work of art. (293)

In a realistic work, we already possess the knowledge of the naturalistic object represented: what we learn about that object in its representation is an effect of the painter's manner of seeing as expressed in the technical control of his medium. The information gained in the act of appreciation is therefore medial. Thus, "the distinction must be clearly made between new media which may alter our awareness of areas in which art can be embodied, and the actual successful use of a new medium as art" (293). Novelty in the medium is not a sure sign of success; nor is presence of a realistic object within the painterly context a sign of artistic redundancy, and failure. That artwork is a success which as a matter of fact becomes a newly significant manner of seeing.

The rest of Mueller's hypothesis is concerned with treating creativity in terms of its effect on the human perceiver: good works change the character of our minds, makes us more characteristically human. The frailty of the so-called "psychedelic" art is that its practitioners fail to realize that all art is psychedelic:

Art articulates our human being in such a way that perceiving it causes us to be more human . . . ; it also establishes our

human reality in the act of communication. In this way man builds up his sensitiveness to the world, and also enlarges the materials by which he can grasp more and more realities — art sense-stretches, perception-proliferates, and soul-builds. (103)

How this is done, through the communication of interpretive cues internal and external to the context of the artwork, forms the substance of Chapter IV, dedicated to the "encoding of artistic meaning."

iii. Communication in the media.

Mueller divides artistic media into the musical, the visual and the literary or vivifying. Eschewing the traditional division into the temporal, the spatial and the conceptual, he has perhaps created more problems in this division than he has solved. He refers to his own "schemata" as a "music of dots and lines"; and treats of television, the theater, motion picture, dance and puppetry as "semi-visual" art forms. The distinction between the representative visual art and fully conceptual theatrical performances is decided upon the degree to which vivification of the human scene takes place via the description of persons and society (214).

Music, of course, is the easiest exemplification of his general hypothesis. The greater part of musical creation possesses no literal content, and not all the content it does possess is descriptive of persons and societies. As for non-literal content, Mueller leans toward the psychological theory of Leonard Meyer,⁴ according to which affect is said to be expressed through the sounds of music as expectancies are created and either fulfilled or frustrated in subsequent musical passages. Thus the inquiring musical mind, in accordance with its dual motivation for certainty and uncertainty, will actually undergo an affective response to the raising or lowering of musical entropy. The message of music is therefore its emotive content, but this content is not separable from a perception of the vagaries of sound.

In some places, music is described as creating a purely acoustical "space":

There is a new acoustical space built in music into which our perceptual mechanisms can expand. Once inside this elaborated and creative acoustical space, man's experiential world is enlarged. This not only gives man pleasure or allows him to have new emotions, but enlarges his concept of humanness a little more, and perhaps also supplements his intellectuality. (137)

But in others, it is described as both "timeless" and temporal:

Music also has the unusual attribute of being timeless in a way few of the other arts can match. Its perceptual independence gives it a lasting quality, and also perhaps the fact that it articulates one of the basic phenomena of human experience so vividly: time. (143)

The point being made here seems to be that music creates its own significant space and time — with none properly being said to be "primary" or "secondary," as Susanne K. Langer maintained.⁵ The created space and time of music are such that, in their separation from the real, conceptual space and time of nature, they are experienced as ever-new, interest building and maintaining; and in this sense, "timeless."

But in spite of this timelessness musical styles change. As one mode reaches perfection — maximum of certainty consistent with uncertainty in the decoding, the entropy figure of music drops, and new modes must be discovered. Mueller handles the development of the musician's search for novelty by showing the evolution of musical genres from baroque, classical and romantic periods to their maximal complexity in Bartok. Owing to its reduced entropy level, tone-row composition is far more easily comprehensible than Bartok; and aleatoric and electronic music, along with *musique concrète*, tend to revivify the medium.

The visual medium is exemplified in drawing, painting and photography. Drawing is similar to music in the apparent motion generated through the direction, force and tension of lines. Consider Mueller's musical interpretation of his own drawings:

My illustrations in this book try to create . . . a humanly meaningful abstraction, in a limited and simple form. I use suspenses of movement, directional varieties, contrasts and balances, sometimes proliferating into activity or dying in pools of dots. They are at best virtuoso products of my humanity caught in visual form. (184)

Their tensions are like those of music, emotion-generating and either resolved or frustrated:

The juncture dot, a variable and necessary thing, relates these movements by a periodic contingency which is striving for a new aspect that evolves, hopefully, into novelty before your eyes. (184)

Color complicates the visual medium, making it more predominantly spatial, through the phenomenon of space tension. The movement begun by Cézanne to make texture visible reaches its apex in the visual violence of Op Art, while Pop Art returns us to the naturalistic scene. The depiction of commercial designs, as the Campbell Soup can, or the imitation of comic book images merely tend to make visible what we hardly ever see because outside the attitude of art we never look at reality.

The literary media, finally, are said to "vivify with words." Perhaps the weakest conceptualization of the book is Mueller's division of the literary media: poetry, prose (novel and drama), theater (acting), the movie, television, dance (abstract human movement not yet fully taken out of literal gestural significance), abstraction through drugs, to puppetry (in which medium movements of figures receive their maximum abstraction). The notion of "vivification" betrays once more an emotivist bias, and the capacity of the verbal arts to generate feeling is explained by the natural association of word with literal meaning (whose affective correlate may be associated with words themselves) and to the modification of such affective content by the same formal techniques open to the other arts. Thus poetry is more tense than prose, and the moving picture theater theoretically as tense as a medium can get, approaching as it does

infinite entropy. All that movie makers have yet to do is to discover those forms — other than archetypes of character of “stars” playing themselves — which will enable a perceptive audience to perceive the uneasy certainty of poetic description:

We can assume . . . that since our visual memory is so strong it would be possible to go as far in the film as T. S. Eliot has in poetry. The poet of the film is a poet of visual experiences, and our vision has a remarkable retention of the most fleeting images. Startling juxtapositions, unusual montages or motions, extremes of exposures to reduce or reverse images that give surprising new images that are all reductions of reality, all possible tricks of the camera and film, only take on creative meaning when they build a new consciousness of the communication of visual forms. (238)

And, once again, the value of the perception of these forms is either intrinsic (calling attention to the emotive content of the form itself) or extrinsic (elaborating our awareness of the human condition):

That form [visual] can either describe itself quite autonomously, or it can be an envelope of shadows which entwine the visual qualities of our personal and human realities, and expand our awareness of them. (238)

In this sense, some media which are essentially “vivifying” in the sense intended can be classed as “semi-visual.”

iv. **Special problems in contemporary science of art.** The final three chapters of the book are attempts to lay to rest many of the fears of humanists that modern technology is increasingly impinging upon their own sacred domain. If culture is truly one, and measurable by the degree to which information is transmitted through a rational, satisfying system of communication, there is no compelling “territorial imperative.” A machine, it is true, could be constructed capable of combining many more elements into greater and greater complex structures than a single man or group of men working in even an indefinitely large amount of time. But a computer doesn’t

yet exist which programs itself, and cares not at all if its results transmit an emotional component. Instead, therefore, of considering the computer an enemy — as some fiddlers and pianists do, all one has to do is to cooperate humanly with what a computer does better than a man. A computer can save the creative artist countless hours of trial and error behavior, simply by going through the trials and making the errors. In every use it is still the man who judges some trials as errors. The machine’s task is to be a useful “apprentice,” suggesting solutions to be adopted by the creative artist, whose own reactions measure the significance of the message encoded in any given art medium:

In order for the computer to be most useful as an active artistic robot apprentice, a human consciousness must be present at all times to sort out the ideas and to indicate when the combinations which the computer quite innocently and automatically forms, are, in fact, significant for human perception. (280)

Some farsighted artists in many media have already begun to use this insight into the aesthetic uses of computer technology.

The modern artist, whose characterization is given in the next to last chapter of the book, will therefore realize the limits of the machine along with the limits of his own time and mastery of a medium. What makes him modern is not his desire to *épater le bourgeois*, not a meaningless dabbling with shiny new gimmicks; for should the artist discover an entirely new medium, the whole process of elaboration must be begun anew (297). The truly modern artist is “. . . one who keeps the artistic search focused on a new synthesis of one’s current sensitivities, regardless of the media.” (sic) (299). His true satisfaction derives from the expansion of his mind and the development of the culture in which he lives.

The last problem considered is an attempt, in the final chapter, to gauge the extent to which art activity may be said to influence the developments of

modern science. It is perhaps otiose to point out that modern science changes, perhaps a bit more slowly, but with as many revolutionary results as does modern art. The reason is the same: the entropy of a rational system runs down, and in the face of new observations must be brought back to a higher level:

The scientist, looking for insights into nature, reacts to his experience much as the artist does, and in order to build up a theory he must learn to take that experience and reflect upon it in the light of his own consciousness — and this is the province which his art awareness has built. (317)

The table of the ways in which art is thought to perform this function contains four suggestions. A man's art interests function to improve his science by (1) encoding consciousness, (2) generating mental structures, (3) articulating "humanness," and (4) nurturing creativity (317). And in this move Mueller's argument is complete.

Culture is one, not two; and the two aspects of the same culture, distinctively human, mutually influence each other. Neither need relinquish its values to the concerns of the other. Thus, when the matter is completely thought through, we find that the chasm between C. P. Snow's "two cultures" is only apparent and that the scientific revolution is as much a result of successful artistic insight as a cause of morbid critical or scientific concern. Our only cultural catastrophe would be a failure to react to the challenge of the new technology by harnessing it to our own aesthetic ends. Thus, Mueller: "When we have a strong awareness of art at our disposal we will be able to experience the even more unimaginable scientific realities of tomorrow as if we own them — which in fact we do because we create them ourselves through our art" (325).

III

Any argument which purports to show that the arts and sciences are not mutually contradictory human processes is apt in our time to be misunderstood and what's more,

mistrusted by both artist and scientist, each of whom continues to argue for his unique contribution to the development of human consciousness. C. P. Snow is a scientist, who, by virtue of his numerous attempts at the writing of novels, has made some claims to explaining the disparateness of the scientific and humanistic attitudes.

F. R. Leavis, who most certainly understands the virtues and values of literary expression, but who seemingly possesses a paranoic fear of scientific encroachment upon his domain that stems from a misunderstanding of the processes of science, understood the error of Snow's peregrinations in cultural criticism, without being able to come up with a solution to the apparent separation of cultural domains. The ineffectiveness of each stresses the importance of the problem, and of our being able to overcome their short-comings to arrive at some sort of adequate solution.

A problem exists if there is only an appearance of a divorce between the so-called "two cultures," for in reality there is none. That the problem itself results from a misunderstanding of the methods and motives of scientists and artists may be made apparent only by an adequate description of science and art taken at their best. Our author assumes this task, and shows clearly that, since the sciences are clearly influencing the arts but the arts have a reciprocal influence upon the development of science, there can be no meaningful talk of a widening chasm between the two.

The argument, considered as a whole, seems convincing; and the methodological ground upon which he casts his projected solution is the only one possible. But criticism of the arts and sciences does not itself constitute art or science: the intermediary ground established for the settlement of the dispute is established in philosophical inquiry. And Mueller's philosophy is well grounded: trained in technology and in the arts, a practitioner of applied science and a creative and performing artist, he possesses the experience necessary for fruitful reflection.

Yet a careful reading of his book suggests

that something more powerful than a meta-scientific hypothesis is necessary to succeed in the performance of his task. We are convinced that the most rational of systems may decrease in entropy, and that they must be renewed in the face of controverting observational evidence. Our point is simply that not all the evidence for creativity in the arts has been clearly observed. Mueller admits for example, that information theory may be applied only to the artistic medium, considered as a choice-order system, and that "content" is not amenable to such analysis. If practitioners of the linguistic sciences have been able to apply the tool, it is only on the basis of the comparison with the morphological structures of a known language whose "meanings" are secure. True, encoding of new information even in the known language presupposes the ability to enrich that language with novel structurings; but if one carries out this analogy in the field of artistic expression, one finds that there is no "known" language for the interpretation of sense in the new and questionable artistic language. To fall back upon the state of that medium before the innovations of discovery — as cultural historians inevitably do, is to misconceive how "new sense" is achieved; it is, in fact, to compare Einsteinian with Newtonian physics in order to discover the novel significance of the former.

Certainly, it can be admitted that we come to understand in general how expression is possible in an artistic medium by learning the traditional ploys of our historical artists without contending that knowledge of the medium in general is a substitute for a perception of the particular message embodied in any given work of art. Here brute experience is necessary, and no amount of comparisons, statistical or otherwise, will convince the experiencing subject that he is either right or wrong concerning the significance of that experience. A method is needed therefore for explicating the total expressiveness of the individual context. When we look at the arts of the past, we do so with an eye to discovering aesthetic categories, whose application to a specific context allows us to grasp

significance in the individual work.

Scientist Mueller ignores what artist Mueller practices, and philosopher Mueller has failed to come up with a set of meaningful aesthetic categories which obviate the necessity of the outworn concepts of "form" and "content." Even as he argues

The value of art does not lie in the subject matter nor in the form, making the content-form problem unimportant; the content can be noble, the art poor; the form powerful, the art inadequate. Nor is the value of art in a mystic union between the two, with form reinforcing a noble content. It is instead the transcendent problem, the releasing of the objective-subjective difficulty that gives art its meaning. (316-17).

he fails to convince; for he has failed to give a description of the manner in which artistic communication takes place — by similar reaction in artist and audience to the funding counters of an individual aesthetic context. Some of these are sensuous, true — not sensual, as he claims —; but others are imaginative representations of natural objects and ideas. Since the function of science is to give us truth, not significance; and of art, to give significance, not truth; much more must be said on the differences obtaining between these two contexts of judgment, even for us to be able to understand the degree to which they may be considered similar. No doubt there is "inventivity" in the sciences and the arts. Yet not all scientific inventions yield empirical truths, and not all artistic inventions yield aesthetic significance. Failing, as a matter of fact, to distinguish signification from significance, and using the latter term ambiguously, author Mueller confuses an issue which is ontological in import.

By information theory, that is significant which expands the consciousness, or more properly, which increases the entropy of a rationally ordered communications medium. What is lacking in this account is a phenomenological description of the manner in which man's being in the world is constituted by his expression, how his expression changes the world and offers new choices and evidence for both scientific and artistic

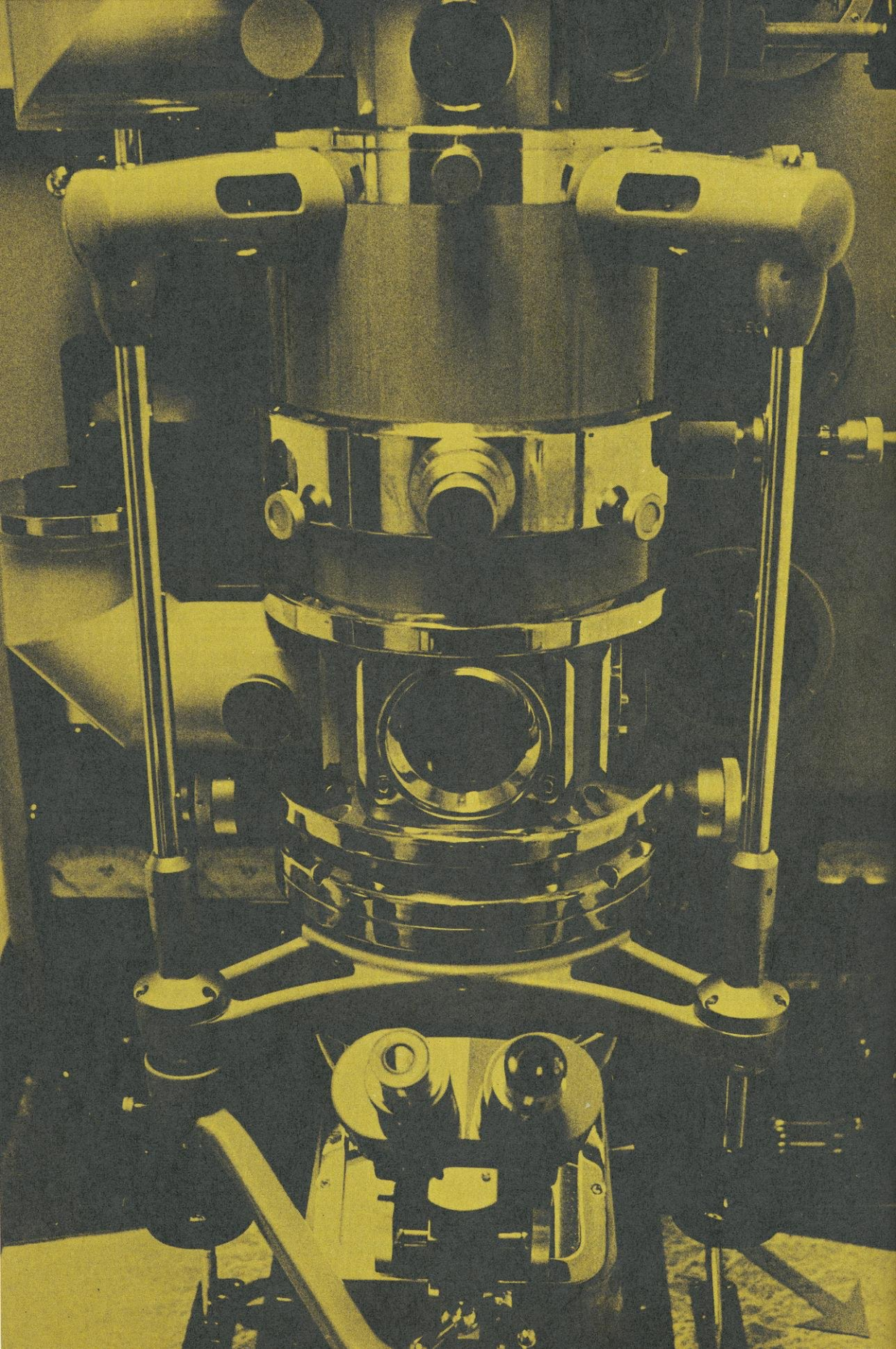
elaboration. If these gaps could be filled in,⁶ we should be able to understand how significance, which is enjoyed (*Befindlichkeit*), may be transformed through interpretation into signification to be understood (*Verstehen*), and ultimately communicated (*Rede*).

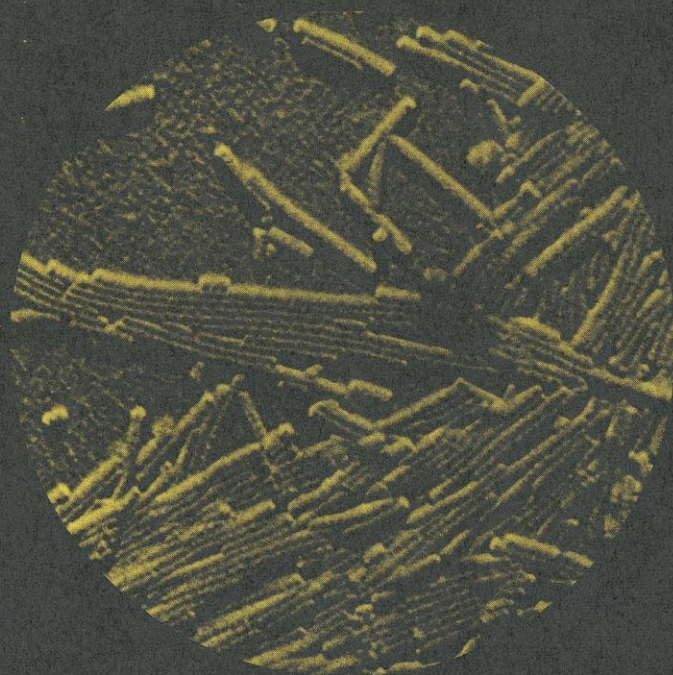
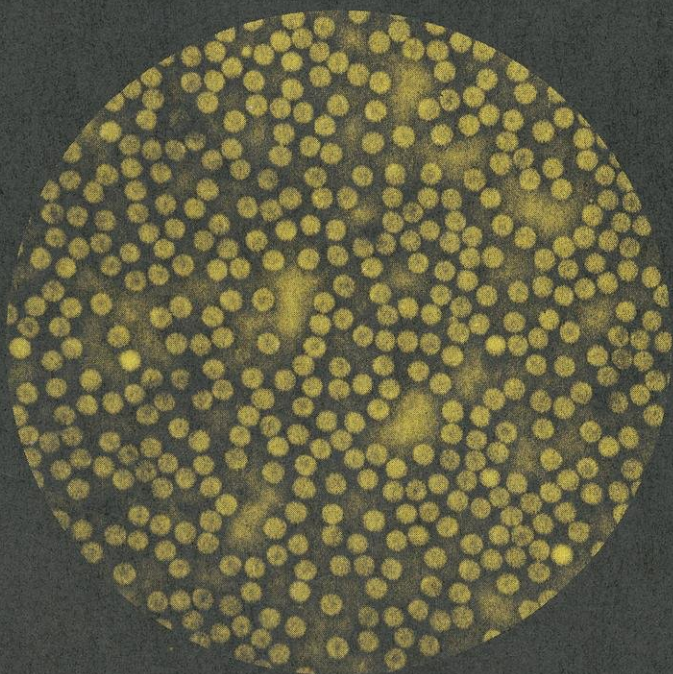
That the experience of aesthetic significance is capable of "broadening our horizons" is no doubt true; it may even prepare us for imaginative adventuresomeness in science; but it will hardly enable us to verify our predictions, which are still the test of the full meaning of any hypothesis. In this sense, science is science; and art remains art. Both may be highly imaginative, as both are at their best. The value of the one, however, is the truth it signifies; and of the other, the significance it transmits. Their unity is ontological — as culture is the state of man's being at any given time —, but this is the message Professor Hofstadter⁷ failed to communicate to his student, Mueller, who was perhaps too beguiled by the superficial clarity of the scientific method.

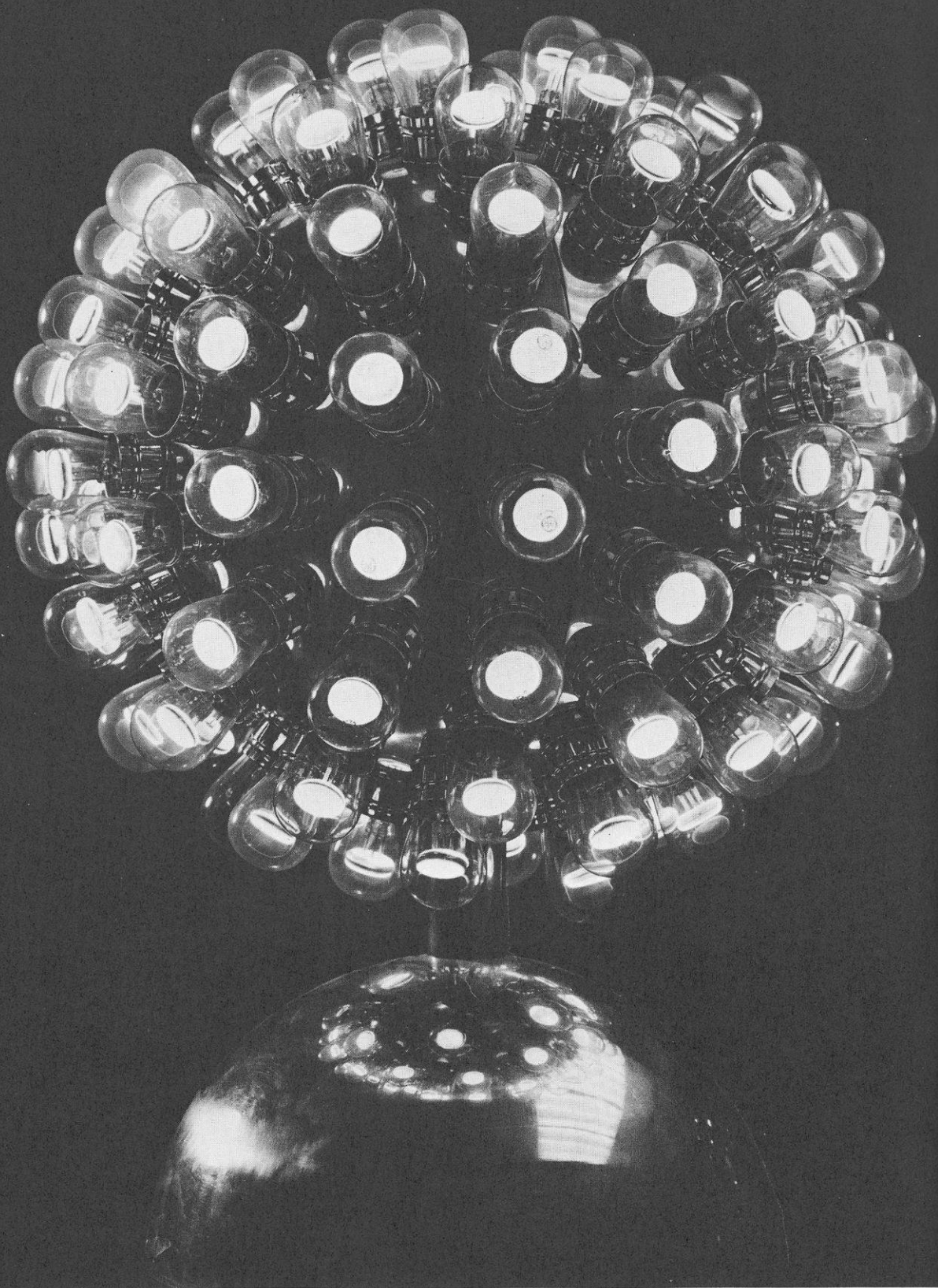
As Heidegger once put the matter:⁸ ask a scientific question, and you will receive a scientific answer. What we still need is a clear methodology of hermeneutical analysis by which to determine artistic significance. Out of this sort of methodological concern we may be able to find a method. But surely to invent such a method we must return to the things — in this case, artworks — themselves. A "Science of Art" is possible only if there is art and the "significance" of art is itself meaningfully interpreted. Therein lies the rub.

Reference Notes

1. Leavis' diatribe was given as the "Richmond Lecture" at Downing College on 28 February 1962. It was published in the *Spectator*, 9 March 1962.
2. *Loc. cit.*
3. See Marshall McLuhan, *Understanding Media: The Extension of Man* (New York: McGraw Hill, 1964).
4. Leonard B. Meyer, *Emotion and Meaning in Music* (Chicago: The University of Chicago Press, 1956).
5. In *Feeling and Form* (New York: Scribner's, 1953), *passim*.
6. As attempted by Martin Heidegger, *Being and Time*, Macquarrie and Robinson trans. (London: SCM Press, Ltd., 1962), pp. 172-95.
7. Mueller admits his debt to Hofstadter in the Preface to his book; see Albert Hofstadter, *Truth and Art* (New York: Columbia University Press, 1965).
8. In *What is Metaphysics?*, original German text, *Was Ist Metaphysik?* Eighth printing; (Frankfurt A.M.: Klostermann, 1960).







ELECTRIC ROSEBUSH by Otto Piene — Programmed Neon Light Construction
Courtesy: Milwaukee Art Center, Gift Of The Trustees In Memory of Harry Lynde Bradley

Society and the Avant-Garde

By Gilbert Chase

Renato Poggioli,
The Theory of the Avant-Garde.
Translated from the Italian by Gerald
Fitzgerald. Cambridge, Massachusetts: The
Belknap Press of Harvard University
Press, 1968. 250 pp. \$6.50.

"In a sense we might say that all one need do to understand avant-garde art is to understand its starting point."

This sentence — quoted from the chapter on Avant-Garde Criticism — pinpoints the unique significance of Poggioli's book. It provides us, for the first time, with a conceptual and analytical study of the avant-garde movement that is both historical and objective.* For Poggioli, "the term and concept of avant-garde art" are distinctly modern developments, reaching "no further back in time than the last quarter of the past century."

He assigns to the French writer Gabriel-Désiré Laverdant (an obscure follower of Fourier) the credit for being the first to define the concept of the avant-garde as a radical movement involving the relation of the artist to society. He quotes from Laverdant's book, published in 1845, *De la mission de l'art et du rôle des artistes*:

Art, the expression of society, manifests, in its highest soaring, the most advanced social tendencies: it is the forerunner and the revealer.

One is reminded of Marshall McLuhan's statement, in *Understanding Media*, that "The artist picks up the message of cultural and technological challenge decades before its transforming impact occurs." Poggioli finds that the dual

concept of the avant-garde — social-political and cultural-artistic — prevailed until the French crisis of 1870, after which it gradually began "to designate separately the cultural-artistic avant-garde" — a designation that became generally accepted around 1880. Throughout his work, Poggioli emphasizes "the precedence, exemplarity, and preponderant influence of the French contribution" to the development of the theory and praxis of the avant-garde.

A glance at the index confirms the preponderant role assigned to the French writers — particularly poets — in Poggioli's work. There are 83 references to French writers, as compared with nineteen for Spanish (nearly all referring to Ortega y Gasset), thirteen each for English and Italian writers, and eleven for the United States (Irving Babbitt, Bernard Berenson, Gertrude Stein). In this count I have included T. S. Eliot among the English writers. Rimbaud stands at the top of the list, numerically, followed by Mallarmé, Baudelaire, Apollinaire, Breton, and Malraux. What is made clear by all this is not only the preponderance of France but also the definite bias toward literature in Poggioli's study. The only artist whose writings are extensively referred to is the Italian Massimo Bontempelli, creator of the aesthetic doctrine called "magic realism" and author

of an important work titled *L'Avventura novecentista: Selva polemica* (1926-1938), Florence, 1938. If this were a **history** of avant-garde movements, the almost exclusive emphasis on literature might be regarded as a weakness; but this is a book on the **theory** of the avant-garde, and it is a valid assumption that it is the business of writers to define theory. In any case, Poggioli writes from his background as a student of comparative literature, and his main contributions are those of objectivity, historical perspective, conceptual clarity, and analytical depth. He is scholarly without being academic — there is not, for example, a single footnote in the entire work — and he illuminates with reason and judgment a subject that has too often been obscured by prejudice and partisanship.

At the outset Poggioli establishes the distinction between a **school** and a **movement** in the arts — the former static, the latter dynamic. He maintains that "romanticism was the first cultural-artistic manifestation of prime importance which no one now would dare call a school." Hence it is not surprising that "it was precisely within romantic culture that there flowered . . . the first avant-garde reviews in the modern sense" (he mentions specifically *Atheneum*, issued by the brothers Schlegel in Germany). By this he means that a review such as *Atheneum* "was a review of a group, a cénacle, a movement: an avant-garde periodical."

What Poggioli calls "the dialectic of movements" is basic to his interpretation of the avant-garde. He distinguishes four types of ideological and psychological motivation:

- (1) **activism**, by which "a movement takes shape for no other end than its own self, out of the sheer joy of dynamism, a taste for action, a sportive enthusiasm, and the emotional fascination of adventure" (Italian Futurism is an example);
- (2) **antagonism**, by which a movement agitates against something or someone — the academy, tradition, "a master whose teaching and example, whose prestige and authority, are considered wrong or harmful," or "that collective individual called the public"

(examples too numerous to mention!);

- (3) **nihilism**, defined as a "kind of transcendental antagonism;" and
- (4) **agonism**, which "welcomes and accepts self-ruin as an obscure or unknown sacrifice to the success of future movements." One thinks of the self-destroying "machines" created by Jean Tinguely, in which apotheosis and annihilation coincide.

Of these four types of movement — which he also calls "moments" — Poggioli considers the activist as "perhaps the least important or, in any case, the least characteristic." He concedes, however, that "the very metaphor of 'avant-garde' points precisely to the activist moment (rather than the antagonistic)." This is so because "Within the military connotations of the image, the implication is not so much of an advance against an enemy as a marching toward, a reconnoitering or exploring of, that difficult and unknown territory called no-man's land." This question of the implications of the military metaphor contained in the term "avant-garde" is important, because it has been used by some writers — notably Leonard H. Meyer in his recent book, *Music, the Arts and Ideas* — as a peg on which to display the thesis that if the 20th-century world "is a world without goals, without progress . . . if it does not move toward anything, then 'the avant-garde is ended.'" This thesis presupposes that "The very concept of an avant-garde implies goal-directed motion — the conquest of some new territory" (Meyer, p. 169). Hence, according to Meyer's sophistic reasoning, "the philosophy of the avant-garde precludes the possibility of there being an avant garde." The publication of the English translation of Poggioli's masterly work is timely — among many other reasons — for its direct and unequivocal refutation of the specious arguments put forth by Meyer to demonstrate the "demise" of the avant-garde.

It is simply not true that "the very concept of an avant-garde implies goal-directed motion" — certainly not as the term has been used by artists, poets, and aesthetic theorists since they took over the term for their own

uses, around 1880, as Poggioli has shown. Of the four types of movements, or "dialectical moments" defined by Poggioli, none implies "goal-directed motion" in the teleological-Progressive sense (inherited from the Renaissance) in which Meyer uses the phrase. True, an activist movement may have as its aim "the affirmation of the avant-garde spirit in all cultural fields" — i.e., to bring about change (which is indeed the fundamental purpose of all avant-garde movements), but this is not the same as trying to attain a specific objective. Not conquest, but exploration, discovery, and adventure, have been, and are, the emblems of the avant-garde.

In contradiction to Meyer, who links the avant-garde to the teleological beliefs of the Renaissance, Poggioli demonstrates that both the concept and the term "avant-garde" belong essentially to the twentieth century, with nineteenth-century romanticism and some direct precedents in the French Symbolist movement — notably in Mallarmé and Rimbaud. For Poggioli, "the psychological concept of adventure" is basic to the motivation of avant-garde movements; and surely he had this in mind when he chose to preface his book with a lengthy citation from Apollinaire's *Calligrammes*, of which I quote the following verses:

*Soyez indulgents quand vous nous comparez
A ceux qui furent la perfection de l'ordre
Nous qui quêtons partout l'aventure.*

*Pitié pour nous que combattons toujours
aux frontières
De l'illimité et de l'avenir.*

Nobody believes any longer that man is "progressing" toward a definite goal; but as long as mankind survives there will be an avant-garde — "always on the frontiers of the limitless and the future."

Poggioli agrees in principle with Bontempelli's definition of avant-garde art as "an exclusively modern discovery, born only when art began to contemplate itself from a historical viewpoint." His only reservation has to do with the term "discovery;" would not "invention" be better, he asks? Or, if you will,

"the name itself is a discovery, but a discovery of a *quid* not existing before." The essential point to understand is "that avant-garde art was historically impossible before the elaboration of the idea itself, or of some analogous notion . . . It is evident that such a concept (or its equivalent) is present in the Western historical consciousness only in our epoch, with the most remote temporal limits being the various preludes to the romantic experience." Poggioli's tracing of the genetic relationship between romanticism and the avant-garde is one of the most valuable features of the present work, particularly for its discussion of the concepts of popularity and unpopularity. He concludes that "no absolute popularity or unpopularity exists; both are relative." He demolishes the bromide that romantic art was essentially popular while avant-garde art is inevitably unpopular. Romanticism, too, attempted "to impose the cult of novelty," just as the avant-garde does today. When novelty becomes familiar, it no longer disturbs anyone. But it is a mistake to assume that the "novelty" of the avant-garde is merely capricious or arbitrary. For, as Poggioli reminds us (upholding in this respect the viewpoint of Marxist criticism), "between avant-garde art and contemporary society, there exists a precise and direct connection." If there were more enlightened and truly contemporary criticism — Marxist or other — and less academic rehashing of the classics, this connection between the avant-garde and contemporary society would be more readily understood and accepted. The most important point here is that "As against classical art, which flowered in an aristocratic climate, romantic art and avant-garde art are aristocracies subsisting and surviving in the democratic, or at least, demagogic, era. This fact suffices to show that the sociological differences distinguishing romantic art from avant-garde art are only differences of degree." On this basis, Poggioli asserts that "the hypothesis of historical continuity between romanticism and avant-gardism now seems irrefutable."

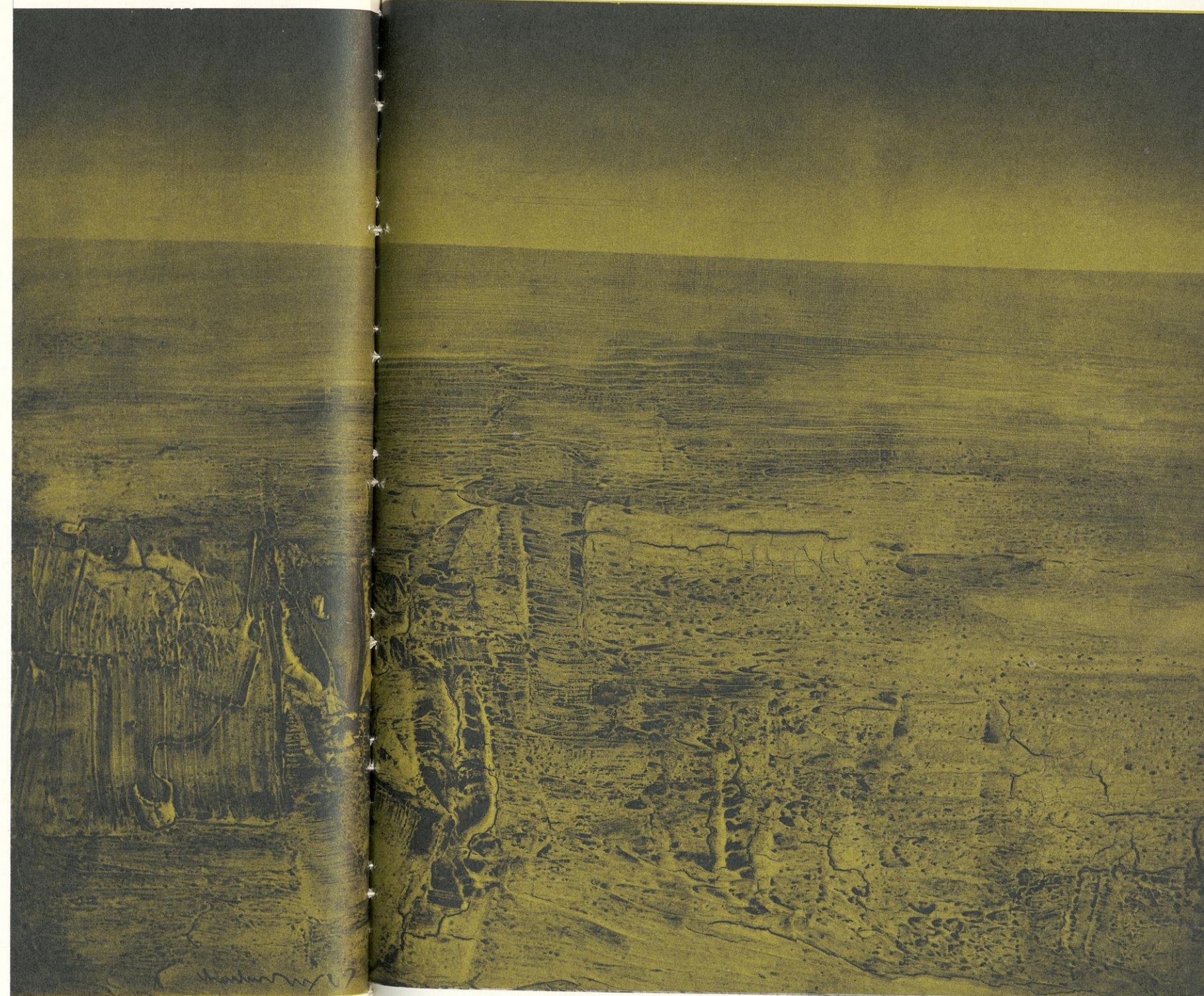
Turning to the modern moment, Poggioli affirms "that avant-gardism has now become the typical chronic condition of contemporary art . . . The

most extreme avant-gardism continues to dominate without truce or exception the whole field of the figurative arts, and a notable part of musical art as well . . . The avant-garde is the extreme anticlassical reaction of the modern spirit; but we have in it a reaction that is also revolution."

In his concluding chapter, quoting one of his favorite authors, Poggioli writes: "It is not the business of the artist or the critic to idolize or reject what Ortega felicitously called the imperative of the work of one's own time." It is in the spirit of one's own time, that Poggioli, at the end of this splendid book, reaffirms his conviction that "the avant-garde is a law of nature for contemporary and modern art."

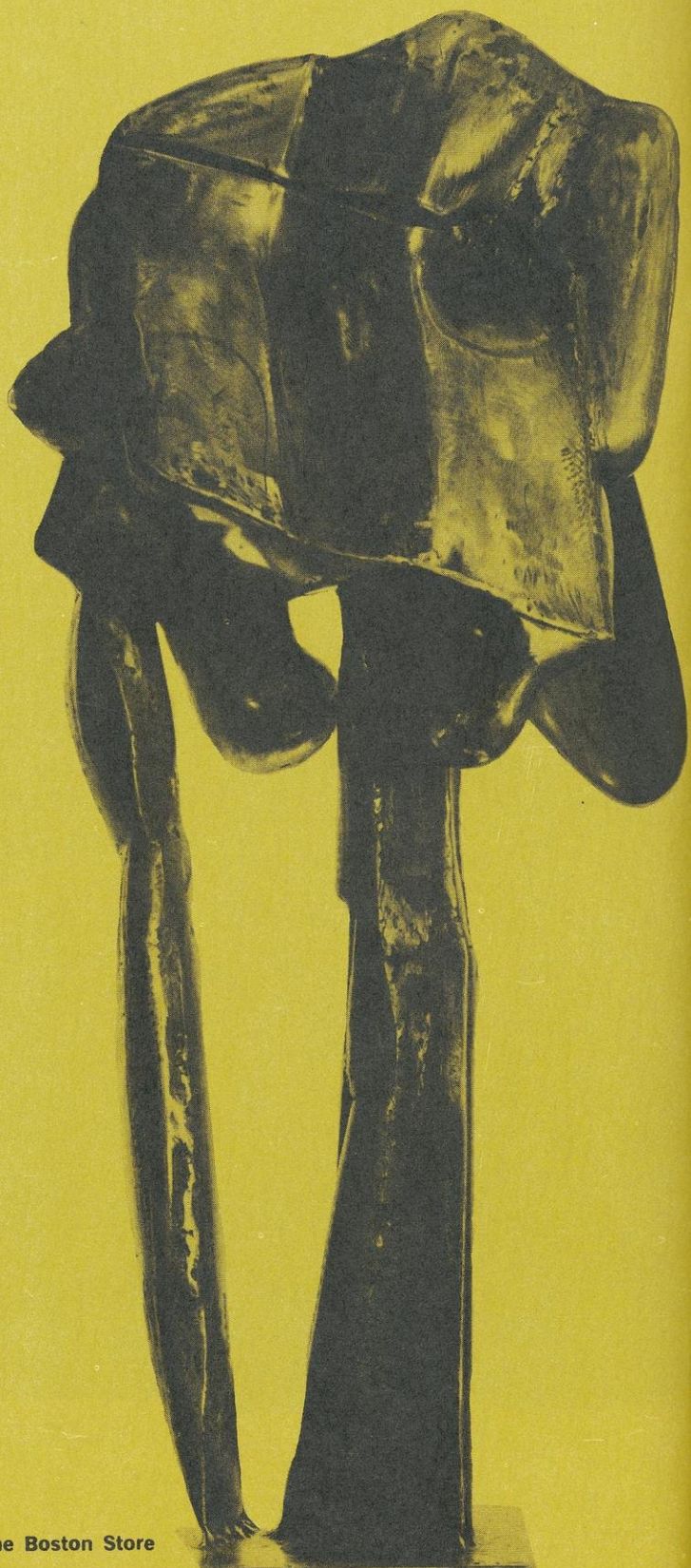
FOOTNOTE

*The late Renato Poggioli (1907-1963) was born in Florence, studied in Vienna, spent the 1930s in the Slavic countries (to get away from Fascism), became an authority on Slavic literature, emigrated to the United States in the 1940s, and at the time of his death was Curt Reisinger Professor of Slavic and Comparative Literature at Harvard University. The work under review was originally published in Italian as *Teoria dell'arte d'avanguardia* (Società editrice il Mulino, 1962). The first draft of the work was completed in 1946, and parts of it were originally published in the Italian review *Inventario* in 1949 and 1950. Thus, its scope is historical rather than contemporary, and this explains the lack of reference to many avant-garde developments, particularly in the United States, that occurred while Poggioli was still living. By expounding the theory of the avant-garde on a historical basis, he has paved the way for further exploration of the situation since 1950.



WASTE HOWLING WILDERNESS

by Charles Dix



Painful Personage by Italo Scanga
Courtesy: Milwaukee Art Center, Gift of the Boston Store

Allegory and Alienation

By Edouard Roditi

Alfred Kubin, *The Other Side*.
A fantastic novel, translated by
Denver Lindley. Crown Publishers, Inc.,
1967. \$5.95

The American publication of a long overdue but very capable translation of the Austrian artist Alfred Kubin's strange novel *Die Andere Seite*, which the author also illustrated, may inspire discussion at several levels of our intellectual community. Firstly, *The Other Side* will now acquaint the increasingly numerous English-speaking Kafka-commentators who do not read German with an important source that can serve as a key to their interpretations of some of the ambiguities of Kafka's allegorical genre and of his evolution as a writer. As early as 1913, Kafka indeed noted in his diaries that he had met Kubin in Prague. Though he discusses this only briefly, Kafka expressed enough interest in the author of *Die Andere Seite* to lead us to believe that he subsequently made a point of reading it if he was not already familiar with it. Kafka's evolution as a writer of allegorical fiction is less puzzling if we consider it in the light of his probable previous knowledge of the writings of Alfred Kubin and of another odd-ball, the Swiss novelist Robert Walser, authors who had both produced and published allegorical novels of the same general kind as *The Castle*, *The Trial*, and *America* some years before Kafka began to write his own major works. In *America*, in particular, Kafka seems to be consciously improving on the less broadly meaningful kind of dream-world

allegory that he could find in the works of both Walser and Kubin.

Secondly, *The Other Side* might provoke some comment in a very different area of scholarship, among students of the English novel of the latter part of the Nineteenth century. Kubin's only novel indeed fills a gap between two types of novels that now appear to be much more closely related than one might at first suspect, between Samuel Butler's *Erewhon*, on the one hand, and, on the other hand, Rider Haggard's *She* or John Buchan's *Prester John*.

The dividing line between adventurous archaeological or exploratory "science fiction" set in the mysterious heart of some exotic continent and a more philosophical or satirical kind of utopian or allegorical fiction has never been very clear; and few critics have yet dared to tread the cloudy no-man's-land that spreads between these two areas of fantasy. The opening chapters of *Erewhon* and of *She* have nevertheless much in common, progressing only gradually from realistic descriptions of the known or relatively familiar to equally realistic descriptions of the utterly alien. In this respect, both Butler and Rider Haggard have chosen to borrow stylistic devices from the published accounts of the travels of such contemporary explorers

as Richard Burton and Mungo Park. Kubin, however, takes for granted that his readers can no longer be fooled as easily. Instead of abolishing any stylistic distinction between the real and the unreal by describing both the known and the unknown with equally plausible precision, his hero disposes of his journey from Munich, through Russian Central Asia, to his Dream Kingdom set in the Chinese Turkestan, in the most banal terms: "What an Oriental city looks like is, I assume, known to everyone. It is exactly the same as one of our cities, only Oriental." After that, Kubin's autobiographical hero plunges us in *medias res*, to flounder with him and his wife, as soon as we reach its grimly fortified frontier, among the disturbing absurdities of the Dream Kingdom to which one obtains admission only by a special invitation from its founder and ruler, the mysterious and fabulously wealthy and powerful Claus Patera, a long-lost schoolfriend of Kubin's hero.

Thirdly, Kubin's exploration of a Dream Kingdom almost entirely peopled by dropouts will surely stimulate the imaginations of our expanding Hippy reading-public. Its author and illustrator can indeed be said to describe and depict here, with a great wealth of detail, his experience of a "trip" that he took without having first had recourse to any psychedelic nostrum. Like His Holiness the Maharishi, Kubin "didn't have it necessary," as one says it on New York's West End Avenue. Nor did the average citizen of his Dream Kingdom, most of whom appeared to be egocentrics, afflicted with *idées fixes* that were "not yet obsessive", and by a curious reluctance to assume the responsibilities of parenthood.

In a purely autobiographical narrative that is now published in full as an appendix to the American edition of *The Other Side*, Kubin offers us discreetly what may well be the key to the mystery of his weirdly visionary drawings and writings. Again and again, he refers to his recurring fits of depression or melancholia and even to seizures; more rarely, he also appears to have experienced the epileptoid phenomena of Kalopsy or of Kakopsy, in which his world appeared to

him more beautiful or more repulsive than usual. All this might also explain why Kubin's writings and his art rely to such an extent on equally contradictory and epileptoid impressions of both *déjà-vu* and self-alienation. Nor would it then be by mere chance that Kubin chose, quite clearly in his career as book-illustrator, to provide drawings for a magnificent German edition of *Aurélia*, the French poet Gérard de Nerval's autobiographical account of his own insanity. Both Nerval and Kubin had ready access to areas of human experience which all too many of our contemporaries now explore on the cheap, in organized "trips" for which paper-back guide-books are available.

Yet we can discover, in much of this literature that ranges from Nerval and Kubin to Samuel Butler and even Rider Haggard, a certain number of constant themes or of Jungian archetypes that tend to suggest how little freedom human madness, hallucination and fantasy really enjoy. To list them all systematically would unfortunately lead us very far. For instance, unlike Butler's Erewhon, Kubin's Dream Kingdom is not only "cut off from the surrounding world" by the natural barriers of its geographical remoteness or inaccessibility, but is also jealously enclosed within monumental walls and fortifications that its founder, Claus Patera, has had built, like the Great Wall of China that also fired Kafka's imagination. Patera's Kingdom is moreover intended to be "a place of asylum for those who are disgusted with modern culture;" all its institutions and invited inhabitants, with the exception of a small and mysterious aboriginal tribe of blue-eyed Mongolians, are housed in ancient or merely dilapidated buildings which have been purchased at great expense in distant Europe, to be transported and reassembled here with as much care as William Randolph Hearst once devoted to adorning San Simeon with architectural masterpieces of the past. But Patera, like the more sociologically-minded curators of some Scandinavian open-air museums of architecture of the past, has also been careful to endow his Dream Kingdom with a suitable number of tumbledown

old tenements and other architectural eyesores, so that his capital has a realistically nightmare quality of *déjà-vu* that precludes its ever appearing truly Utopian. As for the city's imported inhabitants who have been mysteriously selected, invited and brought here to live as in a Nazi concentration-camp from which there can be no escape except in death, they all wear, like some members of our Hippy communities, the cast-off finery of the past. As in *Erewhon*, the Dream Kingdom's ruler "cherishes a profound aversion for all forms of progress." In real life, Kubin expressed moreover an analogous distaste for novelty: nearly all his original drawings are executed on old or antique papers that he took great trouble to collect in second-hand bookstores and from dealers in waste paper.

Kubin's Dream Kingdom gradually turns out to be, as we slowly explore it with his hero, an even more ambivalent Utopia than Butler's *Erewhon*, in fact as disturbing a Dystopia as Kafka's world or as the mythical primitive empire ruled by Rider Haggard's She-who-must-be-obeyed. Kubin's hero finally escapes from Patera's dictatorial realm only after an apocalyptic collapse of the whole Dream Kingdom; its disintegration culminates in a supernatural scene when Patera dies or merely disappears in an underground temple lit only by a strange naphta altar-flame, indeed in circumstances very similar to those in which Rider Haggard's She is released from the curse of her eternal youth.

As one reads *The Other Side*, one becomes increasingly aware of the disturbed and disturbing quality of Kubin's imagination and style of writing. Like Kafka, he writes a matter-of-fact style, but with the visionary urgency of a prophet of doom. On the one hand, he presents us a nightmare version of the real-life stagnancy and decay of the institutions of the crumbling and creaking Austro-Hungarian Empire, threatened at its core both by Socialism and by Pan-Germanism, and on all its marches by the national liberation movements of its many subject peoples. On the other, Kubin

already seems to visualize, as if in a clairvoyant's crystal ball, the macabre parodies of a kind of old-world Germanic Disneyland that some half-mad Kommandants of Nazi extermination-camps later forced their victims to build hurriedly as a facade to deceive squeamish higher-echelon visitors. But Kafka's allegorical visions are more mild and masochistic, those of a resigned victim, whereas Kubin's often suggest a streak of mischievous and infantile sadism; in his descriptions of the strife, the orgies and the catastrophes that finally exterminate almost all the inhabitants of the Dream Kingdom, Kubin vies with Lautréamont's rhapsodic *Chants de Maldoror* rather than with any of Kafka's allegorical fiction. Patera's Dream Kingdom thus falls apart in a welter of absurd but apocalyptic disasters that all appear to have been directly or indirectly caused by his own double and rival, a mysterious American who has appeared in the Dream Kingdom's capital to spread "progressive" or subversive ideas in order to save its citizens from themselves or from Patera's dictatorship; but the American then destroys them while seeking to save them, much as America may now be corrupting and destroying the people of Vietnam in order to save it from Communism.

Reprinted several times in Germany since its first publication some fifty years ago, *The Other Side* is the only full-length novel of an Austrian painter and writer who also deserves to be better known in America as one of the more prominent artists of the famous Munich *Blue Rider* group. Though Kubin's fantastic or satirical drawings never influenced Kandinsky or Jawlensky, one can detect his characteristic fusion of humor and horror in some of the earlier and more fantastically caricatural work of Klee and of Feininger. As a writer, Kubin remains moreover, even more strikingly than Robert Walser, the prototype of a whole school of later German allegorical writers among whom one can now include, in addition to Kafka and Elias Canetti, such varied types as Fritz von Herzmanovsky-Orlando, Hermann Kasack, Ernst Jünger, Werner Kraus, Ernst

These pen and ink drawings on antique paper are in the collection of Edouard Roditi, Paris, France.

MARS by Alfred Kubin



IN THE TEMPLE OF THE CAESARS
by Alfred Kubin



Kreuder, Joachim Karsch and, beyond the linguistic frontiers of German literature, the Polish writers Bruno Schulz and Witold Gombrowicz.

The allegorical but at the same time satirical dream-worlds of most of these writers have in common a realistically visual quality that distinguishes them from the more lyrical and verbal dream-worlds of their French contemporaries, such as Alain Fournier and André Breton, who rely much more on poetically suggestive diction than on exact description. But this quality of visual description is also in keeping with their greater involvement in art as an alternative form of self-expression. Both Kubin and Herzmanovsky-Orlando illustrated their own writings, Kafka was no mean draftsman, Joachim Karsch was primarily a sculptor and draftsman who turned to writing fairly late in life, when he found himself almost banned from exhibiting as an artist under the Nazi regime, and Bruno Schulz earned his livelihood as an art-teacher in a Polish school and enjoyed, for his own fantastic drawings, the patronage of several local collectors.

Among French authors of dream world allegories, only Giorgio de Chirico, in his extraordinary poetic novel *Hebdomeros*, has displayed this haunting ability to communicate his fantasies in such strikingly visual terms. But Chirico, besides being an Italian painter who had spent his childhood in Greece, also happens to have studied art in Munich, where he was influenced by the very literary painting of Gysis, a Greek artist whose classes Kubin had also frequented, and also of Franz von Stuck, whose classes Klee and Kandinsky had both attended. In addition, both Kubin and Chirico have admitted their debt to a third German Symbolist painter, the much neglected Dresden master Max Klinger, to whom André Breton once referred, in his essay on "magic" art, as an "unknown artist."

Why should this kind of art and literature have been produced almost exclusively in an area that extends from Zurich, the home of Robert Walser,

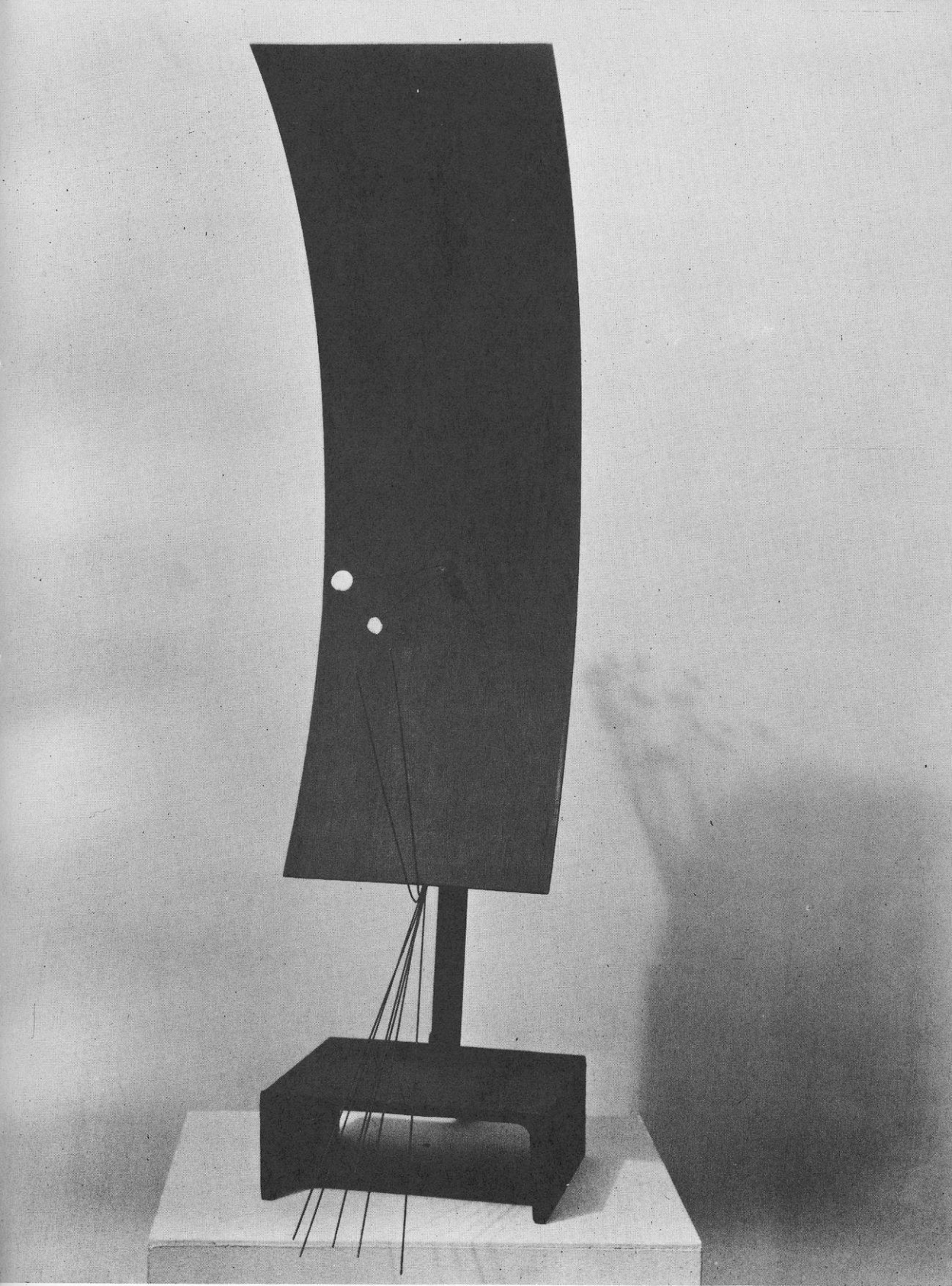
through Munich, Prague, Dresden and Silesia, the home of Joachim Karsch, to Drohobycz in Galicia, where Bruno Schulz lived and died, then to Warsaw, where Gombrowicz lived before he went into exile? Why should this literature and art have so profoundly influenced Elias Canetti, a Bulgarian-born Sefardic Jew who was educated in Vienna, and Giorgio de Chirico, an Italian from Greece who spent his formative years as an artist in Munich? And what distinguishes this art and literature, whether Swiss, South-German, Austro-Hungarian or Polish, from the contemporary Expressionist art and literature of Northern Germany, from the *Menschheitsdämmerung* poetry of Jacob van Hoddiss, Alfred Lichtenstein and Gottfried Benn, for instance, or from the much later fiction of Günther Grass?

All this allegorical or fantastic art and literature that concerns us here distinguishes itself by its profoundly nostalgic attachment to the doomed culture of the past, by its feeling of alienation in a disturbing present, and by a kind of *horror vacui* that projects onto the future its apocalyptic fears of decay and destruction. Throughout this area of Central Europe, from Zurich to Warsaw, sensitive writers and artists, more than elsewhere, were distressingly aware, during the first few decades of our century, of the ephemeral quality of the social and political institutions of the bourgeois world in which they lived, and were also less prone to found any faith on the promises of progressive ideologies. As children of urban middle-class parents, most of them lacked the self-assurance of the aristocracy, distrusted or feared the urban and rural lower classes, and lived in an alienated isolation that inspired them with ambivalent emotions, so that they tended both to cling to it and secretly to hope for its destruction. Workers and peasants seemed to exert upon them a frightening fascination that both attracted and repelled them, so that they describe them in terms fit for Caliban, but also with a secret admiration for their self-assurance and brute strength as representatives of a more natural way or life. In Robert Musil's first novel, this ambivalent attitude is admirably

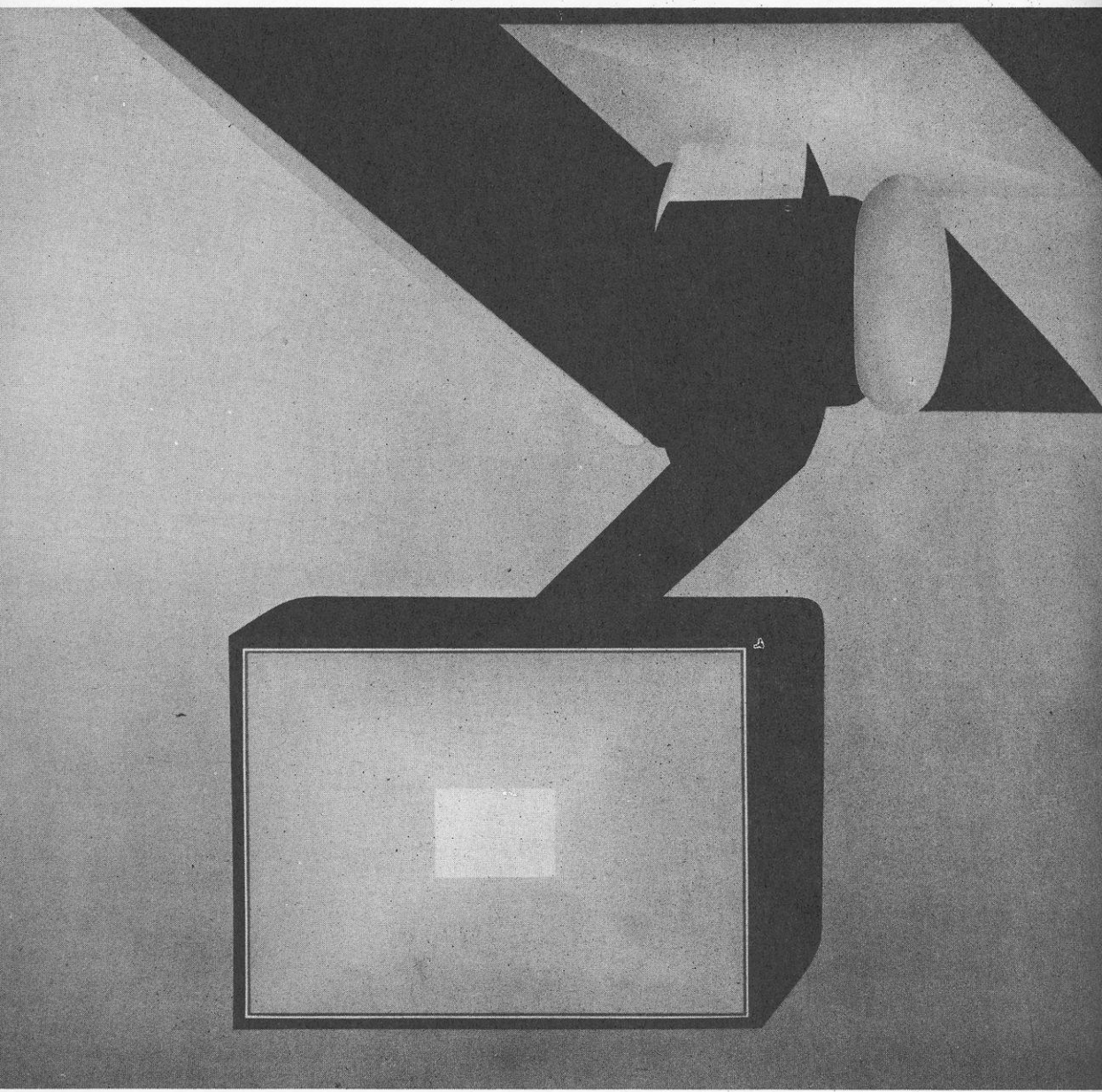
illustrated by the emotions that Bozena, a Slavic peasant girl who is a near-prostitute, inspires in the aristocratic schoolboy Thorless. In the writings of Kubin, we sense that the Dream Kingdom capital's disreputable French Quarter exerts on his hero the same kind of attraction. His wife is a pleasant middle-class companion with whom he sometimes argues, but with whom he appears to have no sexual or emotional relations at all; when Kubin mentions sex in his writings, it is always described as something disreputable, obscene or ominously destructive, in fact as a dire threat to the established order and to the permanence of the beloved past. In his Dream Kingdom, the population "was being constantly replenished by the newly invited. Additions through birth hardly counted. Children were not especially liked. The general attitude was that they by no means compensated for the nuisance they caused. The prevailing view was that they simply cost money, often until they were fully grown, that they seldom and unwillingly repaid any of it and almost never showed gratitude to their parents for the gift of life. On the contrary, they often seemed to think that this gift had been forced upon them . . ."

In the dream-worlds of Kubin and these

other German or Polish allegorical writers, copulation and death thus appear to be more important and frequent than birth. In this respect, the Expressionist poets and novelists of Northern Germany were more vitalistic. Even in their visions of the end of the world, as described, for instance, in the famous *Weltende* lyric of Jacob van Hoddis, we can easily detect an entirely different note of despair, in fact the disillusionment of the frustrated progressive or Socialist. Among the allegorical writers of whom Kubin remains a brilliant prototype, only Gombrowicz and Herzmanovsky-Orlando, as happy aristocrats, seem to rejoice in the permanence of a hypostatized past that cannot be threatened by decay and destruction. Their works thus contrast strangely with those of Kafka and Bruno Schulz, Jews who were obsessed with guilt about their emancipation and with a fear that the two worlds they knew were doomed, the Jewish world of their fathers as well as the Gentile world into which they themselves had escaped; but also with the equally nightmarish works of such Gentile middle-class writers as Kubin, who felt rejected both by the aristocracy whose standards their parents aped, and by the people from which their middle-class parents had presumably emerged but with which they could no longer identify themselves.



PUSS IN BOATS by Jean Tinguely
Motorized Construction Of Painted Steel And Wire
Courtesy: Museum Of Modern Art, New York
Philip C. Johnson Fund



APRIL 1967 by Frank Roth
Courtesy: Martha Jackson Gallery, New York

A View from the Pit

By Jerry McNeely

Lehman Engel, *The American Musical Theater: A Consideration*.
A CBS Legacy Collection Book,
distributed by The Macmillan Company,
1967. \$12.50.

It was one of New York's top play agents, long experienced in handling musicals, who recently told me: "I wouldn't handle another score team if a young Richard Rodgers walked in with Hammerstein on one arm and Hart on the other! You can't cough in Times Square without giving your virus to 36 composers and 28 lyricists — and all of them talented! What the theater needs is book-writers!"

Lehman Engel would probably agree. To him, it is a tragedy that so much of the theater's fine music now survives only in isolation: that shoddy playwriting has rendered the shows from which the music came all but unproduceable. For all his impeccable credentials as a musician, Mr. Engel is, first, a man of the theater; and his goal has always been the thriving of musical theater, rather than just music.

The work of Herbert, Friml and Romberg still has the power to charm us, but the librettos of their shows are silly, soporific and, for the most part, totally unendurable. To a lesser, but increasing degree, so are the books for shows by Gershwin, Kern, Porter and the Rodgers-Hart team. In the case of Porter, only *Kiss Me, Kate* maintains its vitality today. *Porgy and Bess* is the intact survivor of Gershwin's career in the

theater. For Kern, there is only *Show Boat* — and even its book has become a painful thing to watch. If it were not for *Pal Joey*, the Rodgers and Hart collaboration would be known only by its glorious ASCAP catalogue.

Mr. Engel is now in his fourth decade as a conductor of Broadway musicals; and he knows, as do most theater people, that the importance of the book cannot be overrated. There should be no mystery to the fact that *West Side Story* was a vastly more successful work than Mr. Bernstein's musically superior *Candide*. Some of Richard Rodgers' very best writing is to be heard in his collaboration with Stephen Sondheim on *Do I Hear A Waltz?*; but the show appears firmly assigned to oblivion. There are many who find *Camelot* at least the musical equal of *My Fair Lady*, and many who feel the best Lerner and Loewe work is to be found in neither of these, but rather in the relatively unsuccessful *Paint Your Wagon*. In each case, the answer is primarily the book.

A prime purpose of Mr. Engel's *The American Musical Theater* is to attack this problem. He proposes to "examine, to attempt certain conclusions about, and to help impart what I believe exists by now as a body of basic principles in the art of musical theater." Further, he implies that most musicals have

failed because authors have not observed these principles: "... out of thousands of writers and composers only a very few have ever imagined for a single second that there is such a thing as a precise skill involved in the creation of a fine show."

Unhappily, this distillation of "basic principles" is the weakest part of an interesting and valuable book. The problem is one of obviousness. For example, is it really an important insight to conclude that the librettist of a good musical will introduce his principal characters early, indicate some difference which separates them and set up a need in the audience to see the resolution of their difference? There is nothing peculiar to the musical form here, except perhaps that it must be accomplished more quickly and concisely. (Any playwright who does not understand that a musical book must be more concise than a straight play should never expect to see his name on a cast album in the first place.)

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A section on "Scene and Act Endings" produces little more than the suggestion that each dramatic unit will come to some sort of climax which also propels the story forward — hardly a startling dramaturgical principle. "The Place of the Lyric" summarizes that the lyric, because of its "unreality," should expand the essence of the dramatic moment. Can it really be true that lyricists exist who do not know this?

Mr. Engel is sensitive to this obviousness; and he anticipates criticism by insisting that hundreds of inept manuscripts, passing across his desk, have proved that the "principles" are not obvious at all. Actually, all it proves is that a lot of people are writing musicals who don't know their clefs from their coat-hangers; and I doubt that a listing of "principles" is going to thrust them much closer to professionalism, let alone art. (I also wonder about the many dreadful shows which have followed the principles — copying successful predecessors to the point of structural plagiarism.)

In the end, perhaps the quarrel is with the assumption that the only proper route

for the new writer is to study the successes of the past, as Mr. Engel apparently believes. The basic grain for his distillation of principles is a list of eleven shows: *Pal Joey*; *Oklahoma!*; *Carousel*; *Annie Get Your Gun*; *Brigadoon*; *Kiss Me, Kate*; *South Pacific*; *Guys and Dolls*; *The King and I*; *My Fair Lady*; and *West Side Story*. A footnote explains that he has not included *Fiddler on the Roof* because its newness prevents proper perspective. One wonders if a subconscious motive might be that it does not fit the neat mold of the others, all of which (with the qualified exception of *The King and I*) are basically romantic love stories.

Joseph Stein, the librettist of *Fiddler on the Roof*, was reluctant to discuss that project while it was being written. He has said, "When someone asked what I was working on, how could I tell them it was a musical about some old Russian Jews?" According to Brooks Atkinson, the best plays are written by authors who buffet their way into the theater and make it over to suit themselves. One wonders what would have been the result if the authors of *Fiddler* had studied the list too carefully, or if the wondrously vital shock-waves emitted by *Hair* would have still reverberated if its authors had told each other: "Let's look at eleven great shows to see how it's done."

Enough of this. A manual of principles charting the way to better librettos (and, therefore, better musicals) — this book is not. It is many other pleasant things.

First, it is a handsome and imaginatively mounted volume with an interesting art layout and an abundance of fascinating photographs. There is a concise and readable summary of the American musical's history, a bibliography of published librettos and vocal scores and a highly valuable discography which includes not only original cast albums, but "excerpt" albums of music from shows which were never recorded with original cast.

Most interestingly, there is Lehman Engel talking about the things he knows best and most authoritatively. Anyone who has ever strained to catch

lyrics over a brass section or muttered disdainfully about the "bad orchestrations" in the 46th Street Theater (all you can hear is trumpet, piccolo and drums) should be fascinated by his discussion of theater acoustics and instrumentation.

He notes the astonishing lack of acoustical concern in theatrical buildings — partly because most of the New York houses are quite old, but also because of uninformed architectural planning. Prior to leaving on the pre-Broadway tour of *Goldilocks*, Mr. Engel was asked by the producer to inspect the pit of the new Lunt-Fontanne Theater, where the production would be playing in New York. He discovered that the pit would accomodate all of ten musicians, whereas the minimum employed in any show is twenty-five. Major reconstruction was necessary in the brand new, almost completed theater before it could be used.

The problem is actually many problems: the first few rows of patrons can hear only orchestra; the rest of the main floor hears almost no orchestra at all; the balconies range between good and bad sound, high and low volume, depending upon exactly where one sits. Mr. Engel notes that experienced producers pay absolutely no attention to letters protesting bad sound balance, on the theory that there is no solution.

On the contrary, Mr. Engel proposes a most logical one. He notes that singers are all electronically amplified today; why not go the rest of the way and control all sound, including the orchestra? His notion is to put the musicians in a sound-proof pit and the conductor in a glass bubble, large enough to allow him to move, see the stage and be seen both by performers and players. The orchestra could then be "mixed" with the vocal performance, just as is done for recordings and television shows. Placement of auditorium speakers could guarantee a uniform distribution throughout the house.

Several recent shows, notably *I Do, I Do* and the Lincoln Center revival of *South Pacific*, have experimented with

putting the orchestra **behind** the singer — moving it onstage behind a cyclorama and having the conductor follow the performance via closed-circuit television. The obvious problem here is that the conductor ceases to be a conductor; and even when his singers are the rare kind who can feel and lead the pace of a performance, he is still unable to drive and inspire the proceedings onstage as good conductors can and should do. Mr. Engel's solution seems quite obviously superior.

He also gives us an illuminating chapter on the pre-Broadway tour and concludes with a most persuasive argument for its abolishment. The out-of-town tryout, in theory, permits a show's creators to have the benefit of professional criticism, audience reaction and out-of-the-spotlight time in which to revise. In truth, says Mr. Engel, the criticism is often contradictory and almost never really helpful, the audiences are no more instructive and the proximity of major tryout cities to New York means that the sought-after seclusion is a total fiction. In addition, touring means the show loses valuable days in packing and travel, logs enormous unnecessary expense and is forced at each move to struggle with new acoustics, musicians, stage crews, etc.

His advice is to stay in New York and work on the show through a series of reduced-price previews. More and more, non-musicals are now following this plan; and it seems reasonable to expect that musical shows, with their much greater size and expense, will surely find its logic soon.

Mr. Engel is understandably depressed about the state of the musical theater in recent years. He believes that the prime requisite for a lasting musical is **feeling** and that this is missing in recent successes. Rather, producers have exploited attractive stars, splashy production and mindlessly hummable tunes into box-office successes like *Hello, Dolly*, *Funny Girl* and *Mame!* He does not expect these shows to survive past their initial bonanza.

He feels that this is a transition period and that musicals of quality will begin to

emerge again. He may be correct, but I doubt that they will bear much resemblance to Mr. Engel's eleven great ones. Twenty years from now, *Hair* may be of no interest as a show, but its importance as an innovation should be substantial. After one has heard the crack of a Fender bass in a theater, he is apt to be just a little less responsive to a Robert Russell Bennett sound.

Promises are being made. As this is written in the fall of 1968 Burt Bacharach is preparing his first theatrical score. Anyone who has been delighted by the surprise of the opening 10-bar phrase in "Alfie" or the refreshing exploration of jazz-waltz rhythms in "What the World Needs Now" should have high hopes. Bernstein is back with his best lyricist, Sondheim, and preparing a show based on a play by Brecht. Bock and Harnick are dealing with war and the military in a piece about Lord Nelson.

None of these may work out, but their announcements mean there are those in the theater who believe musicals can still surpass the level of Mike Stewart and Jerry Herman. If they are right, they are almost certain to have Mr. Engel leading the cheers — even if the shows are far afield from the ones he praises so strongly in his book. For the musical theater is his passion, and he obviously loves it in a mature enough way that its further development can only delight him.

It's nice, for a change, reading about someone who loves something.

POETRY



Photograph by Sharon Ellis — Courtesy: Department of Art, University of Texas

BUCKMINSTER FULLER, one of America's most creative thinkers,
is the celebrated inventor of the Fuller Dome
and DYMATION auto and home.

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An Untitled Epic Poem On The History Of Industrialization'

man unconcernedly sorting mail on an express train
with unuttered faith that
the engineer is competent,
that the switchmen are not asleep,
that the track walkers are doing their job,
that the technologists
who designed the train and the rails
knew their stuff,
that thousands of others
whom he may never know by face or name
are collecting tariffs,
paying for repairs,
and so handling assets
that he will be paid a week from today
and again the week after that,
and that all the time
his family is safe and in well being
without his personal protection
constitutes a whole new era of evolution —
the first really "new"
since the beginning of the spoken word.
In fact, out of the **understanding**
innate in the spoken word
was Industrialization wrought
after milleniums
of seemingly whitherless spade work.

. . . .

Paradoxically the poet's preoccupation
with describing the indescribable
and his disdainful neglect of the physical
for what it precisely is worth
allows him to fall
into the psychological nature-trap
tended by those who exploit
such illusory preoccupations
with pragmatic glee.

That is they exploit him by dealing in fish
which only the poets can catch
with their creative imagination nets.
The pragmatists have only
to stand by with their baskets
infra-visible
to the ultra ranging spectrum of the poets,
as the latter throw the caught fish aside,
shimmering, flapping, and vital,
disdaining for the moment of even thinking
of consuming such beauty, —
and only intent on casting again.

But between fishing trips
our poet must buy
those fish again from the merchants,
smoked, grilled, or hashed.

Thus are the poets kept poor,
poor in eats, while rich in potential.

. . . .

Both the concepts
of relativity and random element
were increment thoughts
payable to science in the 20th century
for science's original devout investment
and faithful interest reinvestments
in Industrialization.

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Rich indeed is that cosmic increment
for it certifies not only
infinite mystery and eventual perfection;
but also eternal room for fun;
essential tolerance for error;
importance of romance,
beauty, and nonsense,
as well as of
nobility in righteous perseverance
and in stern sincerity
at appropriate moments.

. . . .

And by Industrialization
and its mechanical extension
you and I are both
mutually and at the same time
New York,
Grand Coulee Dam,
The T.V.A., the Washington,
The New York Central,
And the Santa Fe,
Route U.S.A. 1, from Maine to Key West,
the stratosphere liners, —
they are our mutual
all-age, all-sex,
all-race
flesh and blood extensions.
They are us

we are they
and those who destroy them
or falsely employ them
are our enemies
and the enemy of our God
of the quick, —
they who destroy
are the proponents
of friction, freezing,
inertia and death

.

And with Industrialization a uniformly beautiful
world race emerges
as does the fine chiseled head
from the rough marble block
certifying the god-like untrammelled beauty
of a perfect human process
implicit in the dynamic designing
genius of the mind
which had only been perverted
into temporary grotesqueness
by limited static environment.

And the uniformity relates happily
only to the mechanical processes
while individual identity of the life facet
become infinitely distinctive, —
that is, of course,
individual in the vital life sense
not in the limited individualism
of "possessed special things," —
these latter are temporary, local deformations
of the mechanical extension patterning.

.

Professors well aware of the facts
will say to their lovely daughters
"What a beautiful sunset my dear,"
and lecturers at planetariums
which later were devised
to clarify
man's celestial thinking,
will terminate dramatically
faultless demonstrations of star intercoursing
by saying ingenuously to the audience
"But now the stars
are setting in the West
and the sun is rising
in the East,"
as they snap on the lights.
"So good-bye, and thank you all."
When man finally gets around
to throwing in the switch
of his brain-mind circuit
to provoke his thinking dynamically
and objectively
of the world under him revolving
so that his western horizon

is rising to **obscure** the sun in the evening
and rolling down
to **reveal** the sun in the morning
then may we expect him to change
from man as a certified defeat
to man as a fortunate process
truly "quick" instead of "dead"
in operative concept.

. . . .

In a cogent sense
Industrialization is a religion,
and the first ever to promise
self perpetuation.

Industrialization considered as a religion
is also unique in that it has no priests, —
that is if we accept
the self-appointed Publicitors
who are willing; nay eager, — nay nuts
to be druid Merlins, Richelieux, Rasputins,
Savonarolas, or Wolseys
to anybody with enough money, —
their only criteria of authority.

But the Publicitors cannot be said
to sufficiently comprehend Industrialization
to be considered its representative priests.
They are more in the nature of being
its furtively meddling buffoons.
They make it a merry religion
when they get fooled; —
as they always do.

Industrialization is the first religion
that is realistically universal.

LOUIS GINSBERG is a poet, teacher and father of Allen.
He authored *The Attic of the Past*.

Chain Reactions

Centuries of trust,
Caching martyr and hero,
Might leap into gigantic cloud of dust
And mushroom to zero.
In a twinkling might be gone
The Empire State, the Parthenon;
And in a swift, apocalyptic stroke,
Chaos, appareled in smoke,
Might convoy off to some unfathomable bourne
And none to mourn:
Cities whose glittering towers on high
Parley with sky;
Symphonies, spring-rain, and twilight-chime,
And poems badgering Time.
Now while the dreams of men with sorrow
Watch cyclotrons and dials shrink Tomorrow;
While you are holding hands in the movies,
A formula's edge

Will swiftly wedge
Peoples and nations far apart.
While you listen to symphonies,
Nuclear fissions of bigotry dart.
While you fumble upon the couch.
From kiss to kiss,
Leap chain reactions of prejudice.
While you have sodas on Market and Main,
Look out for the hidden nuclear chain;
Wait not for the ace,
In poker games —
Fissions race!
Chain reactions
Are splitting in factions
Race and color and creed and caste!
Stop the evasion:
Catastrophe crouches
Inside an equation!

GIGI LORD is a New York poet whose book, *Toppling After Itself* was published by South and West.

Ride

We ride deaf and dumb and blind
to the top, push buttoning the sliding
streamline packed body to body
nostril deaf in elevator
hulk . . .

Slide the climb up down up down
a peek a boo at the top and a solid
little at the bottom . . .

RICHARD UHLICH is a New York poet.

City Lights

I guess they're still there
at the corner of the street
under the blue hex of the oil-stain:

the flint-eyed hag in greasy overalls
scraping the glue from the posters

her blond son on his crimson bicycle
chasing a sky of soiled handkerchiefs —

and her beautiful lonely daughter-in-law
the blind ash-girl with the saintly smile
smearing her face with oranges.

DICK ALLEN teaches in the English Department at the University of Bridgeport. His articles and poetry have appeared in *Writer's Digest*, *New York Herald Tribune*, *Prairie Schooner*, *Manhattan Review* and many others.

Utopia

Because we dream of it, because
it looks as bare
 and unpeopled
as an architect's drawing;
 because
it is matted, and glassed, and there
is nothing to erase,
as we place it before us
it shimmers. It makes
gross
 all possible gardens.

JOHN INGSWERSEN'S poetry has appeared in *POETRY* (Chicago).
He is living on Long Beach, Vancouver Island where he
makes prints and poetry for a forthcoming book
How to Build a Thirty-mile Toy.

After Reading The Duino Elegies

Never trust an alphabet book.
I've lately, and painfully, learned
to be leery of metaphor.
But here's a poet
who builds metaphor out of metaphor by metaphor,
sort of an inverted pyramid rising into clouds, clouds.
Even his simile generates like Yggdrasil:
A mammal's flight is like a crack in a cup, Rilke says;
as soon as he's caught us in this trope
he releases "the bat rending the evening's porcelain."
Just the opposite of Pound,
who drives a thyrsus IN the earth
and the damn thing puts roots down.

So there aren't any rules.
Any poet worth his shavings
is whittling out a treeful of rules.
Don't tell me about style, don't tell me equitone.
I'll carve jackpine today and maybe a palm tomorrow,
and on May-day coil the great ash with ivy.
I learned it from F. Ll. Wright
and now I learn it again:
Do anything.
Do it well.

*

Never trust a poet's cosmology.
Ahh, this dirty, disordered shop where poets beg, borrow,
steal images, pawn themselves for images,
and then expect us to kneel before the three balls.

John's Rule:
The better the poet, the more absurd his metaphysics.

Pound: Social Credit piled on Olympus
Blake: Anthropomorphoid Cosmological Buggery
Yeats: Theosophy, and Alchemy too-long cooled
Shaks: Bourjay Wisdom sprawled before the Queen
Rilke: Rubbing the Kitten of Death the wrong way

Lesser poets are better based.
Stevens asks us only to believe that the world perceived
is a poem.

✱

Never trust a translator.
Ever see a dead bat?

That bat wasn't transformed; it was translated.

Though I was pole-axed by 20 or 30 images,
I gave the Duino Elegies once-over-lightly.
I make this shameful confession only because
the sin wasn't mine.
And I don't fault Rilke for keeping the hothouse humidity
and temperature up;
but he needs a transformer, one who can say,
There, that rose of sharp lips.
He does not need a worshipper of ping, pulsing in mist.
We've had enough of these dons who would never offend
Victoria or the vicar.

Strolling above these gardens, Rilke says, "Pearls of pain." ...
Before my eyes, a great poet becomes a miniature schnauzer
too-harshly tickled by the countess.
"Pearls of pain —" tell it to a dislocated shoulder.
A basket case gathers the whole necklace of pain,
the poet has only to string them.
My commodious lady points out that a pearl
is an irritant wrapt in slow and iridescent spheres —
so I beg pardon of poetry and of Rilke.
But I take a square position on pain: it hurts.

You tell me to learn German, and I should.
On the other hand, damn if I'll learn a tongue
where the butt-loving chair is "stuhl,"
as if a Prussian father had left his spiked helmet there.
Which brings us to —

✱

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Never trust a Teuton about pain.
(I'm out of the Frisian Islands, so I know.)
Look, artifacts from the northern forest:
dagger hilts scabbed with rubies, garnets, stabbed stags;
the Venus of Willendorf, all ass and no forehead;
and those racked XXrists — nails, nails and blood,
with shoulders, neck, jaw, eyes wrenched in agony
and thorn-wounds plain as mouths.
And giant schnauzers of the long muzzle tore into boars.

Awhile back, I tried a little Anglo-Saxon —
sweet sounds, and yet — under the oak, leaf-mold lies deep.
This is the daughter's song —
how chants the Teutonic father?
What rites are these, what rejuvenations
under the black-barked trees?

WARREN SLESINGER received his M.F.A. from the Iowa Writers' Workshop and teaches creative writing at the University of Wisconsin - Milwaukee.

Winter's White Migraines

The small flowers of the frost are spread in a breath
across all you do not care to know.

A room with a view is an open mind.

You write of white, withered roses less gently kept
than those that prick, festive and fierce
in the greenhouse of the heart.

Some sentiments
are better left untended lest they thrive.

It is winter where you walk, a quiet inward landscape
with still streets and chimneys. The chimes
are quiet on a Sunday when even the steeples sleep,
and there is no one on the solid pond.

Our own composure is most dear.

No one is with you when you sit. The tablecloth
is set with silver and cold candles
in a roomful of polished clocks and locked closets.
The bureau of imposing mahogany is empty,
and the mirror's pale interior is shallow
and clouded.

The eyes describe the symptoms of the soul.

Field With Figurations

Whatever lies panting on its side
is spent. Flyblown, the meated breath is vile
and deadly in the snuffled dust. Silken
and lined with white, it has never been so prim
or flower-like, the hairclip of an ear
which weeps its liquid sweetness to the air.
Quivering, the honey-sipping butterflies
above the homely meadow specked with daisies
now bobble in the quiet, fan and dry.
Their eyes blink like lights in the heat of the day
from the junkyard on the hill. Crusted and eased,
a new effluvium like mucous dries.

The wind is warm. It winnows through a thousand
seeded heads too feverish to thresh them.
It trims the tapered stems which lean and creak,
and fans to tatters in the sheathes. A slick
light slides beneath the shaven sides, the fringe
of weightless motion like a silver-coated tongue
which salivates among the scant and bladed
grasses. The flies infect and pucker. Blackbodied,
sacked and pinched, they deposit and abuse,
and each egg in its fester larvates and chews
without a sound. The sun is sightless like
a whitened eye, a lidless bulge and tick.

On its side and stricken, the fermenting field
is sweet and toxic in the sun. The milled
insects spin through the colorless noon, land
and pitch, rasp and grip on a frazzled end.
The gutted cache is spilled, and the hillside grins.
Amid the beetle legs and the daubed abdomens
which pick at the coarse-grained close stalks
and freckle them. The littered sod goes soft
with a strained and pallid wine. The smart and reek
of sodden boards and clotted roots which smoke
among the corroded pots now fold and seethe,
beamless and larded, to strangle in the breeze.

Portrait of the Little Saint

Louis, Louis, in your corduroy suit,
I want the word for the pure color,
for the cement stoop's morning change by sunlight
into mosaic, for the sand blowing by the window.

The floor turns on its parquet axis, but it does not move.
I will not to explain, and the feel of salt
on my tongue, and the taste of salt.
These are yours, who takes with hesitation; these are all,
and the tracing of them, through the raining down of sound on me —
the clicking of the furnace, the sleepers turning —
these are yours, and these things drive me
To watch them for more reasons than I want to tell you.

I think they must be gotten because they are,
and because it has been forgotten and left friendless —
this wooden table that touches my arm and is strong.

Sickness is not bad luck; it has a reason,
sometimes love, sometimes demons.
Neither will show, only the smile from the resulting weakness.

The rosebud on the teapot is demanding my attention
Perhaps demanding yours, from another direction.
Treating the symptom is not treating the disease,
but I look at the rosebud anyway. It appears to be growing,
and I owe it attention which must be given
before it changes again. We cannot stay forever,
not even for a demon or a lover.

DOUGLAS BLAZEK, one of the leading young poets, is now living in San Francisco, where he issues *OPEN SKULL* publications.

Song Of Change

The newspaper
was flopping its broken wing
limping towards the curb.

On its skin
was painted directions telling
how to energize a female
and not split her down the middle
when love makes its break
like a noiseless karate chop of rain.

Signals from space
surge through the universe
showering our planet
splitting our ears with riddles.

Courtyards sag like boxcars
cultivating a special breed of dust
in which only nostalgia grows.

The world
is throwing up its hands
listening to quasars, trying to hear
what it could not hear within itself.
Listening to the technology of hate
calculated into its system by forces
which plan the birth of new galaxies,
control the breeding of cells and chart
the universe beyond molecules.

Newspapers have been sidelined.
Rain confectionates the curb.
Old men grow in the ground.

The world missed the point. Again.

NOTES AND DISCUSSION



THE REACHER



A Film by Jackson Tiffany



RELATIVITY A Film by Ed Emshwiller

Report from Edinburgh

By James Rosenberg

The 1968 Edinburgh Festival was the 22nd one, and a cynical and jaded observer might be impelled to remark that, having attained its majority, the Festival was beginning to show its age — i.e., not all of the performances, particularly in the field of theatre and film, were of surpassing brilliance; not all the performers were of genuine international preeminence; and the general tone of things was far less experimental and *avant-garde* than the words "International Festival" might lead one to expect.

Yet — granted the truth of all the foregoing — he would have to be an extremely jaded spectator, indeed, who was blind to the still remarkable and virtually unique qualities of this particular Festival.

First and foremost is the fact that, alone of all the major European festivals, Edinburgh does not confine itself to one branch of the arts — film, say, or theatre, or music, or opera. Crammed into three rather short weeks, during which time something is going on somewhere, somehow, at almost every hour of the day and night, are festivals of symphonic music, opera, theatre, painting, film, dance, architecture — not to mention the ubiquitous "Fringe," the jazzy, rather raunchy, student-organized paradigm of the big Festival, which is devoted largely to Off-Broadway and cabaret-type theatre, but also includes such

oddities as talks on flower arrangement, exhibitions of flamenco dancing, and a guitar recital by a man named J. Shufflebotham. If this is not "God's plenty," what is?

Perhaps even more important, though, is the city of Edinburgh itself, which, since it lies somewhat north of the main migration routes of the American tourist, is relatively little known as one of the most magnificent cities in Europe, both geographically and architecturally. What other city, after all, can boast of an ancient castle perched high atop a sheer crag at one end of its main street, with a deep gorge planted into public gardens running parallel to that street, and on the other side, beneath the castle, the rabbit-warren of the old medieval city, much of it very little changed for five centuries? And where else can one find such dramatic weather, ranging from the brooding, Macbethian mists which sometimes shroud the castle like a ghostly vision floating above Princess Street, to the scudding white clouds in the bright blue Scottish sky which cast constantly shifting lights and shades over the dark-brown, time-stained buildings with their sort of Scottish Gothic architecture — or perhaps, in the case of the weird, spiky pagoda of the Sir Walter Scott Memorial — a better term might be something like "Northern Goblin."

As far as the artistic side of the Festival is concerned, the most notable feature was undoubtedly the appearance of Jerzy Grotowski's Laboratory Theatre — a real feather in the cap of Edinburgh, which managed to capture this most "in" and "with it" of modern theatre figures where other, glossier festivals on the Continent had failed; and I suppose I should open my report of things seen and done in Edinburgh with the melancholy statement that, having crossed the Atlantic in the primary hopes of seeing the Grotowski theatre, I wound up unable to beg, buy, borrow, or steal a ticket through any channels, official or otherwise — my only consolation being that I was not alone in this dismal condition, since Grotowski insisted on performing in a hall seating only 80 persons and gave only 8 performances (opening night was cancelled when two props failed to arrive), which meant that exactly 640 of the fortunate, out of the 100,000-odd visitors to the Festival, were able to see his company in action. From Edinburgh, he went to Mexico, did a brief stint there, was then denied admittance to the U.S., and is at this moment back in London, where a group of his admirers, headed by Peter Brook, are trying — so far unsuccessfully — to find a theatre or hall where his troupe can perform before their eventual return to Poland. For me, Grotowski came to Edinburgh as a legend and departed as a myth — a myth compounded of reports, eyewitness accounts, whispers, rumors, etc., and running the gamut from the almost catatonic adulation of some students to the rather cool, slightly putting-down attitude of some of the reviewers and university dons ("All very interesting, no doubt, but not quite our line of country, what?"). One thing certainty seems clear: whether or not Grotowski is, as some of his worshipful followers seem to feel, a combination of Artaud, Brecht, Craig, Stanislavsky, Aristotle, and Jesus Christ (in that order of importance), his is certainly one of the most important theatres in the world today, one that we are all obliged to learn as much about as we can.

If missing Grotowski was the major

disappointment of the Festival, seeing Theatre '69's *Hamlet* and *When We Dead Awaken* ran it a nip and tuck second. *Hamlet*, starring the popular British film actor, Tom Courtenay, and offered as the rebirth of a group, headed by Caspar Wrede and Michael Elliott, which had originally been Theatre '58 and had enjoyed one season of moderate success in Hammersmith, was the most publicized event of the Festival by far, and opened to nearly-unanimous panning by the critics. By and large, I took this as a good sign and went, on the third night, with considerable hopes, expecting at worst a sort of scandalous mess — say, like Joe Papp's *Hamlet* or John Hancock's *Midsummer Night's Dream* — in which one could at least find a few moments of perverse and wrong-headed cleverness that, if nothing else, would provide food for argument. I found, however, that for once I was in complete accord with the majority of the critics, this *Hamlet* being not so much a mess as a flat and utter bore, neither eccentric enough to arouse one's critical antagonism nor professionally competent enough to be worthy of one's sustained attention. The acting, for the most part, was of a wooden amateurishness one rarely encounters outside of high-school class plays, leading me to suspect that the director sought to impose a "style" on his production (more sins have been committed in the theatre in the name of "style" than have been committed elsewhere in the name of God). Not unpredictably, Courtenay came in for the major savaging from the critics, nearly all of whom found him woefully inadequate — and I must say that his emotionally colorless, thin, rather whiny performance suggested to me that, like many successful young film actors, he has made a reputation out of playing minor variations of himself, and that he is lost once he ventures beyond those rather shallow waters. But, weak though Courtenay undoubtedly is, the fact remains that this production would still be a disaster even if he were twice as good; the real villain of the evening is not the Prince, but the unseen Director, whose persistent failure to make any dramatic points, to enliven any moments, to bring any spark of life into the unrelieved greyness all about would long ago, in any world except

the theatre, have proclaimed him as totally unqualified to practice his profession. (As a matter of fact, Mr. Wrede and Mr. Elliott have just received a sizable grant from the Arts Council and are moving their Theatre '69 (one assumes they mean 1869) to Manchester, where they propose to preside over a rebirth of British theatre.)

Consider, for example, just one element of the production: the stage, a huge Elizabethan platform, bare, black and white, with subterranean passageways at each side, allowing for some interesting exits and entrances. Of course, it is a little hard to say why a slightly raised platform has been stuck on the end of the thrust stage itself, thereby destroying most of the sight-lines of most of the people seated at stage level, but at least the clean, bare stage picture before the house lights dim leads one to anticipate an evening of aesthetic austerity, à la Jean Vilar, perhaps, or Peter Brook's bare, stripped-down *Lear*.

The play begins; Horatio and the guards appear on the battlements and proceed to enact the opening scene with such fumbling ineptitude that you jot a note on your program to the effect that the director evidently didn't get around to working on this scene till a day or two before opening, since it is clearly far from ready. (Alas, it turns out to be one of the better scenes of the evening.) Mercifully, though, it is brief, and suddenly Hamlet appears downstage, the King and Queen far upstage, and we are at the court of Denmark. All at once we notice that there are no courtiers — a bizarre, and yet potentially brilliant stroke, for if there are no courtiers on stage, then we in the audience become members of the court — or, that is, we would become so if any attempt were made by those on stage to make some sort of contact, either physical or psychological, with those of us in the seats. But since absolutely no attempt is made, far from being turned into courtiers, we become merely turned off and slowly transformed into bored and vaguely inattentive spectators — not so much guilty as benumbed "creatures at a play."

But to give the impression that the evening had nothing whatever in it would not be altogether just. There was, for example, a notably bizarre play-within-the-play, with the strolling players, dressed in weird, ragbag remnants of Mardi Gras flummery, chanting an accompaniment to their pantomime that seemed to be somehow Aztec or Polynesian (or maybe Martian), but in any case clearly had wandered in from some other play, since it had no conceivable relevance to the one Shakespeare wrote. There was a dumpy, rather peasant-like Ophelia, completely forgettable in her opening scenes, but in her mad scene turning rather astonishingly into a doddering, eccentric old beldame — a weird premonition, whether intentional or not, of the old lady Ophelia might have been had she lived on. There was a rather amusing Osric — but this is a role a properly foppish actor can scarcely go wrong with. To counteract this, there was the only totally unfunny Polonius I have ever seen, and the worst Gravedigger in my memory.

I must confess to having been, like the suspicious Othello, a bit dashed as I left the theatre, but I still clung to some hopes for *When We Dead Awaken*. After all — I argued feebly to myself — many a brilliant actor and fine producing company had been defeated by the challenge of *Hamlet*, and it certainly argued for a rather interesting group that would choose to launch itself with two such plays. I was further heartened by a passing reference, in the director's program note, to the "film-script" qualities of Ibsen's strange, and virtually unstageable, last play, and, since there seemed no other reason for choosing such a play out of all the dramatic repertoire available, I looked forward to an evening of visual experimentation, with no doubt an extensive use of film and/or projected material (afterall, the play does call for the destruction of the leading characters by an avalanche in its final moment!). But once again, alas; the lights came up on a naturalistic exterior straight out of the era of Tom Robertson, and it quickly became clear that those veteran old stagers, Alexander Knox and Wendy Hiller, were going to perform the

play in a manner that Sir Henry Irving would not have found unseemly (only, perhaps, a little old-fashioned). Miss Hiller (can her Eliza Doolittle have been all that long ago?) constantly referred with such well-bred disgust to having earlier posed in the nude for Rubek that I found myself checking my program to be sure that her character name was "Irene" rather than "Lady Bracknell". The evening droned on, with the actors doggedly cranking out yard after yard of what sounded like some of Ibsen's most wooden prose; Ulfheim's dogs and the climactic avalanche were present as badly-taped sound-effects, with the levels all wrong; and at the beginning of the final act a shower of Christmas-tree snow was released onto the stage (and the spectators in the first few rows), drawing little gasps of admiration and a pattering of middle-aged applause. I left the theatre brushing the fake snow from my sleeve and thankful for the very real and health-giving fogs and damp of the Edinburgh streets.

Lest this whole report begin to sound like a burden of gloom and complaint, though, let me turn quickly to the two undoubted high spots of the theatre part of the Festival — bypassing a couple of other events which I opted out on, the Abbey Theatre's umpteenth revival of *The Playboy of the Western World* ("The Abbey Theatre, sir, is not what it used to be" "No, and it never was"), and the only American entrant, the Trinity Square Rep's production of a new play about Oscar Wilde, *Years of the Locust*; since, given the political situation back home, I was already feeling a bit apologetic about being an American, I decided not to compound my embarrassment by attending a play in which American actors essayed British accents before a largely British audience. Reports from the scene confirmed the wisdom of both these choices.

The Beggar's Opera was not one of the Festival events which had aroused my excitement on first looking through the brochure — the play itself never having been one of my passions, even when fairly well done — and I went to a matinee performance, partly

for lack of anything better in sight, partly out of a sense of professional duty. To say that this production possessed at least one hundred times as much wit, bounce, invention and vitality as Theatre '69's *Hamlet* is perhaps to dam with faint praise; to say that the show, judged by any standards, is sheer delight and brilliantly done, is not — and I am not impressed by those sourpuss holdouts who complained that it was insufficiently Brechtian (it is, after all, not by Brecht, but by John Gay) or that it was too glossy and commercial — as evidence for which they point directly to its subsequent successful transfer to London's West End, where it is currently doing quite well (an argument which overlooks the fact that it has been Broadway and the West End which have given long runs to such plays as *Marat/Sade* and *The Homecoming* in recent seasons). Granted, this *Beggar's Opera* is a bit more "culinary" and "entertainment"-oriented than Brecht would probably have liked, there is much in it that is more genuinely "Brechtian" than in many productions done in the Master's own name — not least of all, the marvellously cool contempt with which the members of the cast treat every aspect of the show: the lyrics, the text, the audience, even themselves. The staging, from the opening jam session on a bare stage to the final duet in the hangman's cart, is brilliantly inventive and fluid, the director — Toby Robertson — possessing the born director's gift of being able to take those moments which seem particularly barren in the reading and to turn them into little gems of stage action. (Who would have thought, for instance, that the scene in which MacHeath chats with his fellow-highwaymen might be one of the high spots of the evening?) Amazingly, the cast is made up of singing actors — not the reverse and contains one real comic jewel of a performance: Francis Cuka's Lucy Lockit. Miss Cuka is perhaps the only member of the cast, who is not properly a singer, but no matter, she gets through her songs with great aplomb, and she has the inimitable comic gift of being able to make the most ordinary line sound somehow screamingly funny. A sad, dumpy little figure, depressingly pregnant,

afflicted with an odd, marionette-like gait, and with a tousled mop of a hair-do suggesting nothing so much as one of those Raggedy Ann dolls little kids used to get for Christmas, she is both funny and touching, filling the stage with that strange aura of humanity that the theatre in its best moments is able to give us, and it not going too far, I believe to suggest that there is something positively Chekhovian about her curious blend of endearing funniness and dowdy pathos. Whatever it is, our theatre could use more of it. (As a footnote, it might be added that Prospect Productions, the company responsible for this *Opera*, is a company still in search of a permanent theatre as opposed, let us say, to Messrs. Wrede and Elliott's Theatre '69. *O tempora, O mores!*)

If I had approached *The Beggar's Opera* without enthusiasm, I went to Arturo Ui almost in dread, having spent far too many evenings already at ghastly productions of Brecht and feeling constrained thereafter to sit up till the wee hours earnestly explaining to friends that Brecht is really a very great man and not the awful bore he seems. Also, the play itself — which I had read only in the German — struck me as far from a Brechtian masterpiece, displaying all the rambling, discursive, and Teutonically didactic faults of Brecht at his worst, and I felt that I could well understand why it had languished unproduced, even by Brecht himself, for some seventeen or eighteen years. Nor was I much impressed by the billboards announcing that it was "starring Leonard Rossiter" (who the hell is Leonard Rossiter?), and, after the first few minutes of the sideshow barker's spiel in rhyming doggerel, introducing the various gangsters, I was ready to start fidgeting with my program and calculating the time to the first intermission. Suffice it to say, however, that somewhere along about the second or third scene, the thing began to move, to breathe, and finally to soar, and, propelled by the motive power of one of the most remarkable single performances in years, it wound up as (Grotowski aside,

for the moment) the theatre triumph of the Festival.

It is a triumph even stranger to look back on in retrospect than it was to experience at the time, for there is, as a matter of strict fact, everything under the sun wrong with the show, and there is scarcely a performance in it — aside from that of Rossiter, as Ui — which soars above adequacy. One or two, in fact, are downright bad, and there are whole sequences — such as the courtroom trial of Fish — which simply do not come off. Despite all this, so intense is the hysterical, galvanic comic energy of Rossiter's Ui that the whole production somehow becomes polarized around it, like filings around a magnet, and, in that mysterious way which sometimes happens in art, becomes greater than the sum of its parts. Even after the first fine careless rapture, and looking back on the performance from a distance of both time and space, I have no hesitation in ranking it among the most brilliant feats of acting I have seen, on a par, in many ways, with Olivier's Othello or Ian Holm's "Lenny" in *The Homecoming*. Like all great performances, it is difficult to capture in words, except perhaps to say that one is reminded inevitably of Chaplin in *The Great Dictator*, and to add that Rossiter suffers not a whit from such a comparison. He is, as it happens, unlike Chaplin, quite a large man, with a sort of doltish, loose-limbed physical quality which makes his occasional explosions into the most astonishing arabesques of histrionic gymnastics all the more dazzling. There are some indelible moments in the performance — Ui taking elocution lessons from an elderly Shakespearean actor; Ui proposing to Betty Dullfeet over the coffin of her murdered husband — but it is the evening-long build and structure of the thing that is most impressive, the progression of Ui from the clownish, inarticulate, Brooklynese gangster of the opening scenes to the more polished, but still hideously insecure, politician (a rich study in controlled hysteria), to the weary and rather cynical actor at the evening's end, wiping off his make-up with a kleenex

and tossing the final couplet at us with a spine-chilling mordancy that gave the whole production an impact (this was also during the Czechoslovak crisis) even greater than — albeit quite different from — what Brecht had originally intended.

As yet, no Broadway or West End producer has shown any interest whatever in transferring this curious plant to a commercial hothouse, nor are they apt to, I fear, but in the unlikely event of its finding its way to America, I can only urge it as a "must" for anyone interested in the craft of acting, the art of the theatre, or the science of life.

The Film Festival part of the Edinburgh summer was something of an oddity, featuring, and being built around, three "gala" performances of three totally commercial films: *Nobody Runs Forever*, a conventional adventure thriller starring Rod Taylor; and two films which had already been seen in the U.S., to extremely mixed notices — *Wild in the Streets* and Albert Finney's *Charlie Bubbles*. The bulk of the Festival, however, was made up of more "festival-type" material — new and unknown films by largely new and unknown directors, many with a strongly Eastern European tinge. One looked in vain for films by the big names — Antonioni, Fellini, Truffaut, Resnais, Kurosawa, Buñuel, Bergman (although there was one by the Bergman critic, Jorn Donner) — or even by some of the younger generation "old masters," Bellochio, or Skolimowski, or Lelouch. In fact, the only big name I recognized instantly in leafing through my program was Godard, and one of the films I made a point of seeing was his latest release, *Weekend* (at least, I assume it is his latest; although, since Godard has films the way rabbits have rabbits, it is always hard to keep up with him.)

To say that this was one of the major scandals of the summer would be an understatement. It was, to be sure, not quite on a par with the Ken Dewey "Happening" scandal of a few summers back — for one thing, not so many people saw it — but a good many people did feel impelled to boo and

to demonstrate their displeasure by walking out. It was hard to say whether the protesters were animated by aesthetic or political animus primarily, since, in addition to containing a number of prolonged and deliberately tedious harangues against the imperialist West generally and the U.S.A. particularly, the film has more genuinely disgusting and horrifying footage than any I personally have seen since Franju's legendary *Blood of Beasts* — to which many of its sequences are heavily indebted. Certainly you would be wise, as a prospective viewer, to skip dinner before you go (and don't plan to eat afterwards, either; this film should do more for the cause of vegetarianism than Shaw ever did!) In other words, it can hardly be described as a pleasant or enjoyable evening (to put it as mildly as possible, it is **not** the ticket for the man who loved *Sound of Music*). Yet that is the whole point. Like most serious films and plays today, it aims at being, not a divertissement, but an experience — and, as with any powerful or profound experience, you are apt to emerge from it shaken, upset, perhaps angry, almost certainly confused. But this, I'm sure, troubles Godard not a whit. Gone is the good old 19th Century view that art should provide moral uplift and intellectual enlightenment. Clearly Godard and his confreres (among whom I include such figures as Genet, Truffaut, Pinter, Peter Brook, etc., etc.) believe that they are dealing with an audience of middle-class moral imbeciles who are so anesthetized against every free and honest human response that they can only be roused from their torpor by the shock tactics of blasphemy, obscenity, violence, and calculated lunacy. And who — reading the headlines everyday — is to say that they are seriously mistaken? On the other hand, I think it is Philistine short-sightedness, indeed, to try to dismiss *Weekend* and other works like it as sheer perverse obscurantism and charlatanism. There are, as always in Godard, some "cute" and overly ingenious touches, but there is no overlooking the intense moral earnestness — one might say even, moral naiveté — of the work.

The plot — such as it is — and a re-telling of it, like a retelling of the plot of *Hamlet*, gives only a vague sense of the hypnotic and repellent power in the film — briefly concerns a rather unlovely Parisian couple who set off by car to pay a weekend visit to her parents, whom they are planning to murder for their money. En route, they encounter a series of weird misadventures, alternating between reality and fantasy, dream and event, horror and ennui, and culminating at last in a sort of James Fenimore Cooper fantasia of the ignoble savage — or, let us say, James Fenimore Cooper as he might have been interpreted by the inmates of the asylum of Charenton under the direction of the Marquis de Sade! It is, of course, a wildly uneven film (another Godard trademark); certain sequences — most notably, the celebrated 14-minute tracking-shot of a monstrous, corpse-strewn traffic jam — are among the most brilliant moments one will find in modern cinema. Godard as a maker of metaphors, a poet of kinetics, is far superior to Godard the philosopher. Other things — the introduction of Emily Bronte dressed as Alice in Wonderland (!); St. Just, the revolutionary, orating in an empty pasture; a beatnik Christ who seems to have the power to turn men into sheep — are neither convincing as concepts nor artistically satisfying as visual symbols. Yet the overall rhythm and forward drive of the film are both powerful and irresistible; part of the audience resentment, I suspect, grew out of the sense of having been cunningly trapped by Godard into accepting it first on the level of crazy, slapstick fun, only to find that the joke had subtly and almost imperceptibly turned into a living horror in their hands — a very dirty trick, indeed. One thing is certain: the flippant Pop-artist of the New Wave, hitherto chiefly famed for his punning titles and visual jokes (many of which persist even here) is now revealed as a bitter satirist of absolutely Swiftian savagery and disgust. Modern life, in Godard's view, consists in equal parts of horror and boredom, and for ninety-five bloody minutes he almost literally rubs our noses in it. It is not so much that he **says** man (bourgeois

Western man, above all) is a vile, vicious, ugly, revolting animal; it is that he makes us **experience** it. "Joyce," Beckett once said, "does not write **about** things; he writes things." In the same way, Godard does not make films **about** things; he makes films which **are** things. As for a critical judgment on *Weekend*, I am still not certain whether it is a vastly pretentious failure or a species of deformed masterpiece, but my suspicion inclines toward the latter.

As for the other major event of the Film Festival, the Czech epic, *Marketa Lazarova*, I am in no doubts whatever about labelling it a masterpiece of the modern cinema (although, in all honesty, I must report that not all reviewers shared my enthusiasm). Nor do I think the fact that I returned home from seeing it to view the first Russian tanks in Prague rumbling across the TV screen appreciably influenced my reaction to the film itself; it was simply one of those fastastic moments where art and history meet to form something greater than the sum total.

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The director is Frantisek Vlacil — hitherto unknown to me, or, as far as I can discover, to anyone else in the West, but almost certain to become a notable name in the future, I would say, unless of course events in Czechoslovakia take an even more repressive turn than they have to date. The film is "epic" in a way which makes Hollywood's casual use of the word seem even hollower than usual, and one of the first reactions to it is, I suppose, the usual cataloguing of echoes and influences — Kurosawa's plunging, steaming horses and violent tracking shots through crashing underbrush and forest; Eisenstein's massive tapestries of medieval warriors advancing across endless plains; Buñuel's obsessive images of Surrealistic nightmare; Bergman's poetic juxtapositions of landscape and weather and faces. But in the end Vlacil is very much his own man, his crowning achievement being that he actually accomplishes what many theorists and directors have talked about for years — he creates a new language of film, a way

of presenting an artistic experience that is neither literary nor graphic nor musical, but filmic. And so unaccustomed are our eyes and ears to this kind of language that we spend perhaps half the film in a state of bemused confusion, trying to follow and interpret the flow of visually stunning images before our eyes. (The camera-work, incidentally, is literally stunning, of a quality and beauty to suggest that Hollywood, for all its famed expertise in technical matters, is actually in some respects fifty years behind the game.) It is a little like turning from a modern page of printed text to a scroll of Egyptian hieroglyphics. But partly it is simply the confusion of richness — so much to see and assimilate in a kind of dense and often unbearably beautiful simultaneity, as the film flows seamlessly, without verbal clue or visual warning, from present action to flashback to reverie to indirect narration and back to realism and historical fact. This is a film, if there ever was one, which repays — and, in fact, demands — a second or even a third viewing.

Again, whether *Marketa Lazarova* will ever make its way to American shores is a moot question. It is certainly censorable, containing two or three extended and explicit nude sequences such as one will rarely see outside of the Underground and a number of passages of physical violence that might well prove too strong for most boards of censorship. Yet to deprive audiences of this film would be, I am convinced, to deprive them of one of the few motion pictures of our time which deserves to be called a work of art. (A consideration, I might add, which has never deterred censors in the past and probably will not in the future.)

Finally, no report from Edinburgh could be considered complete without some mention being made of the Fringe, that student-generated festival which exists, as its name suggests, on the fringes of the main show, separate from it yet contiguous with it. The Fringe publishes its own brochure, takes care of its own publicity (mostly posters in shop windows), sells

its own tickets, etc., and is generally ignored by the Festival with a capital "F." There is no doubt that, in the minds of the Festival governors and the good burghers of Edinburgh, the Fringe is associated with beards, long hair, sandals, guitars, and various types of bizarre and alarming public behavior, and they would be just as happy if it went away. Actually, the Fringe — in this modern era of Grotowski and Brecht and "Happenings" — is not necessarily the only abode of scandal and disorder, although it still remains, for the most part, the home of the adventurous and the quirky as far as repertoire is concerned: certainly it is not in the main part of the Festival that one is apt to run into plays by Valle-Inclán, John Arden, Ionesco, Megan Terry, Max Frisch; a musical adaptation of Machiavelli's *Mandragola*; and original works by such hitherto unknown student writers as Dusty Hughes, Manfred Szameitat, and John Wheway.

The Fringe, as might be expected, is an institution more to be admired for its reach than its grasp; the taste of students at this age is apt to be as wayward and unpredictable as political loyalties in some of the newly emergent African nations, and there seems to be a tradition in British university drama that the last thing in the world anybody is concerned with is the quality of the acting.

So, for example, we had a Keele University *Macbeth*, "based on an essay by E. Gordon Craig" (do I detect a whirling sound from the south of France?), which was potentially fascinating in its concept — being a cut-down version of the play, with emphasis on the Three Witches as the main driving forces in the drama — but so wretchedly executed (every line was roared at the top of the speaker's lungs, in a veritable carnival of popping eyes and purple faces) that it seemed, at best, a deliberate attempt to make the judicious grieve. And there was a student version of *The Tempest* (Shakespeare remains the most popular playwright of all, on or off the Fringe), done on a tiny auditorium stage with lots and lots of chiffon, color-wheels, smoke-pots,

projections of clouds and water, overweight dancing nymphs, and a level of acting throughout that made one wonder if maybe the whole thing was some sort of gigantic "campy" put-on. Yet I'm not at all sure that this production, in the final analysis, was less rewarding than the slicker, duller professional production I saw earlier in the Summer at Chichester. (Where else, after all, can I see a blonde, mop-top Ferdinand with an almost impenetrable Beatles accent?)

On the other hand, the Cambridge University kids blew into town offering Brecht's *Mahagonny*, Max Frisch's *Count Oederland*, and something called *Grr!* by one Dusty Hughes. I could scarcely believe that they would have the audacity to try the full-scale Brecht/Weill opera, assuming that they meant to essay the *Kleine Mahagonny*, but no, they offered us the whole thing (considerably cut and altered, to be sure), including a marvellously Brechtian eight-piece orchestra with a melancholic, belching tuba, a rinky-tink beer-hall piano, saxophones and clarinets howling like eunuchs, and a manic-depressive conductor who periodically, and for no apparent reason, fired a pistol into the air. There was, again, everything under the sun wrong with this show; the only thing it had going for it was life. Scarcely a person in the cast could sing more than adequately, and not a one was up to the cruel demands of the score — the result was that large sections of the play, such as the whole hurricane sequence, were excised, and something like Jenny's reprise of "*Wie man sich bettet*" was turned into a trio. In addition, there seemed really no value in the almost ritualistic use of the obligatory Brechtian boxing-ring, nor could I quite understand why Trinity Moses should be played as a blackface minstrel while other members of the cast wore the geometrical facial make-up of a German Expressionist play. Furthermore, the emphasis was clearly on raunchiness, vulgarity, and noise — all elements present, and important, in *Mahagonny* — at the expense of nuance, subtlety, and the great sadness which lies at the heart of this play.

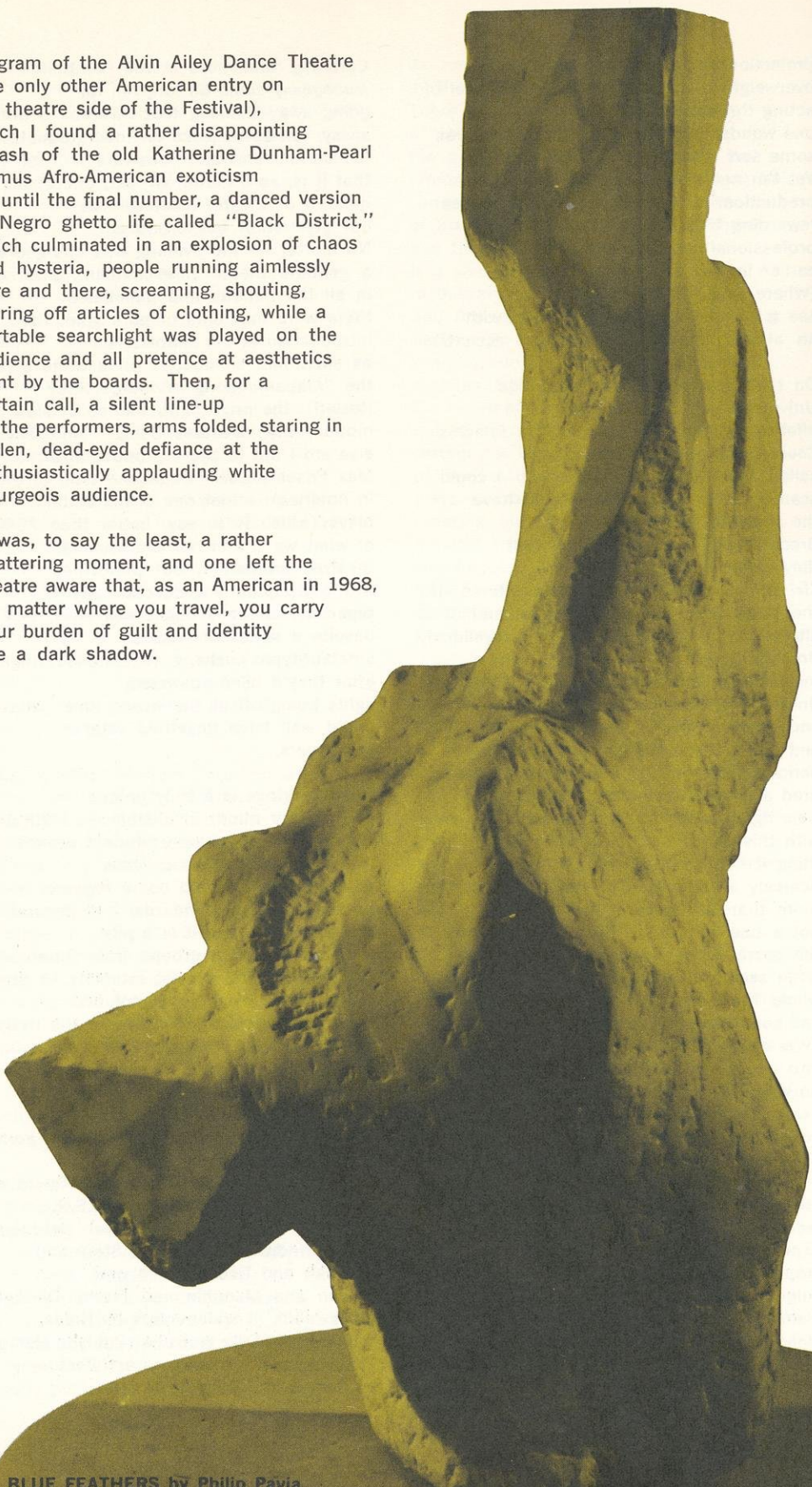
Certainly, audiences at the Cambridge *Mahagonny* could be forgiven for going away thinking that this was a brassy, sassy, low-down piece of undergraduate indecorum, and quite unaware that it is, as a matter of fact, one of the handful of theatre masterpieces our generation has produced. No matter — the evening was charged with a genuine theatrical excitement, and in all the hubbub and hullabaloo there were moments of pure gold: the introduction of the characters as silent-film silhouettes on a white screen; the "Alabama Song" (vintage Ruby Keeler!); the prize fight, mimed in slow motion; the "Benares Song." And where else am I apt to see a production of Max Frisch's *Count Oederland* (still unknown in America) — not one of his better plays (which is to say, better than 75% of what we see in our professional theatres ordinarily), but performed with a discipline and devotion any repertory company might well envy, and despite a series of freakish, amateur-type mishaps (telephones ringing after they'd been answered, lights going off at the wrong time) which might well have unsettled veteran performers.

No, the Fringe is a truly unique — and, to my mind, invaluable — institution, where a dozen or more student groups from universities and colleges all over Great Britain come together to raise money, standards, and general theatrical hell, and it is a pity that some theatre groups from American universities with special interests in drama (such as my own) could not find their way here to participate in the lively kind of dialogue which the Fringe exemplifies.

And now, having come this far, I realize how many things I have not reported on from Edinburgh — the great musical wealth of the Festival, ranging from the Hamburg State Opera and the State Orchestra of the U.S.S.R. (picketed by flag-carrying Czech patriots) to such individual artists as Stern and Oistrakh and Rostropovich and Britten and Menuhin and Fischer-Dieskau; the exhibits of water-colors by Nolde, sculpture by Fritz Wotruba (Cubistic Henry Moores), and *art nouveau* architecture by Rennie MacKintosh; or the

program of the Alvin Ailey Dance Theatre (the only other American entry on the theatre side of the Festival), which I found a rather disappointing rehash of the old Katherine Dunham-Pearl Primus Afro-American exoticism up until the final number, a danced version of Negro ghetto life called "Black District," which culminated in an explosion of chaos and hysteria, people running aimlessly here and there, screaming, shouting, tearing off articles of clothing, while a portable searchlight was played on the audience and all pretence at aesthetics went by the boards. Then, for a curtain call, a silent line-up by the performers, arms folded, staring in sullen, dead-eyed defiance at the enthusiastically applauding white bourgeois audience.

It was, to say the least, a rather shattering moment, and one left the theatre aware that, as an American in 1968, no matter where you travel, you carry your burden of guilt and identity like a dark shadow.



BLUE FEATHERS by Philip Pavia
Courtesy: Martha Jackson Gallery, New York

Lecture: On the Rocks

By Peter Yates

John Cage writes, he wrote, Now and then I come across an article on that rock garden in Japan where there's just a space of sand and a few rocks in it.

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In my garden I have^a sand pool and
an
in other part of my garden there is
a gravel pond.

Not neat nor pious
falling on my gravel pond
twigs, leaves, pine needles.

For Cage there is always the public aspect:

everybody to meditate privately all at once
together

when he met Ashihara,

the Japanese music and dance critic, John Cage says, I told him that I

doubted whether their relationship was a planned one, that the emptiness

of the sand was such that it could support stones at any points in it.

Daily monks weed, rake

gravel ocean where

tourists contemplate silence.

Ashihara had already given Cage a present (some table mats); now

he gave him a necktie.

Is one to interpret this that the westernized Japanese
critic gave of his own stock a peculiarly Western object.

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Not a question but a statement.

Cage opposes rocks with sand.

The sand is not empty; the gravel ocean is not empty;

reverberant with the rocks the garden responds.

is

Each stone as perfectly shaped as a grain of sand; has meaning

like a word where it is placed; becomes a renewed atmosphere

in every light and profile.

Pruned pittosporum branches
of the hedge I trim
cleared of their weight of
leafage bound the upper garden.

These do not influence
catch the sight
the visual artists who visit me: tourists
in the visual see the current preconceptions.
good at it

To be an artist may be to see only the current preconceptions.

with the Indians
Instead of in the Heavenly Kingdom Wm. Penn signing the Treaty.

re
Believing they are free of the conceptual they do not see
the bared, bending limbs of the hedge.

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One would have to say to them: See how like the Dancers
of Matisse

these perpetually dance.
The bared limbs dance.

Each year in late autumn renewing their perpetual dance
in the first month of winter carefully directing it with my
clippers

A Japanese gardener stops his truck and looks.

One visiting told me I should prune the potocarpus Japanese fashion.

I said, No, it isn't a Japanese
garden.
It is this garden.

I did not say to him, I am not a tourist.

Anything should not be anywhere. Anything
should be where it is not anywhere else.

Not to be original.

An object. A statement. An object in itself.

A statement is a basis of discussion and does not depend
on proof. An object means what it is.

Not separate from the
reverberance
of being where it is

To place is to set in motion.

Ecstatically Esthetically

To place is to say that this action
changes the atomic clock.

That is to convey meaning. What is it is that what it is.

It does not communicate.

To communicate is to invite **you** to receive **my** message.

Therefore conceptual: therefore the Dancers
of Matisse dance in my hedge.

I do not prune my hedge to resemble the
Dancers of Matisse.

The hedge
would not be a work of art in a
museum.

Unlike Duchamps' shovel
Rauschenberg's goat

every day it changes by growing.

Painted it might become that. Photographed, liberated
from background, kerbs, poles, houses, roofs, parked
automobiles it might become that.

What?

Not a message

This
now
this

Lillian Steuber, the pianist, walking in the dark garden, felt
the reverberance, saw
after dark the melody of the pruned hedge.

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By what right is it my hedge?

It is not any other hedge.

I do not possess my wealth.

Breathe silence, night

hollow breath fluttering bamboo

bird in snow branches

[From the tape he made for me the late
master Nyodo Jin plays the bamboo flute.]

One does not preserve the strict form
one does not possess form

of a rock in the garden.

The strict form is where it is.

One blue rock from the beach
stands in my garden in the absolute shape
of a Madonna and Child

white
a thin strip of quartz accentuating the enclosing arm
before a shrine of one rock, blasted, I found by the roadside
lighted by a white begonia and violets.

Accident conceptualized in the library of the spirit.

I believe in chance, not prepared chance.

REVELATION

Open any book it will be the oracle you wish.

But Croesus! you must read the answer.

The dotty hero learned too late when he'd had the heat on him.

AUTHORITY

In what it proceeds from, final.

In itself — the object, the occasion, oneself bearing it.

In use — knowledge.

The triune, the Trinity, that all think masculine.

Opposed to it the conceptual, the Madonna, feminine.

The stone untroubled because passing dogs use it.

it bears a message shaped by nature no less by accident in nature it bears by accident a message no less shaped by accident in nature because it bears in nature a message no less shaped by nature in accident

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Angel vertical over the threshold

on a breathing of wingtips,

perspective opening through into unstaged gardens,

eyes a plotless real:

you will not parley

reasoning with me, only the weather

of an intermediate report,

held here in a silence

before the rustling before the storm.

I ask the New York critic: Have you slaughtered a pork chop?

In periodical addicts bestrays edicts of vogue blague hip not hep.

Art is forever the rediscovery that is not in fashion.

By the folds of your garments

I know you are not substantial,

invisible as when mountains tremble,

breeze crossing the surfaces of waves,

not a painter's dimensions:

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Art is at first the pathetic outcry of a personal soul, we think.

if you hang there hovering,

you must be in the second

person singular, presence

without fault, without feeling, without fate.

The first art is vatic, spiritual business of a group.

Who sets down is no matter.

Didn't get past Dante.

Blake tired remind us.

You are the voice — you are a voice —

and have said nothing I can know.

In your translucent amber no thought gazes:

myself, thinly reflected,

hovering above a destination:

So then after that art returned to being the

pathetic outcry

of a unique person, we think.

A progressing curriculum of disorder.

Genius ambition masterpiece — ambitious masterpieces

Diablo, solitaire, the Once of Ones!

Seeking rest, chaos, silence

as each one thinks,

No thingk

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Foppishly alike we believe we do not conform.

Rocks still standing in the same place where they are in the sand garden

Mediate

They have not moved.

Hallow our hollows, lies where we have slain.

not

What we know is what we believe; what we believe

is not the information we have; the information

we

is not what we know.
have

HOLLO OUR HALLOWS

The stone fish leaps in the sand pool,

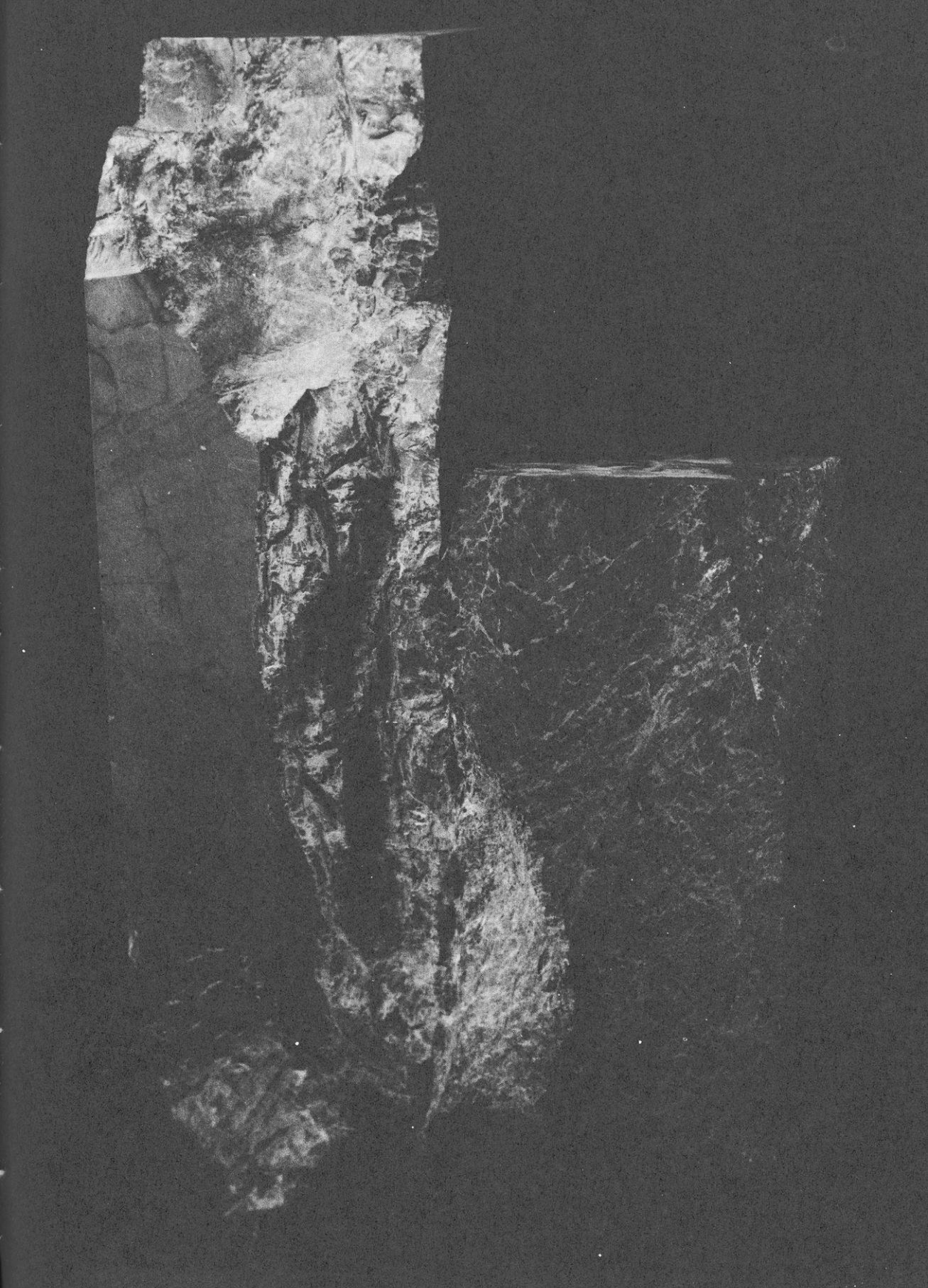
leaves glint to green;

light on the rose mountain on the purple mountain

slides on a snail's track;

and in a moment

all that was monumental has been translated.



ST. JOHN THE BAPTIST by Philip Pavia
Courtesy: Martha Jackson Gallery, New York



RELATIVITY, A Film by Ed Emshwiller



Extrapolative Cinema

By Ivor A. Rogers

The science fiction film has been the "closet case" of the serious film critic. If the film is any good, it is seldom labeled SF, but every film that violates science, art, truth, and beauty is invariably mislabeled SCIENCE FICTION. This situation probably originated with a producer who, knowing nothing of science except that he "didn't understand it," constructed a pot-bellied syllogism (undistributed middle) of, "Everything I don't understand is Science." This mutated to the point that every film which violated the canons of belief was labeled science fiction. The situation has not been helped by those film critics who seem to understand Krafft-Ebing better than the Second Law of Thermodynamics. Indeed, there even seems to be a vogue in film criticism, which for want of a better term might be labeled the Buck Rogers Syndrome, that considers any film containing a space vehicle as fit fare for "... children of all ages."

It is far past time to claim respectability for the science fiction or extrapolative film. As Susan Sontag pointed out in her rather uninformed but stimulating article, "The Imagination of Disaster," it is relatively easy to represent visual catastrophe but quite difficult to provide an intellectual workout, which is the real mission and challenge of SF.

Miss Sontag has clearly seen the failings and inadequacies of the films detailing the radioactive and hyperthyroid monsters that have been spawned in countless special effects laboratories. There is some question as to whether or not these films should even be considered as true SF, but Miss Sontag has failed to consider the best of the extrapolative films in her article.

As Carlos Clarens, a far more perceptive critic of the SF film, has observed, many recent films have turned away from the glorification of disaster and the placid recounting of technological marvels to a more mature introspection of man and his deeds. This is partly due to the fact that important directors have begun to work in the genre. (A Western directed by John Ford, while still in the Western genre, has more depth and psychological significance than the average "B" Western produced by Monogram or Republic.) With the advent of directors like Kubrick, Truffaut, Hitchcock, and Godard into the field we are assured, if not better SF films, at least a higher level of craftsmanship. This influence has even been felt in television, where we are finally permitted to see "aliens from outer space" who are not foam rubber abominations (*The Invaders*) and a TV series (*Star Trek*) that is willing to discuss serious themes

in a non-hysterical fashion. *Star Trek* has on occasion even managed to produce a plausible love story — a feat hitherto only achieved by a few SF fiction writers and French SF film makers.

To completely appreciate the extrapolative/SF film, it is necessary to define the genre carefully so that we do not lump the latest crawler from the radioactive lagoon with such classics as *Destination Moon*, *Metropolis*, 2001: *A Space Odyssey*, and *Dr. Strangelove*.

Even after eliminating the horror, vampire, and werewolf films as being totally alien to SF there is still a large corpus of SF works, which might be described as monster or "thing" films. Although there is often a scientist (mad) or two associated with these efforts, the net result is usually anti-scientific in tone if not invariably in content. SF writer Charles Beaumont once said of this type of film that it is easier to believe in a monster ape with a human brain than a monster producer with a human brain. There are a few films that attempt to work within the SF framework, but are so carelessly researched and shoddily produced that they can scarcely be called **SCIENCE** fiction. (It must be pointed out that even the best SF films often run into technical problems, not only because the proper speculation of today may be the scientific implausibility of tomorrow, but because most interplanetary epics are not yet able to shoot on location.) Eliminating the grosser examples of non-SF, there still remains a respectable core that may be considered SF/extrapolative films. These may not all be outstanding works of art, but, freed from the onus of being associated with the mass of junk that has masqueraded under the SF label, they may be able to stand on their own as a genre worthy of critical notice.

Perhaps the most neglected sub-genre of the SF film is the film of political extrapolation. Ranging from such borderline examples as *The Manchurian Candidate*, *Advise and Consent*, and *Seven Days in May* to obvious examples such as

Red Alert, *Dr. Strangelove*, and *On the Beach*, these films attempt to explore the impacts of an hypothesized political event (a political assassination, the sudden death of the President during crucial international negotiations, a military coup, and the consequences of our military control over atomic weapons). While a few critics have asserted the political importance of some of these films, there has been no adequate study of them, to compare, for example, with Susan Sontag's examination of the psychology of the "destruction" SF film.

Closely allied to the political extrapolation sub-genre is the film of social extrapolation. This has been even less considered than the political films. One explanation is obvious: there are relatively few good films made in this genre — the best examples being the British film *The Man in the White Suit*, and the recently released *Charly*. This state of affairs is surprising since the SF story investigating the social consequences of a new invention or discovery is staple fare in fiction writing. We are living in an age where scientific and technological developments have literally transformed both man and his environment, and one would expect some indication of this upheaval echoed in the mass media. Instead we get *Prudence and the Pill*, which does no socio-logical investigating at all. *The Man in the White Suit* demonstrated that social exploration could be funny: *Seconds* indicated that Rock Hudson could even act a bit; and Joseph Losey's *These Are the Damned* proved that there was drama in the genre. It would appear that there is a vital need for cinematic exploration of many themes concerning the relationship of man to the scientific and technological changes in his environment. I can think of no film that adequately explores the impact of automation and computerization upon the individual, much less upon society as a whole. I strongly suspect that we have not yet seen the ultimate in the creation of the Cardpunchman, and it would certainly seem to be a most fertile subject for a film maker. Perhaps social extrapolation might be best approached by a fusion of the techniques of the documentary and the fictive film; but such a development awaits

much more effort in the area and more recognition by critics of the importance of the genre.

Several critics have commented that the rash of monster-destruction movies of the 1950's was a direct result of the anxiety created by living in an atomically armed society in which instant nuclear devastation was a constant threat. There is another pervasive anxiety in our scientific-technological civilization: the anxiety which results from the speed at which our society changes. Literary critics have noted that the development of the concept of the imaginary voyages to the moon and the planets was largely an outgrowth of the astronomical discoveries of the Seventeenth Century. In a real sense these fictive works enabled readers to allay growing fears of the future by presenting them in an imaginative form. By depicting what the future **may** bring, the reader/viewer can perhaps face the future and its uncertainties with a degree of equanimity.

J. M. (apparently Joseph Morgenstern) in the *Newsweek* review of *Charly* made the following rather astounding statement: "It is science fiction, or the art of the impossible, with all of its coarse ineptitude supposedly exonerated by the possibility that today's fiction will be tomorrow's science." Whether J. M. means that science fiction is inept or the film is inept, he is still missing the point in implying that the only value of SF is predictive. Science fiction is also enjoyed because it can provide a good adventure story (*Forbidden Planet*), because it can suggest a new sexual fillip (*Barbarella*), or because it can create a sense of wonder (*Destination Moon*). The history of extrapolative fiction would indicate that an author usually writes a wholly predictive tale (from *The Battle of Dorking* to 1984) in order to help thwart the actual occurrence of the events he describes. If we frankly accept the idea that rocket ships and the other paraphernalia of the space epic are standard genre devices, as the butler and the locked room are genre devices of the mystery story, and if we recognize the sociological implications of SF upon an audience, we will be better

able to evaluate SF films on a rational basis. To claim that a film is worthless because it is SF is an *ad hominem* argument at best; to downgrade a film because it allegedly does poorly what it never claimed to do is senseless.

Perhaps the most exciting type of extrapolative film may not even be true SF at all. It does not utilize the devices and speculations of technology, but has its point of origin in the philosophy of science, mathematical speculation, and basic (as opposed to practical) science.

The concept of time has since Einstein been a favorite subject of the mathematician and scientific philosopher, and some creative artists have found dramatic elements in this very abstract field of study. J. B. Priestley utilized the theories of the 20th century mathematician J. W. Dunne in a series of plays which proved to be immensely popular successes. It is just as well that the majority of these plays were never filmed since they would have created chaos in the world of the film critic. It is a peculiarity of the mathematician that he may create a mathematical universe which has no congruence to the real world, and yet, because his construct has internal validity, be highly esteemed by his colleagues. (If you can understand minus numbers, this is apparent to you; if you were unable to grasp this concept, you probably had bad grades in high school algebra.) Most film critics, with both feet mired in the bog of reality, can turn quite hostile in their reviews when confronted with a filmic universe that is non-Euclidean or based on any order of imaginative reality. This may explain the mixed reaction given to Chris Marker's film, *La Jetée*. If the film is to be faulted, it is because of oversimplification. It is a minor *recherche du temps perdu* with the added elements of catastrophic atomic disaster, a form of time travel, and a future civilization (attempting to avert the final destruction of mankind). It is also a love story of the bitter-ending-in-futility school with a wry ironic twist at the end. It has a fair amount of honesty in treatment, and, at its best, reminds one of the early novels of Judith Merril.

While Chris Marker's *La Jetée* was a trivial exploration into the philosophy of time, *Last Year at Marienbad* was a full scale effort.

If understood as a true SF film, Marker's Bergsonian study of time and remembrance, opens the way for consideration of *Marienbad* as a film that is an authentic extrapolative exploration of time. It is no secret that both the writer-collaborator, Alain Robbe-Grillet, and the director, Alain Resnais, are interested in exploring the concepts of time and reality as the basis for artistic insight. I think that it was wrong for critics of this film to assert that the elimination of linear development and the stress on a sense of timelessness were techniques used to assert an artistic style: in fact, these creators are concerned with an investigation of the phenomenon of time itself. This becomes apparent if one reads the novels of Robbe-Grillet, and some perceptive critics have noted Resnais' persistent preoccupation with time from *Nuit et Brouillard* to *Muriel ou le temps d'un retour*. *Marienbad*, *Muriel*, and Antonioni's study of reality, *The Blow-Up*, are creative works of genius in their own right, but if they are also considered as investigations into time-space, they achieve another dimension of significant sensibility.

There is one other genre I would like to discuss, and that is the group of films which attempt to make a philosophical comment on the nature of man and which utilize the SF framework to isolate the characters from the realistic world. The SF premise of such films while not integral to the structure of the story still serves a vital artistic function. Just as the phrase "Once upon a time . . ." plays a very valid role in a narrative, so too, the casting of a film into the SF mold can serve as a most useful plotting device.

The sense of isolation developed in the novel (and in the film version by Peter Brook) of *The Lord of the Flies* is due largely to the SF, atomic war framework of the story. It is possible that a group of boys could have been shipwrecked on a remote island in a

realistic version of the story without damaging the suspension of disbelief, but the impact of the pessimistic ending would have been considerably weakened. The bestiality and conflict of the young boys echoes their elders' fatal involvement in an atomic war, and the only intrusions into their primitive world are reminders of this tragic occurrence (the dead pilot and the rescuers from a warship). Golding is able to utilize similar techniques of isolation from reality in *Pincher Martin* and *Free Fall* and an isolation in time in *The Inheritors*, but the only successful dramatization of his work (if we except his comedy, *The Brass Butterfly*) is in the SF framework of the film version of *Lord of the Flies*.

Stanley Kubrick has twice used the SF framework for his films: once for the bitterly satirical, politically oriented *Dr. Strangelove*, and most recently for the incomparably superior *2001: A Space Odyssey*. Perhaps the only fantastic element of *2001* is the reception given the film by the critics. Bitterly attacked by most of the critics in the SF press and fan publications and greeted by the majority of the film critics with massive incomprehension, the film is not a zap-zap action-suspense story as evidently expected by the SF fans or a comment on God (as most film critics — confronted by a non-Freudian universe — seem to have expected on the basis of their own subconscious urgings).

It is simply a story of Man, epic in its simplicity, and breath-takingly cinematic in its recounting. We have, in the reaction of both specialized groups a feast and famine problem. The SF fans, long accustomed to brilliantly orchestrated set pieces of scientific extrapolation by such authors as Hal Clement and Robert Heinlein (whose fictive universes are so minutely detailed that a cosmic engineer would have little trouble in constructing a world to their specifications) were taken aback by seeing a film in which the speculation was philosophical rather than technological. The film critics, with Pavlovian responses reinforced by countless monster and radio-active destruction films, turned to rend another "space-ship picture."

The film is not an unqualified success: at times it moves with the ponderous tread of a brontosaurus, certain portions of the first episode may be most charitably described as unfortunate, and the internal logic of the film is not always what one would expect of either Clarke or Kubrick. As always, there is the cry that, "You should have seen it before it was cut by the commercializers," and there may be a certain justification in the claim this time, but all errors and flaws included, it is still the most successfully ambitious film since the introduction of sound.

What Kubrick has apparently attempted is to utilize the trappings of science and technology as a framework for his comment upon the nature of man. The basic premise — that pre-man was helped in his development from the ape to man the tool maker by some "alien" race or entity, and, now that he has almost reached the peak of his powers as *homo faber*, is about to be given a further boost into what can best be called *homo superior* — was originally conceived by Kubrick's collaborator, Arthur C. Clarke. Film critics not familiar with the writing of Clarke should be as wary as those SF critics who are not familiar with the films of Kubrick. The indications are that this was a true collaboration and that each man provided an artistic stimulus for the other — a true blending of art and science-technology. The final version of the film goes far beyond the bald statement of plot that would have been very satisfying to the reader of printed SF and totally bewildering to the average

film goer, because the film attempts to make a comment on the plot: it says simply that the construction of bigger and better tools is not the sole purpose of human existence. The film is not anti-scientific, it is anti-technological; the berserk computer is not a stab at science, but a reminder that tools are not gods. The film is not about man and God; it is about man and his friends in the universe. God and his strictures are not mentioned in the film, but one is left with an optimistic wish-fantasy that there is hope and reason in the universe and an admonition that the machine can be a useful companion but should not be deified.

Sir Charles Snow commented on the division of the world of intelligence into two cultures that are unable to communicate or aid each other in their struggle to comprehend the universe.

Science fiction has been conceived as a bridge between these two cultures, and it is deplorable that in practice the SF film has been responsible for the erection of more walls than bridges. Partly it is the fault of the commercial film makers who find it more rewarding to build another rubber monster than to use their imaginations; partly it is the fault of the audiences who will pay money to see another abomination from outer space; partly it is the fault of those film critics who apparently can only see artistic quality in sin, sex, and sadism; and partly it may be the fault of our materialistic society that considers imagination and the imaginative as fit only for children.

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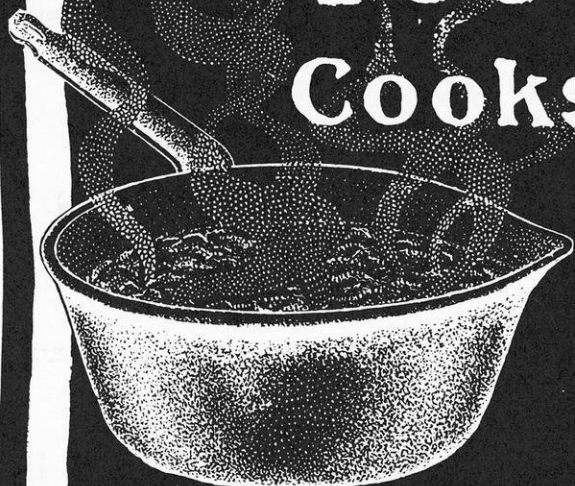
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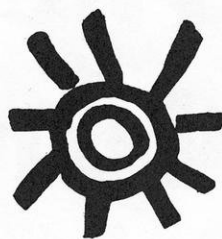
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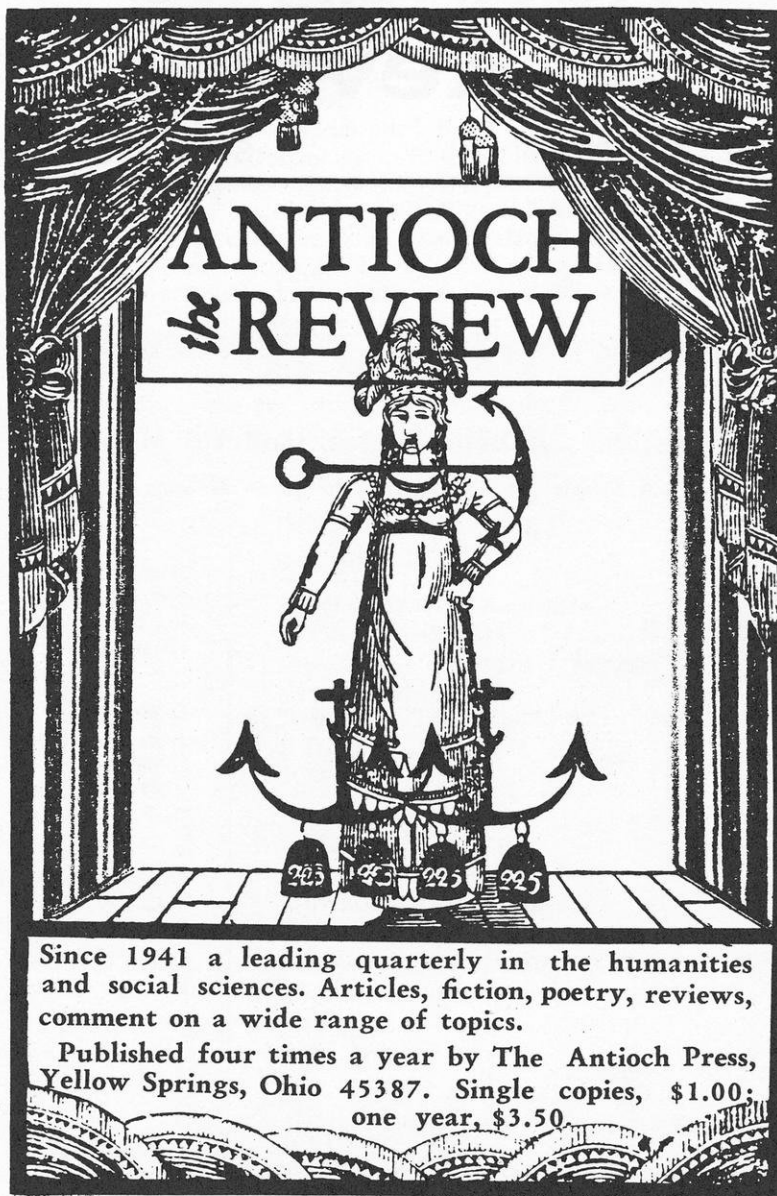
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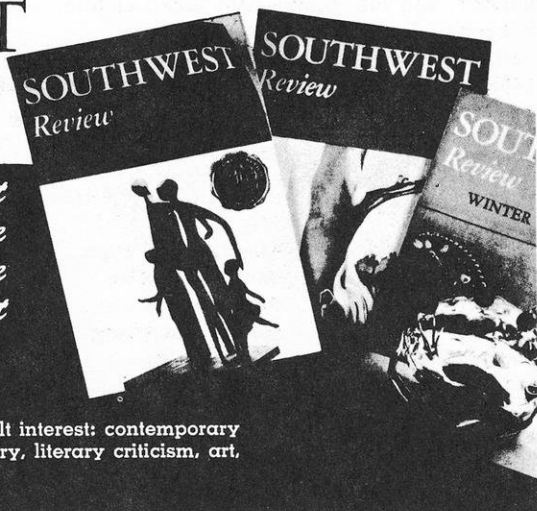
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