

Science, after all, purports to be precisely that enterprise of the mind which strips life of its myths, substituting for fantasy and legend a relationship to reality based, in William James' phrase, on "irreducible and stubborn facts." Is not scientific knowledge, indeed, that residue which is left when all the myths have been filtered away? One might in fact argue that this is exactly what distinguishes the scientific revolution of the modern West from all previous cultural transitions. In the past, when one cultural epoch has displaced another, the change frequently involved little more than a process of mythological transformation: a *re-mythologizing* of men's thinking. So the figure of Christ stepped into the place prepared long since by the savior figures of various pagan mystery cults, and in time the Christian saints inherited their status from the deities of the Greco-Roman, Teutonic, or Celtic pantheons.

But science, we are to believe, does not re-mythologize life; it *de-mythologizes* it. This is supposedly what makes the scientific revolution a radically different, if not a final, cultural episode. For, with the advent of the scientific world view, indisputable truth takes the place of make-believe.

There is no doubting the radical novelty of science in contrast to all earlier mythological world views. What all non-scientific cultural systems have had in common is the tendency to mistake their mythologies for literal statements about history and the natural world—or at least the tendency to articulate mythological insights in what a scientific mind mistakes for propositional assertions. In this way, imaginative expressions rich in moral drama or psychic perception easily degenerate into fabulous conjectures about the exotic reaches of time and space. This is how we most often use the word "mythology" in our time: to designate the telling of unverifiable, if not downright false, tales about remote ages and places. The story of the Garden of Eden is a

"myth" we say, because insofar as any believing Christian or Jew has ever tried to locate the story geographically and historically, skeptics have been able to call his evidence, if any, quite cogently into question.

Mythologies which are imaginative exaggerations of our ordinary perceptions or displacements of them to other times and places—let us call them in this sense temporal-physical mythologies—have always been vulnerable to critical inquiry. The doubting Thomas in the case need not even be a scientific skeptic. A devout Christian can practice an uncompromising skepticism toward the mythologies of other faiths and cultures, in the fashion of Charlemagne striking down the Saxon idols and defying their wrath, confident that no such heathen divinities existed. But a Christian's skepticism is necessarily partisan, sparing the believer any critical examination of his own dogmas. Even liberal Christian demythologizers like Rudolph Bultmann have had to stop short of extending their project to such essential teachings as the resurrection of Christ.

In contrast to such selective skepticism, the wholesale skepticism of science shows up to brilliant advantage. Science is the infidel to all gods in behalf of none. Thus there is no way around the painful dilemma in which the religious traditions of the world have found themselves trapped over the last two centuries. Every culture that has invested its convictions in a temporal-physical mythology is doomed before the onslaught of the scientific unbeliever. Any village atheist who persists in saying "show me" is in the position to hold up to ransom an entire religious culture, with little expectation that it will be able to find the price demanded. It would be difficult to say whether this situation partakes more of farce or of tragedy. Only a few generations ago, Clarence Darrow, no more than a skillful courtroom lawyer armed with a Sunday supplement knowledge of Darwin, was

able to make laughingstock of a Judeo-Christian mythology that had served to inspire the finest philosophical and artistic minds of our culture over hundreds of generations. Yet, under unrelenting skeptical pressure, what choice have those who cling to temporal-physical mythologies but to undertake strategic retreat, conceding ever more ground to secular, reductionist styles of thought. The line of retreat falls back to interpretations of myth that are primarily ethical . . . or aesthetic . . . or, in some unspecified fashion, symbolic. Within the Christian tradition, this is a resort which is bound to weaken and confuse, since Christianity has had a uniquely significant commitment to the literal truth of its teachings. Indeed, the sweeping secularization of Western society that has come in the wake of scientific advance can be seen as a product of Christianity's peculiar reliance on a precarious, dogmatic literalism. Such a religious tradition need only prick its finger in order to bleed to death. And if the hard-pressed believer does turn to "symbolic" interpretations, even here the secular temperament tends to sweep the field by asserting reductionist psychological or sociological correlates for the myth. The only other defense, that of standing fast in behalf of the literal truth, leads, as Kierkegaard recognized more than a century ago, to the crucifixion of the intellect.

The scientific world view is of course invulnerable to criticism at the same level as a temporal-physical mythology. It would be a ludicrous mistake to contend that the things and forces with which science fills time and space—electrons and galaxies, gravitational fields and natural selection, DNA and viruses—are the cultural equivalents of centaurs and Valhallas and angelic beings. What science deals in is not so poor in ordinary sensory verification—nor so rich in imaginative possibilities. Unlike the mythological traditions of the past, science is not in the first instance a body of supposed

knowledge about entities and events. Science would still be science and very much in business if it encompassed no knowledge at all other than the ruins of proven ignorance and error. The scientific mind begins in the spirit of the Cartesian zero, with the doubting away of all inherited knowledge in favor of an entirely new *method* of knowing, which, whether it proceeds on rationalist or empiricist lines, purports to begin from scratch, free of all homage to authority.

What scientists know may therefore wax or wane, change in part or whole as time goes on and as evidence accumulates. If the Piltdown fossil proves to be a hoax, it can be discarded without calling the science of physical anthropology into question. If the telescopes of astronomers were to discover angels in outer space, science as a method of knowing would not be in any sense discredited; its theories would simply be reformulated in the light of new discoveries. In contrast to the way we use the phrase "world view" in other contexts, science rests itself not in the *world* the scientist beholds at any particular point in time, but in his mode of *viewing* that world. A man is a scientist not because of what he sees, but because of *how* he sees it.

At least, this is what has become the conventional way of regarding scientific knowledge. Thomas Kuhn, who has looked at the matter more carefully, has recently thrown strong and significant doubt on this "incremental" conception of the history of science. His contention comes close to suggesting that the progressive accumulation of "truth" in the scientific community is something of an illusion, created by the fact that each generation of scientists rewrites its textbooks in such a way as to select from the past what is still considered valid and to suppress the multitude of errors and false starts that are also a part of the history of science. As for the all-important principles of validation that control this natural selection of scientific truth from era to era—the so-

called "scientific method"—Kuhn is left unconvinced that they are quite as purely "rational" or "empirical" as scientists like to think.²

Yet the incremental conception of scientific knowledge is very much part of the mythology we are concerned with here. The capacity of science to progress stands as one of the principal validations of its objectivity. Knowledge progresses only when it is understood to survive the passing of particular minds or generations. Science, understood as the expanding application of a fixed method of knowing to ever more areas of experience, makes such a claim. A scientist, asked to explain why science progresses when other fields of thought do not, would doubtlessly refer us to the "objectivity" of his method of knowing. Objectivity, he would tell us, is what gives science its keen critical edge and its peculiarly cumulative character.

Are we using the word "mythology" illegitimately in applying it to objectivity as a state of consciousness? I think not. For the myth at its deepest level is that collectively created thing which crystallizes the great, central values of a culture. It is, so to speak, the intercommunications system of culture. If the culture of science locates its highest values not in mystic symbol or ritual or epic tales of faraway lands and times, but in a mode of consciousness, why should we hesitate to call this a myth? The myth has, after all, been identified as a universal phenomenon of human society, a constitutive factor so critical in importance that it is difficult to imagine a culture having any coherence at all if it lacked the mythological bond. Yet, in our society, myth as it is conventionally understood has become practically a synonym for falsehood. To be sure, we commonly hear discussion of various social and political myths these days (the myth of

² See Thomas Kuhn, *The Structure of Scientific Revolutions* (Chicago: The University of Chicago Press, 1962).

the American frontier, the myth of the Founding Fathers, etc.); the more enlightened clergy even talk freely of "the Christian myth." But myths so openly recognized as myths are precisely those that have lost much of their power. It is the myth we accept without question as truth that holds real influence over us. Is it possible that, in this sense, scientific culture is uniquely a-mythical? Or is it the case that we simply fail to look in the right place—in the deep personality structure of the ideal scientist—for the great controlling myth of our culture?

Such, at least, is what I propose here, though it would be pointless to press any further the purely semantic question of whether or not objective consciousness meets all the requirements of a "mythology." What is essential here is the contention that objective consciousness is emphatically *not* some manner of definitive, transcultural development whose cogency derives from the fact that it is uniquely in touch with the truth. Rather, like a mythology, it is an arbitrary construct in which a given society in a given historical situation has invested its sense of meaningfulness and value. And so, like any mythology, it can be gotten round and called into question by cultural movements which find meaning and value elsewhere. In the case of the counter culture, then, we have a movement which has turned from objective consciousness as if from a place inhabited by plague—and in the moment of that turning, one can just begin to see an entire episode of our cultural history, the great age of science and technology which began with the Enlightenment, standing revealed in all its quaintly arbitrary, often absurd, and all too painfully unbalanced aspects.

Perhaps, as Michael Polanyi has argued,³ there is no such thing as objectivity, even in the physical sciences. Certainly

³ Michael Polanyi, *Personal Knowledge: Towards a Post-Critical Philosophy* (Chicago: The University of Chicago Press, 1959).

his critique is a formidable challenge to scientific orthodoxy. But for our purposes here, this narrowly epistemological question is a subordinate consideration. Science, under the technocracy, has become a total culture dominating the lives of millions for whom discussions of the theory of knowledge are so much foreign language. Yet objectivity, whatever its epistemological status, has become the commanding life style of our society: the one most authoritative way of regarding the self, others, and the whole of our enveloping reality. Even if it is not, indeed, possible to be objective, it is possible so to shape the personality that it will feel and act *as if* one were an objective observer and to treat everything that experience presents to the person in accordance with what objectivity would seem to demand.

Objectivity as a state of being fills the very air we breathe in a scientific culture; it grips us subliminally in all we say, feel, and do. The mentality of the ideal scientist becomes the very soul of the society. We seek to adapt our lives to the dictates of that mentality, or at the very least we respond to it acquiescently in the myriad images and pronouncements in which it manifests itself about us during every waking hour. The Barbarella and James Bond who keep their clinical cool while dealing out prodigious sex or sadistic violence . . . the physiologist who persuades several score of couples to undertake coitus while wired to a powerhouse of electronic apparatus so that he can achieve a statistical measure of sexual normalcy . . . the characters of *Last Year At Marienbad* who face one another as impassively as empty mirrors . . . the Secretary of Defense who tells the public without blinking an eye that our country possesses the "overkill" capacity to destroy any given enemy ten times . . . the high-rise glass and aluminum slab that deprives of visual involvement by offering us only functional linearity and massive reflecting surfaces . . . the celebrated surgeon who assures us that his

heart transplant was a "success" though of course the patient died . . . the computer technician who blithely suggests that we have to wage an "all-out war on sleep" in order to take advantage of the latest breakthrough in rapid communications . . . the modish expert who seeks (with phenomenal success) to convince us that the essence of communication lies not in the truth or falsehood, wisdom or folly of the message that person transfers to person, but rather in the technical characteristics of the intervening medium . . . the political scientist who settles for being a psephological virtuoso, pretending that the statistics of meaningless elections are the veritable substance of politics . . . all these (or so I would argue) are life under the sway of objective consciousness.

In short, as science elaborates itself into the dominant cultural influence of our age, it is the psychology and not the epistemology of science that urgently requires our critical attention; for it is primarily at this level that the most consequential deficiencies and imbalances of the technocracy are revealed.⁴

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We can, I think, identify three major characteristics of the psychic style which follows from an intensive cultivation of objective consciousness. I have called them: (1) the alienative dichotomy; (2) the invidious hierarchy; (3) the mechanistic imperative.⁵

⁴ This is the fascinating approach to science that Abraham Maslow has opened up in his *The Psychology of Science* (New York: Harper & Row, 1966). The study gains a deal of authority from Maslow's own experience in growing painfully away from a firm commitment to behavioral psychology.

⁵ Rather than complicate the presentation with illustrations of the characteristics described here, I have gathered a small group of examples in the Appendix.

(1) Objective consciousness begins by dividing reality into two spheres, which would seem best described as "In-Here" and "Out-There." By In-Here is meant that place within the person to which consciousness withdraws when one wants to know without becoming involved in or committed to that which is being known. There are many kinds of operations that can be conducted by In-Here. In the natural sciences, the usual activities of In-Here would include those of observing, experimenting, measuring, classifying, and working out quantitative relationships of the most general kind. In the humanities and what we call the behavioral sciences, the operations are more various, but they include numerous activities that seek to imitate the natural sciences by way of tabulating, pigeonholing, applying information theory or game strategies to human affairs, etc. In-Here may be involved, however, in something as simple as the detached scrutiny of a document, a book, an *objet d'art*—meaning the study of this thing as if one's feelings were not aroused by it, or as if such feelings as might arise could be discounted or screened out.

Whatever the scientific method may or may not be, people think they are behaving scientifically whenever they create an In-Here within themselves which undertakes to know without an investment of the person in the act of knowing. The necessary effect of distancing, of estranging In-Here from Out-There may be achieved in any number of ways: by the intervention of various mechanical gadgets between observer and observed; by the elaboration of chilly jargons and technical terms that replace sensuous speech; by the invention of strange methodologies which reach out to the subject matter like a pair of mechanical hands; by the subordination of the particular and immediate experience to a statistical generalization; by appeal to a professional standard which excuses the observer from responsibility to anything other than a lofty

abstraction—such as "the pursuit of truth," "pure research," etc. All these protective strategies are especially compatible with natures that are beset by timidity and fearfulness; but also with those that are characterized by plain insensitivity and whose habitual mode of contact with the world is a cool curiosity untouched by love, tenderness, or passionate wonder. Behind both such timidity and insensitivity there can easily lurk the spitefulness of a personality which feels distressingly remote from the rewards of warm engagement with life. It is revealing that whenever a scientific method of study is brought into play, we are supposed to regard it as irrelevant, if not downright unfair, to probe the many very different motivations that may underlie a man's desire to be purely objective. It is little wonder, then, that the ideal of objectivity can easily be invoked to cover a curiosity of callousness or hostility, as well as a curiosity of affectionate concern. In any event, when I convince myself that I can create a place within me that has been cleansed of all those murky passions, hostilities, joys, fears, and lusts which define my person, a place that is "Not-I," and when I believe that it is *only* from the vantage point of this Not-I that reality can be accurately perceived, then I have begun to honor the myth of objective consciousness.

The essential experience of being In-Here is that of being an unseen, unmoved spectator. Abraham Maslow characterizes the situation in this way:

It means looking at something that is not you, not human, not personal, something independent of you the perceiver. . . . You the observer are, then, really alien to it, uncomprehending and without sympathy or identification . . . You look through the microscope or the telescope as through a keyhole, peering, peeping, from a distance, from outside, not as one who has a right to be in the room being peeped into.⁶

⁶ Maslow, *The Psychology of Science*, p. 49.

The spectating In-Here has been called by many names: ego, intelligence, self, subject, reason. . . . I avoid such designations here because they suggest some fixed faculty or psychic entity. What I prefer to emphasize is the *act* of contraction that takes place within the person, the sense of taking a step back, away from, and out of. Not only back and away from the natural world, but from the inarticulate feelings, physical urges, and wayward images that surge up from within the person. To these "irrationalities" Freud gave the revealing name, "the *it*": a something which is Not-I, but alien, incomprehensible, and only to be known reliably when it, too, is forced Out-There to become an object for analysis.

The ideal of the objective consciousness is that there should be as little as possible In-Here and, conversely, as much as possible Out-There. For only what is Out-There can be studied and known. Objectivity leads to such a great emptying-out operation: the progressive alienation of more and more of In-Here's personal contents in the effort to achieve the densest possible unit of observational concentration surrounded by the largest possible area of study. The very word "concentration" yields the interesting image of an identity contracted into a small, hard ball; hence a dense, diminished identity, something which is less than one otherwise might be. Yet the predilection of In-Here is to remain "concentrated" as long and as often as possible. Curiously, this great good called knowledge, the very guarantee of our survival, is taken to be something that is forthcoming only to this lesser, shriveled-up identity.

The scientific observer who comes to feel that Out-There has begun to implicate him personally—say, in the manner of a lover spellbinding one's sympathies so that one cannot tell clearly where one's self leaves off and the other begins—has begun to lose his objectivity. Therefore, he must fight

back this irrational involvement of his personal feeling. Like Odysseus in the presence of the sirens' song, In-Here must be lashed to the mast, or its mission may never be completed. But if body, feelings, emotions, moral sentiment, sensuous enchantment are all to be located Out-There, then who is this In-Here that is so stalwartly struggling against the siren song? It is a weird identity indeed, this In-Here. More and more it looks like Kafka's castle: a stronghold well defended, but manned by . . . parties unknown.

It would be an interesting line of questioning to put to our experts, would it not? Who are "you" when you are being purely objective? How did you manage to bring this purely objective "you" into existence—and how can you be so sure you really pulled it off? Moreover, does this purely objective "you" prove to be an enjoyable identity? Or is that beside the point?

(2) The act of psychic contraction that creates In-Here simultaneously creates Out-There, which is whatever gets left behind in the wake of the contraction. The line which divides In-Here from Out-There now becomes a line between a place where it is desirable and secure to be (In-Here) and a place that is untrustworthy, perhaps downright dangerous (Out-There). In-Here is the center of reliable knowledge; it knows what it is doing; it learns, plans, controls, watches out cunningly for threats and opportunities. The alternative to being in a place of reliable knowledge is, obviously, to be in a place of drift, unpredictability, stupidity. Such is what Out-There becomes.

Now, in fact, anyone, even the most objective scientist, would fall into a state of total paralysis if he *really* believed that Out-There (beginning with his own organism and unconscious processes) was totally stupid. Nevertheless, In-Here is committed to studying Out-There *as if* it were completely stupid, meaning without intention or wisdom or pur-

poseful pattern. In-Here cannot, if it is to be strictly objective, strive to empathize in any way with Out-There. It must not attribute to Out-There what cannot be observed, measured, and—ideally—formulated into articulate, demonstrable propositions for experimental verification. In-Here must maintain its alienative dichotomy at all times. And like the racist who cannot under Jim Crow conditions come to see the segregated black man as anything but a doltish and primitive nigger, so In-Here, as the unmoved spectator, cannot feel that Out-There has any ingenuity or dignity. Under this kind of scrutiny, even the other human beings who inhabit Out-There can be made stupid, for they were not made to function within laboratory conditions or according to the exacting needs of questionnaires and surveys. Under the eyes of an alien observer they also begin to lose their human purposefulness.

As soon as two human beings relate in detachment as observer to observed, as soon as the observer claims to be aware of nothing more than the behavioral surface of the observed, an invidious hierarchy is established which reduces the observed to a lower status. Of necessity he falls into the same category with all the stupid things of the world that fill Out-There. For consider the gross impertinence of this act of detached observation. Psychologist confronting his laboratory subject, anthropologist confronting tribal group, political scientist confronting voting public . . . in all such cases what the observer may very well be saying to the observed is the same: "I can perceive no more than your behavioral facade. I can grant you no more reality or psychic coherence than this perception allows. I shall observe this behavior of yours and record it. I shall not enter into your life, your task, your condition of existence. Do not turn to me or appeal to me or ask me to become involved with you. I am here only as a temporary observer whose role is to stand back and record

and later to make my own sense of what you seem to be doing or intending. I assume that I can adequately understand what you are doing or intending without entering wholly into your life. I am not particularly interested in what *you* uniquely are; I am interested only in the general pattern to which you conform. I assume I have the right to use you to perform this process of classification. I assume I have the right to reduce all that you are to an integer in my science."

At the extreme, this alienated relationship is that of the Nazi physician experimenting upon his human victims, learning interesting new things about pain, suffering, privation. One cringes from the reference and protests, "*That was an abnormal case. Normally, research involving human subjects stops short of inhumanity. And, in any event, whatever laboratory work is involved takes place in limited episodes; it is not a total way of life for experimenter or subject.*" Unhappily, however, the ethos of objectivity has gotten well beyond limited research episodes. Already legions of scientists and military men throughout the world, the products of careful training and selection, give themselves to whole lives of ultimate objectivity. They systematically detach themselves from any concern for those lives their inventions and weapons may someday do to death. They do their job as they are ordered to do it . . . objectively. For them the world at large has become a laboratory—in the same sense that when they enter upon their professional capacity, they leave their personal feelings behind. Perhaps they even take pride in their capacity to do so, for indeed it requires an act of iron will to ignore the claims that person makes upon person.

When In-Here observes Out-There, it is with the intention of giving order to what it perceives. The order can be understood to be that of "law," or statistical generalization, or classification. This orderliness is what sometimes leads scientists to speak of the "beauty of nature"—a notion to which

we will return in the next chapter. But what is important about all these kinds of order is that they may concede no credit to Out-There for being autonomously clever or marvelous. The scientist's nature becomes "beautiful" when it has been tidied up and pigeonholed. The achievement lies in the scientist's "discovery" of this order; the credit belongs to the observing mind. It is a situation which reminds one of the quaint use of the term "discovery" in relationship to the European voyages of discovery. The phrase suggests that the Americas, Africa, and Asia, with all their indigenous peoples had been waiting eagerly to be found by the white man. We now recognize the comic ethnocentrism of that view; the cerebral anthropocentrism of scientific discovery is less obvious. But Abraham Maslow offers us one lovely example of the subliminal presumption. He mentions the scientist who praised a book on "the difficult problem of woman's sexuality" because it at last took up a subject "about which so little is known"! He goes on to comment on the psychology of the scientist's nomothetic project:

Organizing experience into meaningful patterns implies that experience itself has no meaningfulness, that the organizer creates or imposes or donates the meaning . . . that it is a gift from the knower to the known. In other words, "meaningfulness" of this kind is of the realm of classification and abstraction rather than of experience. . . . Frequently I sense also the implication that it is "human-created", i.e., that much of it would vanish if human beings disappeared.⁷

The relationship Maslow describes is obviously an hierarchical one. In-Here is the superior of Out-There. Out-There has no way to lay claim upon In-Here, to appeal for kindness, appreciation, adoration, etc., because it is In-Here that monopolizes meaning. Out-There is left without voice to speak

⁷ Maslow, *The Psychology of Science*, pp. 56, 84.

in behalf of its sanctity or in its defense. Moreover, In-Here knows how Out-There works and therefore has power over Out-There. Since In-Here is the sole dispenser of meaning, who then can gainsay In-Here when it grants itself the unabridged right to use that power? The dead and the stupid are objects of contempt—or at best of condescension; they must submit to the scrutiny, experimentation, and exploitation of In-Here. The fact that Out-There seems not to recognize this hierarchical order only proves how dead or stupid it really is. Instead of making life secure for In-Here, Out-There blunders about producing disease, famine, death, riot, protest, and the many misfortunes of existence. Out-There is obviously unreliable. And the unreliability begins very close to home. It begins with those outbursts of fluid, imprecise, distracting imaginings that well up from the "irrational"; as well as with this troublesome body, which seems to do almost nothing properly.

If In-Here did not constantly intervene in the behavior of Out-There, what an impossible chaos would ensue! But fortunately In-Here, being vigilant and clever, is able to keep Out-There in line: to conquer it, to manipulate it, to improve upon it—beginning with the witless body, which is forever proving to be incompetent. In-Here must therefore devise forms of surgical and chemical intervention that will make sure the body sleeps, wakes, digests, excretes, grows, relaxes, feels gay, feels blue, has sex, etc., correctly, at the right time and place. In-Here may even devise ways to keep the body functioning indefinitely, so that it does not commit the ultimate incompetence of dying. Similarly, the natural environment must be conquered and subjected to forceful improvement. Climate and landscape must be redesigned. Waste space must be made livable, meaning covered over with an urban expansion into which nothing that is not man-made or man-arranged will intrude itself. Similarly, the social

environment—the body politic—must be brought as completely under centralized, deliberative control as the physical body has been brought under the domination of the cerebrum. Unless the order of things is readily apparent to a command and control center—in the individual, it will be the forebrain; in the society, it will be the technocracy—and available for manipulation, it cannot be respected as order at all.

So, at last, Out-There emerges as a pitiful disappointment: an underdeveloped country awaiting the competent management of In-Here. As Joseph Wood Krutch comments, this reverses the age-old relationship of man to nature and rapidly leads to the unbridled assertion of human hubris: “Is there anything we can’t do better?”

No age before ours would have made such an assumption. Man has always before thought of himself as puny by comparison with natural forces, and he was humble before them. But we have been so impressed by the achievement of technology that we are likely to think we can do more than nature herself. We dug the Panama Canal, didn’t we? Why not the Grand Canyon?⁸

An objective, meaning an alienated, attitude toward the natural environment comes easily these days to a population largely born and raised in the almost totally man-made world of the metropolis. It would be difficult for anyone so raised, including a scientist, *not* to be objective toward a “nature” which he has only known in the form of tidy, if boring, artificialities arranged by the parks and gardens authorities. The flora, fauna, landscape, and increasingly the climate of the earth lie practically helpless at the feet of technological man, tragically vulnerable to his arrogance. Without ques-

⁸ Joseph Wood Krutch, *Grand Canyon* (New York: William Sloane Associates, 1958), p. 25.

tion, we have triumphed over them . . . at least until the massive ecological consequences catch up with us.

(3) But there are other areas of nature which pose a more serious problem for the objective consciousness. They appear within the person.

No matter how strenuously In-Here strives to thrust out the “irrational,” it continues to intrude itself with its claims in behalf of sensuous contact, fantasy, spontaneity, and concern for the person. From somewhere nearby, In-Here continues to feel the pressure of a strange need to moralize, to joke, to hate, to love, to lust, to fear. . . . Obviously the citadel of objectivity is a precarious place. This mysterious organism which In-Here pilots about is not a trustworthy machine. Therefore, In-Here, in search of impregnable objectivity, takes the final step. It sets about inventing a superior command and control center that will take over whenever In-Here’s capacity to achieve perfect impersonality breaks down: an electronic nervous system! Such a device will never lose control of itself, never weaken, never turn unpredictably personal, for it will never have been a person in the first place.

Man’s infatuation with the machine is frequently misunderstood as being a love affair with mere power. “Here I sell what all men crave: power!” So said Matthew Boulton, referring to the first steam-engine factory. But the great virtue of the machine lies not only in its power: many mechanisms—like timers or electric eyes or most cybernated systems—are not particularly powerful and yet are highly valued. Is it not the machine’s capacity to be severely routinized that we admire quite as much as its sheer strength? Unlike the human organism, the machine can achieve perfect concentration, perfect self-control. It performs the one task to which it is assigned, with no possibility of being distracted. It acts without involvement in what it does. Indeed, the burden which

industrialization lifted from men's backs was not physical labor so much as it was deadly routine, with its demand for unrelenting and exhaustive concentration. Thus, the archetypal machine in our society is not the gargantuan steam engine, but the lilliputian clock. For even the steam engine had no industrial significance until it became part of a regulated system of production, a system which ran like "clock-work." As Lewis Mumford reminds us, "the clock . . . is the paragon of automatons. . . . The automation of time, in the clock, is the pattern of all larger systems of automation."⁹

So then: if muscle power can be replaced by a mechanism, how much more desirable still to replace the mind behind the muscle with a mechanism! If In-Here cannot be entirely relied upon to remain objective, then why not design a machine whose In-Here is a totally controlled program which specifies unambiguous objectives and procedures? "Artificial intelligence" is the logical goal toward which objective consciousness moves. Again, it is the clock which anticipates the computer. True time (what Bergson called "duration") is properly the living experience of life itself and therefore radically intuitive. But for most of us, this true time has been hopelessly displaced by the rigid rhythm of clock time. What is fundamentally the vital flow of experience then becomes an arbitrarily segmented, external measuring rod imposed upon our existence—and to experience time in any other way becomes "mystical," or "mad."

If the experience of time can be thus objectified, then why not everything else? Why should we not invent machines that objectify thought, creativity, decision making, moral judgment . . . ? Let us have machines that play games, make poems, compose music, teach philosophy. To be sure, it was

⁹ Mumford, *The Myth of the Machine*, p. 286. Mumford also calls our attention here to a similar insight on the part of Marx.

once thought that such things were to be done for the joy of the playing, the making, the composing, the teaching. But scientific culture makes no allowance for "joy," since that is an experience of intensive personal involvement. Joy is something that is known only to the person: it does not submit to objectification.

To a mournfully great extent, the progress of expertise, especially as it seeks to mechanize culture, is a waging of open warfare upon joy. It is a bewilderingly perverse effort to demonstrate that nothing, *absolutely nothing* is particularly special, unique, or marvelous, but can be lowered to the status of mechanized routine. More and more the spirit of "nothing but" hovers over advanced scientific research: the effort to degrade, disenchant, level down. Is it that the creative and the joyous embarrass the scientific mind to such an extent that it must try with might and main to degrade them? Consider the strange compulsion our biologists have to synthesize life in a test tube—and the seriousness with which this project is taken. Every dumb beast of the earth knows without thinking once about it how to create life: it does so by seeking delight where it shines most brightly. But, the biologist argues, once we have done it in a laboratory, *then* we shall really know what it is all about. Then we shall be able to *improve* upon it!

What a measure of our alienation it is that we do not regard that man as a fool who grimly devotes his life to devising routine laboratory procedures for that which is given to him like a magnificent gift in the immediacy of his own most natural desire. It is as if the organism could not be trusted with a single one of its natural functions, but this brain of ours must be brought forward to control and supervise and make sure everything is running along as efficiently as a well-programmed machine.