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CLEAR AND DISTINCT IDEAS

WHERE did we get the physico-mathematical model of the universe on which all the branches of science are founded, and because of which, we are now confronted by multiplying dilemmas? The answer is plain enough: the model grew from the devoted labors of men like Galileo and Descartes. They were seekers after truth, and they would not be satisfied unless they could show that what they had fixed upon as truth was indisputable. Both were mathematicians, and both saw in mathematical formulations "clear and distinct ideas," although the phrase is Descartes'. Their appreciation of the lucidity and demonstrability of mathematical formulations led them to conceive the real world in terms to which their method applied. That, in time, this world would have in it no place for human beings—no place, that is, for humans as thinking, longing, and aspiring intelligences—hardly occurred to them. The fire of discovery had ignited their minds; they would go on with their work until all the universe was a great rationalized (mechanized) structure, every motion of which would have "explanation" in the mathematics of cause and effect.

It is now evident, however, that as a moral agent man is an embarrassment and a nuisance in this universe. He doesn't fit in. Dr. Skinner tells us that his moral feelings must be outlawed or abolished if he is ever to fit in. Naturally, we—or most of us—resist. We declare our personal reality and say we want a new model of the universe where we can at least "in principle" feel at home, whatever the problems that remain to be solved.

But what shall be the *design* of such a universe? Who will help us in this?

Looking around for specialized assistance we find that all the men trained in interpreting the structure of the universe are habitual Cartesians. Take away from them the rule of mechanistic causality, as Heisenberg did some years ago, and they manage to put it back into the system in the form of statistical method. They can't think without causality, and perhaps they shouldn't, but the way they think about cause and effect makes the presence of moral man in the universe quite impossible. There is no rational ground for recognizing his existence.

What then shall we do about the design of a universe in which we are able to live as human beings? Well, let us retrace our steps. Let us ignore, for a time, the exciting fact that the physicists have practically dissolved the primary units of mechanical causation—atoms—into mere wraiths. It is interesting to learn that atoms are now constellations of energy held in place by equations; and that there are physicists who say that atoms may be no more than the reflection;of disembodied equations—products of scientific imagination rather than "matter"—leading, for these physicists, to revival of the proposition, "In the beginning was the Word" . . . but let us ignore such fascinating broodings and retrace our steps in a particular way.

What was the prime motivation, in the beginning, for selecting the kind of universe we now find ourselves excluded from? It was the attraction of clear and distinct ideas about the external world. What men felt inside themselves, what they dreamed of, what they longed for—how could such things be expressed clearly and distinctly? Accordingly, Galileo, Descartes, and a little later Hobbes, saw no reason to give these "secondary qualities" much more than lip attention. The world of mind, Descartes decided, had no access to the world of mechanical causation. Mind was only some sort of fifth wheel; it would spin but never articulate, and was included only out of pious necessity. It was soon dropped out, of course. In the nineteenth century Thomas Huxley pronounced thought an epiphenomenon—mental lucubrations, he said, have the same significance as the squeaks randomly emitted by the revolving wheels of a locomotive. Some fifty years later John B. Watson decided that "Consciousness" should never be mentioned in the

science of psychology. That was the end of the line for man, who was now completely abolished in theory. (Plans for his abolition in fact were already obscurely under way in the wonderings of certain physicists about how to split the atom.)

So we go back to the beginning and look more closely at the requirement of "clear and distinct" ideas which led to all this confusion. Are there any "clear and distinct" ideas which apply to the *human* side of the human being? In asking this question, we must be careful not to set up criteria which are borrowed from the physical world, for the reason that they can't be made to apply. What is the mass of love? Or the dimensions of justice? The velocity of courage? Can you calibrate compassion? Detect the coefficient of expansion in sympathy, or track to their origin the wave-motions of creativity? Obviously, another conceptual order is needed here. We are hardly ready to lay down its principles, but need rather to explore a while, cautiously looking over the field.

Yet we are not, as human beings, completely without "clear and distinct" ideas about ourselves as moral agents. So, for a start in our exploration we could take the Socratic maxim, laid down in the *Gorgias:* "It is better to suffer than to do wrong." This is surely a clear and distinct idea. But can we believe it? Obviously, not many people believe it. In the moral sphere, it is as unacceptable by the majority of men as was the Copernican hypothesis by the majority of ordinary people in Europe some centuries ago. What sort of nonsense is it that the earth turns around the sun, when anyone can look up and see the sun moving across the sky? In 1750 a Spanish Padre wrote to a friend: "In Spain the declaration of the Roman Tribunal against the Copernicans was superfluous partly because at that time we had not even heard that there was a Copernicus; partly because in the matter of doctrine (even in Philosophy and Astronomy) our country is as motionless as the terraqueous orb [the earth] in the popular System."

So we may say that immediate acceptability is by no means a measure of the truth of a clear and distinct idea; putting it to a vote will tell us exactly nothing. Nor can it be argued that the parallel is imperfect for the reason that the science of Galileo and Descartes gives us *public* truth, while the Socratic maxim will remain ever subjective. As the late Jacob Bronowski pointed out shortly before he died, the scientifically endorsed "public truth" of the present may easily (he says "will") "turn out to be wrong in a hundred years' time, because knowledge is in a constant state of re-creation and flux."

All right, then. We are entitled to look again at the clear and distinct Socratic maxim. But it is not, we note in passing, only a Socratic maxim. It is also a Gandhian maxim, a Buddhist maxim and, indeed, a Christian maxim. As Hannah Arendt has noted, it is a maxim that seems to come to the surface of a man's mind, at least for consideration, whenever he seriously undertakes dialogue with himself about the meaning of his existence. For then, having been overtaken by another clear and distinct idea, that "The unexamined life is not worth living," he finds himself constrained to ask himself ultimate questions, and to return at least tentative answers. By inference from both history and biography, Hannah Arendt generalizes what goes on in the mind of such a man. He says to himself, "since thought is the dialogue carried on between me and myself, I must be careful to keep the integrity of this partner intact, for otherwise I shall surely lose the capacity for thought altogether."

This is a statement about man as subject—as mind and soul, if you will—which has beauty and truth in it; it is not mathematical, or does not seem so, perhaps because we are unlearned in Plato's mathematics of the soul, but its truth is nonetheless recognizable by the similitude found in ourselves. The similitude may be strong; it is often weak; but we know what Hannah Arendt means.

She goes on:

> To the philosopher—or rather, to man insofar as he is a thinking being—this ethical proposition about doing and suffering wrong is no less compelling than mathematical truth. But to man insofar as he is citizen, an acting being concerned with the public welfare rather than with his own well-being—including for instance, his "immortal soul" whose "health" should have precedence over the needs of a

> perishable body—the Socratic statement is not true at all.

We may agree, but will still ask, How does Hannah Arendt know this; how did she find it out?

Well, she is a historian after the tradition or example of Vico. She is a student of the human heart. Historians and biographers, if they are any use to us at all, are students of the human heart. They try to understand the springs of action in human behavior. How can they know about others' actions and thoughts? Only by one means—by the similitude found in themselves. This is the foundation of all fruitful psychology—and of all philosophy, it seems likely. (Eddington thought it the foundation of physics, too, and later philosophers of science are beginning to agree with him.) Let us recall what Isaiah Berlin wrote about Giambattista Vico, who, early in the eighteenth century, set himself to show that Descartes was wrong in supposing that knowledge was obtainable only by a method which externalized all reality. Vico, Berlin said,

> was devout, intuitive, literary, imaginative, sensitive to nuances of style, outlook, expression—not to the structure of abstract systems or to the quantifiable properties of the external world. He belongs to the tradition of those who respond to the impalpable and unanalyzable characteristics of experience, rather than to that which alone is measurable, definable, capable of fitting into a transparent, logically organized scientific system.

Vico argued in effect:

> If I can introspect and explain my own conduct in terms of purpose—in terms of hopes, fears, wishes, decisions doubts, love, hatred, self-interest, principle and the like then I can do this for others, for in the very process of communication I assume them to be creatures like myself, and if I can do this for the present, I can do it also for my own past, through memory and imaginative re-creation; and do it also for those with whom I am linked, my family, my tribe, my class, my profession, my nation, my church, my civilization, humanity at large.

Here we have an account of the way in which our best historians—those to whom we give the closest attention, these days—work. This is the way Lewis Mumford works; it is the way Roderick Seidenberg works; Erich Kahler shapes his conclusions in this way, and so also Theodore Roszak—and, of course, some others. Ortega is another example.

Well, we began with the Socratic maxim from the *Gorgias*—"To suffer wrong is better than to do wrong." We saw its general lack of acceptability but decided that this might not be the measure of its truth. What other views on the question have the form of clear and distinct ideas?

Pascal, you could say, tried to combine something like Socratic insight with the common rejection of it, arguing: "It is *right* to follow that which is just, it is *necessary* to follow that which is stronger."

What complications! Pascal's revision is simple and clear enough, but its issue in practice has made the world we live in an increasingly formidable place. The tension between what Socrates maintained and this later amendment has created very nearly all the moral and social issues of modern times. It is a tension which changes very little, through the years.

For a dramatic illustration we go back to 1934—when Hitler had been in power for a few months, and thoughtful Americans were beginning to worry about both Nazi and Communist encroachments on their democratic way of life. In the *Nation* for Jan. 24 of that year, Carl Becker, a historian like Vico and one of our clearest thinkers, published an article entitled "Freedom of Speech." We ought, people were then saying, to silence both the Nazi and the Communist propagandists. This urgent demand for censorship had even some moral plausibility; replying, Becker used clear and distinct ideas. He began by quoting the Virginia Constitution of 1780, as the clearest formulation of the meaning of freedom of speech, then said:

> As thus defined, freedom of speech was the principal tenet of the eighteenth-century doctrine of liberal democracy. Its validity, for those who formulated it, rested on presuppositions which may be put in the form of a syllogism. *Major premise:* The sole method of arriving at truth is the application of human reason to the problems presented by the universe and the life of men in it. *Minor premise:*

> Men are rational creatures who can easily grasp and will gladly accept the truth once it is disclosed to them. *Conclusion:* By allowing men freedom of speech and the press, relevant knowledge will be made accessible, untrammeled discussion will reconcile divergent interests and opinions, and laws acceptable to all will be enacted. To the early prophets of democracy the syllogism seemed irrefutable; but to us, in the light of liberal democracy as we know it, the minor premise is obviously false, the conclusion invalid. There remains the major premise. What can we do with it?

Becker conducts his readers through various dark passageways of historical experience, lighting the way with clear and distinct ideas. First he shows what happens in fact to the eighteenth-century vision when applied to modern men and events. The men of the eighteenth century, having experienced little of democratic freedoms, formulated them as general ideals:

> . . . all the spacious but unfurnished chambers in the Temple of Freedom could be brilliantly illuminated by turning on certain phrases—as, for example, Voltaire's epigram: "I disagree absolutely with what you say, but I will defend to the death your right to say it. Liberals still think of liberty somewhat too much in the eighteenth-century manner. Give us, in a mental test, the words "free speech," and we are apt to recall Voltaire's epigram, which then fades into a picture of two amiable, elderly gentlemen engaged in a rational discussion of the existence of the Deity.

The abstraction is delighting, the practice less so.

> Since the eighteenth century we have learned at least this much, that society is something more than a debating club of reasonable men in search of truth. We know what use men actually make of their liberties. We are therefore in a position to estimate the principle of free speech in terms not of Man and Speech, but of men and speeches—in terms of the best that has been thought and said by the Honorable Members we have elected, the Attorney Generals we have known, the Insulls we have suffered, the fruity-throated announcers who, every day for a profit, avail themselves of the liberty of Lying.

It is the abuse of freedom of speech which concerns Becker most, for the reason that "economic liberty," which was to have brought equality of conditions, instead, with the aid of machines, brought about a "monstrous inequality of conditions," under which "a great part of social wealth is owned by the many who do not control it, and controlled by the few who do not own it." What to do? Restrain economic liberty and you curtail political liberty, too, and with both are associated freedom of speech and the press.

The question of free speech was raised in 1934 mainly because of the calculating and insincere tactics of the Nazis and the Communists, who were using our communication systems for subversive purposes. Becker faces this problem, but not before he discusses other abuses:

> The speech that is socially vicious, to the point of endangering all our liberties, functions chiefly as an instrument of the competitive "business" economy. Such an instrument it has always been, no doubt; but never before so important an instrument, for the reason that modern methods of communicating thought are more subtle and effective than any ever before known, while the verification of the thought so communicated is far more difficult. The result is that there issues daily from the press and the radio a deluge of statements that are false in fact or misleading in implication, that are made for no other purpose than to fool most of the people most of the time for the economic advantage of a few of the people all of the time. . . . This manifestation of free speech is a far greater menace to liberal democracy than the freest dissemination of an alien political philosophy by Nazis or Communists is ever likely to be; and the only defense for it is that to restrict it would endanger the principle of free speech.

Becker does not offer to solve problems of this sort. What he does is to show, by means of clear and distinct ideas, why the problems arise.

First, he rejects the idea of suppressing free speech of either the Nazis or the Communists. Logically, perhaps, it should be done, since both brands of totalitarianism use our free speech in order to gain the power to suppress it. But Becker is willing to concede them the freedom their own logic denies. Why?

> The real danger, from the liberal point of view, is not that Nazis and Communists will destroy liberal democracy by free speaking, but that liberal democracy, through its own failure to cure social ills,

will destroy itself by breeding Nazis and Communists. . . .

> Whatever may be the virtues of freedom of speech in the abstract world of ideas, as a rule of political action it is like any other law—it works well only if the conditions are favorable. It works not too badly in a society in which the material conditions of life, being relatively easy, create no radical conflicts of interest, and in which a common tradition of moral and social ideas, one of which is that just government rests upon the consent, freely expressed and given, of the governed. A long-time view of human civilization discloses the fact that such favorable conditions have existed only in a few places or for short times. . . . Even in this Land of the Free there are developing, under the pressure of continued economic stress, significant movements to the left and to the right. These movements can surely not be checked by declaring a quarantine—by pronouncing them "unhealthy," and closing the mouths of Nazis and Communists in order to prevent the spread of verbal infection.

Unless the underlying unhealthiness of the country is corrected, Becker said, sooner or later people will begin to demand "drastic action." In that case—

> Outmoded liberals would not then need, any more than they did in 1861 [the outbreak of the American Civil War] to ask whether they should abandon the principle of free speech, since the principle of free speech would already have abandoned them. The logic of events would present them—perhaps is already, without their knowing it, presenting them—with nothing better than that choice of evils which liberals always have to face in times when armies speak and laws are silent, the choice of joining one armed camp or the other.
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> There would, it is true, be another way out for any liberal who wished to take it. Any man might in desperation cry, "A plague on both your houses!" Withdrawing from the world of affairs, he might, as a non-resistant pacifist, still exercise the right of private judgment, having deliberately fortified himself to face . . . "the consequences." In short, he might, as a last refuge from imbecility, turn Christian and practice the precept that it is better to suffer evil than to do it.

Most readers will admit, we think, that a certain understanding of the human condition has been achieved by Becker through the use of clear and distinct ideas. Most of all we learn from his analysis that mankind, very like our model of the universe, is incomplete, unfinished, and far from understood. And we learn from history that Pascalian compromises don't work any better than untried Socratic absolutes; instead, they cause great trouble for all of us by generating alternating hope and despair.

What then if Socrates and Gandhi were really *right?*

Well, the man in the street is not ready to decide; and, being a man, he does not readily submit to being shoved in any direction—not even for the sake of salvation.

But what sort of a man would this imperfect model—this inhabitant of the streets of all the world—be, were it not for the counsels of perfection of a Buddha, a Christ, or a Gandhi?—to choose only three out of a large company of teachers and practitioners of luminously clear ideas?

During certain infrequent but awesome conjunctions of history, even the common man, by the similitude found in himself, is drawn to these moral verities as by a powerful tropism of the spirit—and a new age and civilization are born. At the root of these verities is always an inspiring and uplifting conception of the self in human beings. It well may be that, to get a model of a world that is habitable by human beings, we need, first, to form, develop, and test more conclusively those clear and distinct ideas about ourselves which lie at the root of all human ideals.

REVIEW
HISTORY OF SCIENCE FICTION

BILLION YEAR SPREE (Schocken paperback, $2.95) by Brian Aldiss is the sort of book which readers who try to use their reading time profitably are likely to glance at casually—and then be caught. After all, what can one learn from a lighthearted history of science fiction? But the fact is that the book is hard to put down. The author, obviously at home in the world of serious literature, writes with incisive clarity about the entire field of science fiction and its individual stars, putting what they are about into relation with the currents of thought and change which pervade our lives, and doing this with a dry, laconic humor that seems just right. His is distinctively English humor, the humor of uninvolved mood and gentle mockery.

Why should this book be worth reading? Science fiction is "definable," and what is definable usually lacks the incommensurable elements for which we hunger and, one way or another, must find. The definable can be stereotyped, and there are indeed endless stereotypes in science fiction. Its critics easily write in shorthand that identifies formula plots with initials. Well, science fiction is sometimes more than formula—its practice, as Mr. Aldiss says, is not a closed shop. And its ancestors are illustrious. Another thing that makes Mr. Aldiss' book worth while is its lack of pretension to heavy thinking. What he knows he knows as a craftsman—he is not showing off. This seems true despite the impressionistic judgments distributed throughout. Take for example what he says about H. G. Wells, whom he calls "the Prospero of all the brave new worlds of the mind, and the Shakespeare of science fiction." After paying Wells the tribute he deserves, he compares *Men Like Gods* with *Pellucidar* by Edgar Rice Burroughs of "Tarzan" fame:

> Wells' is a serious tale, enlivened by a little humor, whose main aim is to discuss entertainingly the ways in which mankind might improve himself and his lot. Whereas Burroughs' story is pure fantasy adventure which we do not for one minute take seriously. . . .
>
> Which of the two is the "better" book? If the question has any meaning, my answer would be that *Pellucidar* is the better. If one's choice of company lies between a fatigued schoolmaster and an inspired anecdotalist, one's better bet is the anecdotalist.
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> Burroughs, in this novel, writes about as well as he can write, which is not well but serviceably, while his fertile imagination pours out lavishly the details of his preposterous world. Wells appears constipated beside him. Wells' novel is laborious, and, whatever it was in 1923, it takes an effort to read him now, whereas Burroughs still slips down easily. With Burroughs you have (moderate) fun, Wells gives off what Kingsley Amis categorises as "a soporific whiff of left-wing crankiness."

Then, much later, after identifying Tolkien's *Lord of the Rings* as anti-Wellsian, Mr. Aldiss says:

> Wells, escaping from the horrors of a lower-class Victorian environment, saw the hope that science offered of a better world. Those who argued against him, like Lewis and Forster, saw only the eternal human condition, which science could not improve when regarded from a religious viewpoint. Wells also saw the human condition, and loathed it—hence his strong vein of pessimism—but he believed it was malleable, not eternally the same. Alas, he may be right, if there is truth in the predictions about future biological control of living organisms! Wells both hopes and fears. Since his day, his fears have been accepted, his hopes rejected—or, where challenged, as by Huxley, Forster, and Lewis, challenged largely in Wells' terms.

We said that science fiction is definable. The following by Mr. Aldiss seems both accurate and fruitful:

> *Science fiction is the search for a definition of man and his status in the universe which will stand in our advanced but confused state of knowledge* (*science*)*, and is characteristically cast in the Gothic or post-Gothic mould.*
>
> There's a corollary: the more powers above the ordinary that the protagonist enjoys, the closer the fiction will approach the hard-core science fiction. Conversely, the more ordinary and fallible the protagonist the further from hard-core.

> In many cases, it is impossible to separate science fiction from science fantasy, or either from fantasy, since both genres are part of fantasy. Nevertheless, one admires the boldness of Miriam Allen de Ford's dictum, "Science fiction deals with improbable possibilities, fantasy with plausible impossibilities."

For some such reason, it may be, science fantasy is more fun—and may have more value—than science fiction, since in fantasy the writer's imagination is not in bondage to any supposed scientific "possibility," and may be loyal to its self-created symmetries.

Adding to his definitions throughout the book, Aldiss says in a footnote that science fiction often "reads like religion-for-unbelievers," noting, "Dehumanisation is an atheist's version of demonic possession." He is not sure that the priestly function is good for science fiction writers. "Kurt Vonnegut," he says, "has not improved since he was voted one of America's heap big gurus." Yet Vonnegut shares with the better science fiction writers an exuberance of invention, despite the fact that he

> sped right out of the sf [science fiction] field as soon as he had cash for the gasoline. For that he should not be blamed though he cannot have failed to notice that he still writes sf. The traffic is not one way. Other writers from other disciplines come in and make their contribution.

Tolkien is of course a prime example of a writer raised to guru status. While *Lord of the Rings* sold fairly well, he remained known only as a scholar in England until paperback editions appearing in America in 1965 launched the cult here, and after that, Aldiss says, it spread back to England. "The English," Aldiss remarks, "write well but borrow enthusiasm from others."

Henlein's *Stranger in a Strange Land,* which became another campus gospel, is identified by a quoted comment: "anyone who attempts to practice the book's religion (which includes mass sex relations) is headed for trouble." Aldiss draws attention to the fact that Charles Manson took much of the basis for his "family" from Henlein's book, including even the water-sharing ritual, then says with tongue in cheek:

> Of course, only a moralist would be silly enough to imagine, during the Vietnam War, that the Sharon Tate murders and all the rest of Manson's odious mumbo-jumbo might be any sort of logical end result of the well-established and respectable pulp tradition of the all-powerful male, so largely epitomised in . . . swaggering intergalactic heroes.

Aldiss is most interesting when he leaves the area of hard-core science fiction to discuss either close or distant relations. On Tolkien, for example:

> Where *Lord of the* Rings is like sf is in the way the heroes are all good, and evil is externalized and defeated—something which we know does not happen in real life, for evil is within us. But perhaps that is another reason for its popularity. One can have too much real life; Tolkien will blot it out for months at a stretch.

The author rejects Edgar Allan Poe as the Father of Science Fiction—Mary Shelley, with *Frankenstein,* is the true parent, he thinks—but finds that Poe "brought off some of its best eiTects, more or less when looking the other way."

> For Poe's is the power to flood a dismal scene with burning light and show us a man on his own confronted by a malignant power he can scarcely understand, let alone master. . . . The evil that confronts the Poeian protagonist is not simply external, it is a part of his destiny, if not of himself. This is not an untruthful view of reality—later science fiction authors who change the terms of Poe's equation, making the protagonists gigantic and heroic, and conquering the universe, or making the evil purely external—and so cast in opposition to an innocent mankind—falsify disastrously. Poe may exaggerate; but, in these respects, at least, it is the truth he exaggerates.

In his last chapter, considering what is new and good in science fiction, Mr. Aldiss quotes at length from Ursula Le Guin (*Wizard of Earthsea,* etc.), calling this writer "a rarity in that she writes beautifully. Not prettily. Beautifully. Her prose is a pleasure to read." The best science fiction of today, he thinks, is being done by women:

What has made the difference is the disappearance of the Philistine-male-chauvinist-pig attitude of the mid-sixties; and the slow fade of the Gernsbackian notion that sf is all hardware. Science fiction, in other words, has come back to a much more central position in the world of art. . . . Science fiction has returned from the Ghetto of Retarded Boyhood.

I believe that the chief diet of sf is much more reality-oriented than before. And I believe this has certain artistic advantages. It means more careful writing (reader more alert, less drugged), better characterisation (characters less subordinated to exigencies of certain-victory plot), and greater diversity of subject matter (stars aren't the only destination) .

To say this is to generalise to an appalling degree. And it is, as ever, a mistake to speak of science fiction per se. Science fiction per se does not exist. There is only the will—or the lack of will—of certain writers.

COMMENTARY
MORE BY CARL BECKER

IN his chosen area of study and discourse, Carl Becker (see lead article) was a master at relating human practice to general principles. We use this space to provide further example of his penetration and skill. After the passage quoted (see page 8) on "the steady stream of falsification" coming over the media—in those days only the radio—he said:

> The evil cannot of course be cured by creating a board of censors pledged to exclude lies from oral discourse and printed matter. But neither can it be cured by waiting while truth crushed to earth pulls itself up and assembles its battered armor. In the competitive business economy, as it now operates, those who largely control and extensively use the avenues of expression are not seeking truth but profits; and freedom of speech will not cease to be used for purposes that are socially vicious until it ceases to be profitable so to use it. It would seem, then, that the essential thing is either to abolish the profit motive or divert it into socially useful channels. Communists and fascists confidently assert that neither of these objects can be attained through the liberal democratic political mechanism. They may be right. Liberals who think otherwise must at least take account of a disturbing fact: the liberal democratic political mechanism functions by enacting into law the common will that emerges in free discussion. Thus the circle seems completed: for curing the evil effects of free speech we must rely upon a public opinion formed in large part by speech that is evil.

Mr. Becker has made it plain that a liberal democracy depends upon having enough people who, through their own social and moral intelligence, "see the light" and change their objectives. Otherwise, as Becker says, cries for "drastic action" will sooner or later bring "the drastic suppression of free speech as a political method."

Becker asks, "Am I expected to be loyal to the principle of free speech to the point of standing by while, writhing in pain among its worshipers, it commits suicide?"

> It is asking a lot. It is asking too much only so long as we remain in the realm of logical discourse. In demanding the privilege of free speech from a liberal government in order to convince its citizens that free speech is a present evil neither Nazis nor Communists have any standing in logic. Their programs, so far as the preliminaries of social reform are concerned at least, are based on an appeal to force rather than to persuasion. Very well, since that is their program, let us cease talking, resort to force, and see which is the stronger. Their own principles teach us that it is logical for them to resist oppression but merely impudent to resent it. Nevertheless, the logic of events is not very logical, and I see no practical virtue in a syllogistic solution of the problem presented by Nazi and Communist propaganda. The freedom of speech which by their own logic I deny them, I am therefore quite willing to concede them in fact.

Then follow the reasons which Mr. Becker gives in the passage quoted on page 8.

CHILDREN
. . . and Ourselves
MINUTE HARMONIES

THE best of times go with the worst of times, as Dickens said. The present is a time of deprivation, mediocrity, and anxiety, but it is also a time of incredible riches. We have just been looking through and reading the Introduction to C. P. Gilmore's *The Unseen Universe* (Schocken, $8.95) and we stand (or sit) in awe at the wonders of electronic technology. This book is 9" x 12", has 160 pages, and is filled with photographs of objects like the proboscis of the tsetse fly or a speck of dust brought back from the moon—things whose size are measured in angstroms. It takes 2000 angstroms to make 1/125,000th of an inch.

A worthy review of *Unseen Universe* calls for someone with the association network of an Annie Dillard—who, if she ever looks at Mr. Gilmore's collection of pictures, might turn out a book that would make all science fiction anti-climactic. The photographs range over many aspects of the microscopic universe, showing little creatures and their parts, filamental structures and tiny life in the sea, a gnat's eye view of things around the house, and dozens of other minute forms and living things—including, for a timely sermon, the effect of DDT on birds' eggs. It seems that as things grow smaller, they become ever more delicately structured, the tiniest being the most gracefully complex. The architecture of a lily pollen grain has imagery suggesting a habitable planet; a dental drill head looks as formidable as a club in the hands of Hercules; while common salt naturally assumes the shape of uniform cubes. *Design* is everywhere: the book is an extraordinary catalog of works of the imagination in nature.

The sheer wonder of the forms is enough recommendation for this book as something good to have around the house or in a schoolroom. In addition, the harmony it reveals may serve an underlying purpose of education. In *The Redemption of the Robot,* Herbert Read pointed out that the harmony evident in nature and practiced in the arts is an analogue of the harmony desirable in human life. Children who are able to recognize that harmony and appreciate it—a spontaneous inclination in us all—have before them an object lesson of many dimensions. It is also one that does not "preach." As Read said:

> . . . the sense of goodness and nobility is inculcated, ingrained in the living substance of the human being, by the practice of the concrete arts, which alone have that basis of harmony and rhythm found in nature. Such harmonious forms and relationships are qualities or essences which we can disengage from the material universe. . . . creative freedom within that world of harmony—that is an individual achievement, the product of long exercise in aesthetic disciplines—poetry, dance, drama, the plastic arts. These disciplines should begin at the earliest age—in the nursery and kindergarten—and should be the basic disciplines underlying every sphere of knowledge and education.
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> This, which was the substance of Plato's educational theory, was not advocated by Plato with the idea of creating more poets and artists—as we know, he did not believe in professional poets and banished them from his ideal republic. His aim was to create integrated personalities, human beings capable of good living—good citizens of the republic.

Elsewhere Read expands on the Greek idea of the role of harmony in education:

> This harmony was expressed in the relation of the parts to the whole. But behind that harmony lay the mathematical concept of proportion, which, the Greeks believed, could be visually presented with geometrical figures. The harmony of the world is a complex idea: it means both musical harmony, in the sense of a beautiful concord between different sounds and harmonious mathematical structure on rigid geometrical rules. The subsequent influence of the conception of harmony on all aspects of Greek life was immeasurably great. It affected not only sculpture and architecture, but poetry and rhetoric, religion and morality; all Greece came to realize that whatever a man made or did was governed by a severe rule, which like the rule of justice could not be transgressed with impunity—the rule of fitness or propriety. Unless we trace the boundless working of this law in all spheres of Greek thought throughout classical and post-classical times, we cannot realize

> the powerful educative influence of the discovery of harmony.

The geometry of natural forms is illustrated all through Gilmore's picture book. You get the impression that certain basic harmonies are the autograph of life itself, and that if you want to read the Book of Nature it will be necessary to learn the language of her forms. A fine book for showing its alphabet to children is Anthony Ravielli's *An Adventure in Geometry*, which starts out:

> Actually, we have been exposed *to* geometry since the day we were born. Whether we realize it or not, much of the beauty we admire in the world around us is a result of nature's geometric skill. Every living thing—a tree, a flower, or an insect—is a lesson in geometry at its exquisite best.

—and then demonstrates by ingenious drawings the omnipresence of geometric forms in nature.

How are the pictures in Mr. Gilmore's book taken? With a *scanning* electron microscope. This microscope is a comparatively recent development. The transmission electron microscope, which was invented first, looks *through* the object, creating an image like an X-ray. The picture tells you something about the inner structure of the object, but little about its surface, so that you don't really know what it looks like from the outside. The scanning microscope, with a resolving power about half-way between that of an ordinary microscope and that of a transmission electron microscope, shows the surface of tiny objects as in an ordinary photograph.

Why are *electron* microscopes so powerful in magnification? Because the wavelength of the electron is "thousands of times shorter than that of visible light." When a beam of electrons (which must "shine" in a vacuum to remain coherent) passes through an object, then through a magnifying device called a "magnetic lens," and then hits a fluorescent screen or a piece of film, the image may be viewed or recorded.

Of course, people don't really *need* electron microscopes to see the harmony of nature, but a book like this makes the harmony inescapable. Meanwhile, a lovely article about John Muir in the Summer issue of *Living Wilderness* tells how, from studying the glaciers in the Sierra Nevada, Muir came to see all nature as a living organism and a grand harmony of parts. All life, he said, is a *flow:* "Plants, animals, and stars are all kept in place, bridled along appointed ways, *with* one another, and *through the midst* of one another."

FRONTIERS

Are the Cults "Occult`'?

A PAGE or so of space for weekly review of what is happening in the world is little enough, and we have been waiting for wider notice of what the September/ October issue of the *Humanist* calls the "new cults" before attempting to assess such bewildering psycho-religious developments. The *Humanist* survey of these diverse expressions of religious longing is complete enough for any reader who wants general background on the subject. Actually, fully as important as the fact of the sudden emergence and growth of the cults is the change in the attitude of observers and critics having a scientific background.

A comparison will illustrate the extent of this change. In a sociology text published in 1934, the author, L. L. Bernard, declared authoritatively:

> The old theological assumption of personal control through spirit direction . . . (a permanent indwelling directive spirit), has given way, under the influence of an analysis of neurons, cortexes, and endocrines, to the behavioristic theory of the conditioned response and stimulus-response or behavior patterns. The spiritualists and the theologians and the metaphysicians have not welcomed this growth of a science of personality and they have not hesitated to reveal their intellectual character by their strenuous efforts to sweep back the oncoming tide of behavioristic science with their witch brooms on which they have been accustomed to ride in the clouds of spiritistic phantasy. But in spite of this bit of diverting hobby-horse play a science of personality based on a measurable mechanics of behavior is bound to replace the old magical and mystical spiritism which still survives in the thousand and one cults that delight in calling themselves psychological.

Dr. Bernard was a confident sociologist but a very poor prophet. One of the contributors to the *Humanist* survey, Ethel Romm, remarks:

> Whenever I need to know quickly what is happening in ecstatic circles, I ride over to a great university and note the calendar of the week's activities and the posted notices. The cults seem institutionalized now. They're very nearly respectable and have their own mass publication in *Psychology Today.* Sometimes I drop in for the free introductory lecture by SIMS (Student International Meditation Society) on TM and SCI (Transcendental Meditation and the Science of Creative Intelligence)—this last one is usually one credit hour.

This inventory of what is to be found on a modern university campus continues at some length, with the writer concluding:

> These are the signs—the class of signs—that are taken for unmistakable pointers to either: (1) a great New Theological Age of spirituality, ecstasy, bliss, and cosmic consciousness; or (2) the imminent disintegration of Western civilization, beginning with the decline and fall of America. If one is true so might be the other. The last time imperial empires fell—after Versailles—superstition and occultism rose high. God knows other signs abound. When the Club of Rome's computerized report prints out the *Book of Revelation,* even a reckless writer should proceed warily.

What do the other critics say? In an introductory article, the editor of the *Humanist,* Paul Kurtz, recalls the claim of Ernest van den Haag, a humanist thinker, "that secular and scientific humanism has destroyed the old religious order and that out of this chaos new cults have emerged to provide meaning for those desperately seeking it." Well, it is true that science has offered no answer to the "why" questions, and since man is, to himself at least, a purposive being, it may be wholly natural for him to revolt against this systematic neglect. Mr. Kurtz does not object to mystical or metaphysical inquiry, but wants individuals "to be critical and skeptical about their beliefs." (The Buddha, as we recall, cautioned his followers not to accept any teaching only because he, the Buddha, had given it.)

In a particularly thoughtful discussion of new religious cults vis-à-vis rational science, Marjorie Clay finds Theodore Roszak quite right in comparing the present with "the cultic hothouse of the Hellenistic period, where every manner of mystery and fakery, ritual and rite, intermingle with marvelous indiscrimination." Yet Miss Clay sees more than mystery and fakery behind the present goings-on. Pointing to the built-in

limitations of scientific objectivity, she quotes William Blake and Maslow as witnesses to inner, intuitive modes of knowing, and she caps a major criticism of scientism with a sentence from Whitehead: "Scientists animated by the purpose of proving that they are purposeless constitute an interesting subject for study."

Also pertinent is an observation she quotes from Robert Cohen, made ten years ago at a conference on science and technology:

> The full truth is bitter. Science is no longer the enlightening ally of human progress that it once seemed to be, and humane men will look warily at any model of a scientifically rationalized order, at too strict a devotion to facts, at too concentrated a focus of intellectual resources upon the very technical fields which will have enabled the mechanization of human life and culture.

Marjorie Clay sets against the alienating influence of a scientific method which takes no account of human values and subjectivity the counter tendency of "occultism" as its polar opposite. "Where scientific objectivity has denatured man's personal experience, the new cults revel in an arcane form of subjectivity." Occultism is said to celebrate "mystery and ritual," while its "incipient anti-intellectualism," Miss Clay charges, "threatens the very foundations of Western culture itself."

It seems true enough that the cults and sects which the *Humanist* contributors describe are a threat to rationality and the enemies of sober evaluation, justifying Miss Clay's apprehension: "The important- question is whether our incredibly complex age can now afford the simplicity that anti-scientism brings." But do the cults specified by the *Humanist* writers really represent the original or significant meaning of "occultism"? Can these critics be sure that the groups called "occult" by the daily press know anything at all about the ideas which were at the heart of old mystery religions—religions which recent scholars have not judged to be "irrational" at all? The cults of the Hellenistic period ranged from lurid forms of self-indulgent emotionalism to the austere and philosophic mysticism of the Neoplatonists and the ascetic Gnostic communities. There were also a "multiplicity of approaches" in Egypt, as H. Frankfort shows in *Ancient Egyptian Religion.* Frankfort reproves scholarly antiquarians who, attempting to interpret old beliefs, "act like a man who would gauge our present knowledge of the stars by studying horoscopes in the newspapers." Apparently, some of the *Humanist* writers have followed the example of Arthur Koestler in *The Lotus and the Robot.* Koestler's reports made it seem as though he had button-holed somebody wearing a badge marked "Yogi," to get reliable information on Eastern psychological disciplines, and then called on the Zen center with the biggest street sign to form his opinions of this branch of Buddhist teaching. Much more acceptable, for example, are the historical studies of Frances Yates, who honestly admits in *The Rosicrucian Enlightenment* (1972) that in all her research she failed to come across a single self-identified Rosicrucian, and could not really say, therefore, whether any actually existed! Yet, as she shows, their "occult" philosophy proved most impressive. If the Rosicrucians, whoever they were, can be regarded as representative occultists, then these modern critics have some homework to do. Having given past occultists a fair hearing, they might avoid such generalizations as the one made by another *Humanist* writer, Richard T. Hull, who declares:

> With its emphasis on decision and commitment, subjectivism does not provide for comparison and choice among competing theories. Because it does not permit this, because the central maxim of the new religious cults is "Believe in order to understand!" occult theories are fatally arbitrary and cannot qualify as reasonable cognitive alternatives.

However, as critics of the pseudo-occultism of the day, and of new forms of religious extravagances, the *Humanist* contributors write fair-mindedly and well. And several of them are well aware of, and affirm the value and importance of exploring, the undiscovered country of the subjective side of man's life.