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SCIENCE AND PHILOSOPHY

THE question of whether or not scientific knowledge and philosophical knowledge (if any) can be regarded as independent forms of knowing is the subject of an article by Sidney Hook in the Spring 1957 *Partisan Review*. Since Prof. Hook is not only one of the clearest thinkers of those bred in the scientific tradition, but a lucid writer as well, this article is a valuable analysis of the problem. The discussion, however, is an abridgement of a paper presented by Prof. Hook at a Colloquium in which "secular philosophers were invited to examine philosophical issues with Catholic philosophers," so that much of his analysis is directed at the assumptions and arguments of the Neo-Thomists. Here, we propose to look only at the more general considerations offered by Prof. Hook, and to compare them with an entirely different approach to the problem—that suggested by Gardner Murphy, of the Menninger Foundation, in an address on "The Enigma of Human Nature," given in Boston in May, 1956.

The opening of Prof. Hook's article is devoted to the weaknesses of philosophy's claim to having produced knowledge. He writes:

> Philosophers even disagree about the nature of their subject matter (in this they resemble writers and artists), and a good part of their activity consists in extended justifications, even apologies, for their existence (in this they differ from writers and artists). I know of no other reputable field of thought that exists in such chaos; there is more unanimity even in disciplines such as anthropology or meteorology, which have barely reached the stage of fledgling sciences. In no other field of thought are there "perennial" problems. Sciences grow by virtue of the fact that problems are solved, theoretical difficulties mastered, basic distinctions in language recognized. But in the field of philosophy, even distinctions that would appear to be basic, such as that between analytic and synthetic statements, are constantly being challenged.

Here, the critical assumption is that the findings of philosophy are to be evaluated by comparison with the findings of science. This is justifiable only if philosophical knowledge is the same *kind* of knowledge as scientific knowledge. Prof.Hook observes:

> If we proceed in this way philosophical knowledge at best is a poor and distant relative of practical and scientific knowledge. Indeed, its legitimacy depends entirely upon its being like the latter, and it is certainly more unlike than like. Is philosophical knowledge a different *kind* of knowledge or is it knowledge of a special *field* or *aspect* of things like astronomy or linguistics? If the first, how can we explain the history of philosophy and its conflicts with scientific knowledge; if the second, how explain that it seems to be in a state more suggestive of astrology or psychoanalysis than of any well-ordered science?

This is perhaps a fair statement of the problem. To set it somewhat differently, ought the same demands that are made of science be made of philosophy, too?

Have we been so carried away by the kind of "certainty" that science produces that we now suppose that any enterprise in human inquiry which does not produce the same sort of certainty, or at least give *some* promise that such certainty may eventually be gained, is a futile enterprise?

In *Encounter* for last October, a British writer, Kathleen Nott, addressed herself to this question, declaring that the attempt of philosophers "to compete with science on its own ground" has been a suicidal mistake. For the philosopher, it resulted in "a kind of inferiority complex." Further, the philosopher "became preoccupied with proof and certainty and progressively ignored the fact that both individually and historically it has been other inducements which started his philosophizing."

Continuing her argument, Miss Nott observes:

> It is not insignificant that the dialogue form was favoured in early philosophy. Questions and answers which spring out of the activities of living require both a dramatic and an inconclusive expression. Amateurs might take heart from this and help to unify the language again. A philosophical advance may now be expected to come rather from the literary and creative side than from the scientific. Philosophy in fact must become again what it used to be, an art, giving up what it cannot be, a science.

Is this the fundamental truth about philosophy, or is it a strategic retreat? Or is it perhaps *both?*

Prof. Hook is well equipped to attack the claim that philosophy is a "separate" or "different" kind of undertaking from science. Why, he asks, if philosophy deals with another sort of "truth," has the rise of science had such devastating effects upon philosophy?

Another way of asking this question would be: What elements of philosophy have been able to *survive* the rise of modern science?

These questions are impossible to answer with any finality, although some comments are possible. First, in the way that the questions are raised, there is implicit the assumption that both philosophy and science are completely "pure" undertakings, when the fact is that there is something of the philosopher in all scientists and something of the scientist in all philosophers, simply because both are human beings.

Further, philosophical ideas suggest leads for science, just as science, broadly viewed, is inevitably regarded as having philosophical "implications."

To know absolutely the extent to which science has *legitimately* condemned certain philosophical ideas of the ancients, we should have to be sure that our science is really science, and not a kind of metaphysical prejudice; and, likewise, be sure that we understand perfectly the ancient philosophical notions.

But Prof. Hook is dealing with Catholic philosophers, so that he is able to illustrate the defeat of philosophy by science by pointing to the impact of science since the discovery of the heliocentric system:

> It is hard to defend the autonomy of philosophy when we consider the enormous influence of Copernicus, Galileo and Newton, in the seventeenth century, of Darwin in the nineteenth, of Mach and Einstein in the twentieth, on the philosophies of their time.

The point is well made. The Aristotelian astronomy was toppled by Copernicus and Galileo. The literal interpretation of *Genesis* regarding "creation" (if this can be regarded as "philosophy") lost its authority with the work of Lyell and Darwin, and a vast mind-stretching resulted from the work of Albert Einstein.

A point in favor of philosophy, however, is that the Copernican astronomy was clearly inspired by the philosopher-mathematicians of the Pythagorean and Platonic tradition; that Newton obtained direct leads for his gravitational theory from Jacob Boehme, and Kepler gained inspiration from Apollonius of Perga and Plotinus.

It is not that science must yield its originality to philosophy, but that it should acknowledge that philosophy exerts a fertilizing influence upon science.

It is true that ideas which have been regarded as "philosophical" have suffered eclipse from science. But shall we say, then, that *philosophy* is proved false, and shown to have no "independence"?

Or shall we say that certain philosophers indulged in erroneous "scientific" speculations? We can certainly say this, but it opens defenders of philosophy to the charge: "How very convenient! When philosophy is proved wrong, you say it is not philosophy, but the impulsive mistake of some philosopher! How can such thinking acquire either discipline or integrity?"

Philosophy is certainly vulnerable to this charge. The only response that we can think of is that, since the scientist is a human being as well, he is also a philosopher, so that in attacking philosophy as useless, he is really attacking himself.

Actually, a case might be made out for the idea that only "unphilosophical" philosophy can suffer from scientific discovery—that this, in fact, is a fortunate check on bad philosophy.

But there is a further consideration: To what extent are technical or "scientific" errors really a serious matter in philosophy? Suppose a thinker of a certain period presents a number of contentions about the nature of things, and that, in order to be as clear as he can, he illustrates his ideas with instances taken from the natural science of his time. Suppose, further, that his contentions are valuable. But if, at a later date, his illustrations are shown to be drawn from mistaken science, or even some species of superstition, is his *philosophy* thereby proved in error?

However, if a philosophic statement lays claim to being truth or knowledge because of some supposed scientific demonstration, which later turns out to be false, then the matter is serious; but even in this case, the philosophy should be examined on its merits. Take for example the Sermon on the Mount. The theological position in regard to New Testament utterance is that what Jesus says is divine revelation, enjoying absolute authority. If it could be shown—which might be difficult, but is certainly conceivable that no man like Jesus (or Son of God) existed at the time Jesus is supposed to have lived, then the historical basis for Christianity would no longer exist. There would remain, however, the content of the New Testament, which has a validity independent of its origin.

It is a matter of interest that the most philosophical religions—those least dependent upon their founders for their authority—present very few obstacles to minds trained in science and scientific method. Buddhist philosophy has a profound attraction for men who are unable to feel sympathy for the supernaturalism of other religions. Erwin Schrodinger, noted physicist, is drawn to the *Upanishads*, and J. Robert Oppenheimer studies the *Bhagavad-Gita*.

This is not to suggest that there are no problems or difficulties for those of a scientific background who embrace a philosophical sort of religion. Philosophy is not a way of dispensing with difficulties, but a way of meeting them such that no important phase of life is ignored, and such that there exists at least a theoretical possibility of overcoming them.

Since a discussion of this sort could go on and on, we should perhaps move to another phase of the question. First, however, we ought to do full justice to Prof. Hook by noting that, at the conclusion of his article, he adopts John Dewey s view of the relation between philosophy end science. He writes:

> Philosophy in this sense is wider and more precious than science because in Dewey's words it is "occupied with meaning rather than with truth." It is not a revelation of the physical or metaphysical structure of the universe but of the "predicaments, protests and aspirations of humanity." It was none other than Dewey who deplored "our lack of imagination in generating leading ideas," and who denied that "the scientifically verifiable" at any moment "provides the content of philosophy." Indeed, "as long as we worship science and are afraid of philosophy," he writes, "we shall have no great science." For philosophy is a vision of possibility based on actualities and not determined by them; it reaches beyond fact to values; it exercises "a speculative audacity" in relating values to each other. It must be consistent with the findings of science, but outruns and outreaches at any given moment what we strictly know. It is an informed commitment and an intelligent guide to action on behalf of moral ideals.

With much of this it is difficult to disagree at all. The only exception that we might take relates to the competence of philosophy regarding "the physical or metaphysical structure of the universe." We should like to have from Prof. Hook the concession that philosophy may perhaps

intimate conceptions of structure, which thereby become open to verification by the sciences. At any rate, there is some historical evidence to suggest that this has happened. Is it *necessary* to regard these (later scientifically verified) suggestions of philosophy as having been no more than lucky guesses?

And now for Gardner Murphy's examination of the nature of man—a crucial question for both philosophy and science. Dr. Murphy starts out (in his address, which was printed in *Main Currents* for September, 1956) by showing how supposedly "scientific" ideas of man are subject to radical change. Fundamentally, he questions the idea of the "separate individual":

> As taught two or three generations ago, there was scarcely anything more dogmatic than the concept of the self-sufficiency of the individual man. It was assumed (erroneously, as we now know) that Darwinism required acceptance of a highly egocentric struggle for existence, which implied, in the age of the Industrial Revolution, a high degree of individual competitiveness. This was widely interpreted to mean the war of all against all.
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> A great deal of work being done today disproves this kind of theorizing from Darwinian premises. Studies of gregarious living at many animal and bird levels, of primary social organization and of more complex societies, have begun to show us new aspects of the so-called law of self-preservation which hitherto had been overlooked.

Instances of the strong sense of human interdependence are cited by Dr. Murphy. Men who proceed on the assumption of a law of brotherhood grow into a kind of life which is quite different from the life of those who "compete" with one another. There have always been illustrations of this sort of relationship among men, and of its fruits, but until recently the concentration of science was upon other principles. We can hardly claim, now, that science has made a new discovery in noting the power of altruistic attitudes. We can say, only, that science has turned its attention in this direction. Dr. Murphy comments:

> The fact that, under such conditions, men lend themselves freely, for the single reason that they want to benefit their fellows, seems to indicate the possibility that we "knew" something about human nature that was not so. The definition of the individual man, encapsulated and sharply divided from his fellows, may well have basically missed the most important point in the human equation.

Well, suppose Dr. Murphy is "right": to whom shall ye give the credit for this discovery concerning man—to science or philosophy:? To get attention for the idea in a scientific age, Dr. Murphy may be obliged to point to a report of a scientific study; but is this what makes it a fact?

It is probably best, if not necessary, to leave this question where it is. You could say that the "rugged individual" theory also had a philosophical inspiration: the nineteenth-century scientists were determined to get along without "God," so their interest was focused upon proving that man is the kind of a being who can do without either heavenly "lovingkindness" or authoritarian dictation on what to "believe." They would, by God! do without God! But when other problems became greater than the threat of supernatural imperialism, the endeavor to restore a moral sense to man became a "scientific" interest. Philosophy, obviously, has had a hand in these alternations. It is philosophy which makes men value freedom, and it is philosophy, again, which seeks another ruling principle in man than the brutish instinct for physical survival.

Is man, in other words, far more than the "ordinary" idea we have of him suggests? Dr. Murphy launches on a great sweep of thought from this beginning:

> The question involves not only the division between persons, which may not be so sharply defined as we sometimes think them, but also the capsule walls between the person and the cosmos as a whole.
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> The cosmos may be thought of as a "physical system," if so desired, although, in view of the difficulty we now find in making a clear distinction between what is material and what is psychical, or spiritual, I myself am inclined to doubt whether I—or anyone else, for that matter—really knows very much

about what these contrasting terms are intended to convey. But even if we accept the cosmos as a physical system and nothing more, the relationship of man to that system is becoming steadily more fluid. A prophetic statement made by Henri Bergson said that the brain and the eye of the man who is watching the farthest nebula form one organic unit with that nebula. In reality there is no such thing as the object stimulating the person and the person being stimulated by the object; one flows to meet the other.

Contemporary physics has widely employed concepts of this kind; more: recently, biology and now psychology have been forced to their use through the discovery of such principles as isomorphism—literally, the "presence of identical forms." This means, in effect, that the very form or structure of the cosmos is duplicated in man, in the sense that the wave-motion, or other time-space order, within cosmic structure is duplicated in miniature within the individua1. The living organism is a sort of "harmonic," a reduplication of, or resonance with, vaster-forces which he can perhaps only hope to know as he sees his own nature expressed more grandly in larger space-time terms.

Just where this passes over from a sober scientific statement of fact into an expression of ecstatic union or mystical belief, I cannot pretend to say. But I would feel fairly confident in stating that the microcosm which is man receives its law or structure from a more general law; that it is repeating, like the sympathetic vibration of a wire, the vaster processes of the macrocosm, and that it is perhaps capable of telling us through its own inner rhythms, something about the larger rhythms of which it is a replica.

Now here, perhaps, we have an account of *how* philosophy may intuit ideas of structure, both metaphysical and physical.

But if the scientific mind is dizzied and made skeptical by these speculations—which are really something more than speculations, since they approximate the content of a number of mystical theories of knowing, from Platonic participation, on—there remains the matter of the individual man's idea of himself to be dealt with.

Let up suppose, for example, that the individual man is not an encapsulated separate entity, but that he *thinks* he is. By so thinking, he may render imperceptible to himself a wide range of cognitions which *could* reach him, although beyond the limit of the capsule. His "knowledge," therefore, on a "scientific" basis, must be limited by the cognitions he is able to receive. But another man, for reasons which remain obscure, enjoys a wider radius of perception. He is, let us say, a William Blake, or a Gandhi—a man whose idea of the self is very different from the one who thinks of himself as a wholly separate identity. This man's "science" will gain little public assent and no familiar vocabulary for its description. He finds himself confronted by the world's "vulgar average" of perceptive capacity—the level of acknowledged objective reality. He will either keep his visions to himself, or he will risk being called a visionary, a madman, or a fraud.

The thing that immediately comes to mind, from the scientific viewpoint, is the disaster to all acceptable means of verification in this proposition about the nature of man. For if the field of man's observation is variable, then what is seen must be equally variable. It is as though astronomers looked at the stars with differently focused telescopes, or chemists found their equations affected by their mood at the time of the experiment.

But possibly there *is* an order of experience where such bewildering factors are the rule instead of the exception. If there is a region of magnitude where Newton's laws break down, and other laws prevail; if Euclidean geometry will not serve some phases of the behavior of matter; why should it not also be that there are margins of the subject-object relationship which change according to the nature of the subject, and possibly the object, also?

Objecting to this sort of theory of knowledge, Prof. Hook writes:

. . . it can be shown that all human beings in their every day experience are guided by the conception of knowledge as scientific knowledge. To deny this is palpably insincere. A Platonist might invidiously dub all empirical knowledge as "opinion,"

> but no matter what one calls such knowledge, one acts on it. The burden of proof rests entirely upon those who assert that there exists another kind of knowledge over and above technological common sense, empirical knowledge, and the scientific knowledge which is an outgrowth and development of it. It is not enough to maintain that such a body of knowledge exists because people claim they are guided by it to solve specific problems.

Of course it is not enough, if philosophy must compete with science. But philosophy need not, should not, compete with science. Nor is philosophy especially interested in dealing with the practical problems of "everyday experience." Philosophy is called upon for greater things. Philosophy is needed when the rules of "everyday experience" break down as insufficient. Indeed, it is for this very reason that science may be called "opinion" in the Platonic sense; it does not deal with those ultimate decisions which turn on *meaning* and *value.*

In the nature of things, however, this is not a subject upon which anyone can demand a final word. Resolution of the difference between science and philosophy, except as pure abstractions, is locked in the indivisibility of our humanity, our minds and hearts. This is a discussion which should continue forever.

REVIEW
THE PHILOSOPHY OF J. ROBERT OPPENHEIMER

THE name Oppenheimer has, during the past few years, meant different things to men of differing persuasions. There was that turbulent period during which the former scientific head of the Los Alamos project was formally labeled a "security risk," suspected of "unAmerican leanings," and grilled so unmercifully and unfairly that his political enemies counted coup on his national reputation. Certainly, when a man accepts one of the greatest scientific responsibilities the nation affords, and is subsequently forced to endure persecution, he has run the gamut. In retrospect, now, it is difficult to imagine anyone who could have done the running so well under such adverse circumstances, who could eventually turn all his misfortunes as well as his successes into the materials of general education.

Last March 4 Dr. Oppenheimer, now director of the Institute for Advanced Study at Princeton, returned to California Institute of Technology for a visit with the undergraduates. His one formal talk—Oppenheimer prefers conversations with small groups, whether professors or students—is reproduced in the March issue of CT's *Engineering and Science.* In simple, heartfelt, though unsentimental language, this address shows how almost anyone may come close to the profound thinking of a scientist who knows how to philosophize and who has "seen the world." Oppenheimer has a truly global view—the one and only cause of his difficulties with the officials who conducted security investigations—and the global view requires sympathetic understanding of all of the varieties of human differentiation. In Oppenheimer's words:

> We are all incredibly different. I think sometimes that one of the unexpected fruits of biological research may be that we can, on occasion, be made to feel more like somebody else than we normally do, and so get some impression of the immense diversity in human experience. But, of course, as it is, we don't have that. Through art, through affection, we have some sense of a global kind of what other people are like, of what life means to them, of what makes them tick, and of what their learning and their understanding is. But an immense sense of the otherness of people, and the otherness of possible worlds and ideas is, I guess, the basis of tolerance. I don't mean, in any simple way, tolerance of evil in one's self, but rather a recognition that even two people, hearing the same words, living together, seeing the same things, have some measure of gulf between them; and a recognition that when we are dealing with remote peoples, remote traditions, we need to bring an overpowering humility to our estimate of what they are, and our measure of them.

Dr. Oppenheimer sought to show the students—who turned out en masse—that the extended boundaries of atomic physics require a far more knowledgeable humility than man has yet displayed. The implications of atomic research oppose the historical tendency to think in rigid moral and political categories. Any and all deterministic thought must now be qualified. The "principle of indeterminacy," obtaining in sub-atomic "matter" is, in man, the "principle of free will"—giving reason for respecting the gulf between men, as well as their "togetherness or sameness." As an atomic scientist, Oppenheimer recognizes that concentration upon purely instrumental knowledge easily neglects cognizance of those realms of value beyond physical research—unless the scientist has the courage to philosophize while he works. If he does, he sees a "picture of the cognitive world which, in many ways, is not the one we have inherited. It isn't as though we were in a room just looking at it, then, if we wanted to know some more, looking some more, exhausting all the properties of it, being able to talk about it all—as though we were in a temple and could go back over and over again, studying the peculiarities of the temple until there was nothing more to know, and then making a description of this room or this temple which was total and global." He continues:

> It is much more as though we had deep, not always connected parts of knowledge—knowledge of physics, knowledge of life, knowledge of man,

> knowledge of history. Between these things that are known to any one of us, there is always potential relevance, so that one can never say, even of the most implausibly abstract kind of mathematics: This will not be relevant to psychology or physics. But the image that comes to my mind is not that of the chamber that can be exhausted, but of an essentially infinite world, knowable in many different ways; and all these paths of knowledge are interconnectable, and some are interconnected, like a great network—a great network between people, between ideas between systems of knowledge—a reticulated kind of structure which is human culture and human society.

An interesting volume available in local libraries, *J. Robert Oppenheimer and the Atomic Story,* by J. Alvin Kugelmass, provides background on Oppenheimer's breadth of mind. During his first association with the University of California at Berkeley, he began to branch out "in all directions," not because he did not have enough to say about atomic physics, but because he felt a human obligation, as well as an enthusiasm, to transcend his specialty. In short, he began to "delve." He took up the study of Sanskrit to understand better the profound message of the epic *Bhagavad-Gita.* In the words of Kugelmass:

> He made friends with the great Sanskrit expert Arthur Ryder, and every Thursday evening he attended a reading of the great Hindu poets. His friendships widened and soon included philosophers on the staff of the university—poets, writers, geologists, engineers, lawyers and physicians.
>
> He found a fine affinity among all the specialties, which was to stand him in good stead later on when he was to take over the directorship of the Institute for Advanced Study. For there is a kinship among all scholarly pursuits and there is a great and understanding kinship among scholars, no matter what their fields. The poet and the scientist work the same way and seek the same things. Just beneath the surface of the poet's longing to express an idea is the idea itself. And this also holds true of the scientist. It is in the seeking and in the agony and joy of seeking that the poet and the scientist have this kinship.
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> In a short time Oppy's friends began to include people of various shades of opinion, of color, of nativity and of scope. As he talked, he learned. Always a good talker, he inspired others to talk well. He plunged into Oriental philosophies, poetry . . .

Throughout his dynamic if unorthodox teaching career, Oppenheimer has been an inspiring example of catholicity of thought, his lectures vitalized by continual reference to the world's greatest thinkers. With the background of "A Talk to Undergraduates" and the details of Oppenheimer's life as supplied by Mr. Kugelmass, one has little difficulty in understanding why this man had his large spot of trouble with politicians and officials who came equipped with one-track minds. It is to Oppenheimer's credit and a mark of the honor due him that he publicly expressed his opposition "to secrecy about the aims and intentions of those who have the power to unleash the bombs. Men of good will who know history have no fear of the end of things for mankind or of the beautiful things of life."

It is said that it is difficult to hold a good man down, and it is even truer to say that it is impossible to obliterate greatness. No better man, we think, could possibly serve as director of Princeton's Institute of Advanced Study, nor could advice be sought in any more propitious place for policies regarding the development and regulation of atomic energy in the future. The man who made the bomb, because he did not see what else to do, has shouldered the responsibility of his success, placing his personal reputation upon the block by expressing a "radical" global-mindedness. He has high hopes for the future of atomic energy because he has respect for the ethical potential of man.

Some readers will wish to read his talk to the Cal Tech undergraduates in full. Single copies of the March issue of *Engineering and Science* can be obtained for fifty cents from the editorial offices, 1201 East California St., Pasadena.

COMMENTARY
SCIENCE AND ART

AN article in the Los Angeles *Times* for April 28, by Arthur Millier, art critic, reports that two separate studies of the factors important in creativeness—one conducted in the field of the arts, the other concerned with the sciences—have produced very similar results. Victor Lowenfeld, head of the art department of Pennsylvania State University, at a meeting of the National Art Educational Association held in Los Angeles last month, described six years of experiments conducted at Penn State, the problem being to find means of distinguishing between creative and noncreative people in the arts.

At the same time, a study of creativeness in science was being pursued under the direction of Dr. J. P. Guilford, professor of psychology at the University of Southern California. While neither research project knew about the other's work, both "arrived at almost the same criteria of creativeness." Mr. Millier writes:

> Lowenfeld stressed the importance of these experiments to education in an age which, by the nature of its tasks, tends to encourage conformity at the expense of individuality. To discover and promote creative individuals he held to be vital to society.
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> The No. I attribute of creativity in both studies was "sensitivity to problems." "Fluency," the ability to think of many variations of an idea or technique, was the second attribute so named in both surveys. They agreed, too, on the term "flexibility" for the third requirement. It referred to the ability to adapt to situations and to the spontaneous shifting of ideas and responses.
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> "Originality" was held vital in both sets of tests. "If Johnny cannot respond as the rest do, he may be considered a social outcast," said Lowenfeld. "That those outcasts may be the Beethovens of our time is a fact many of us still have to learn." The SC survey might have said "Einsteins."

Each project came up with four more criteria which while not identical, were very similar in content:

> The names given these four were, in the science study, "redefinition," in the art: "ability to rearrange," and in the same sequence, "analysis" and "ability to abstract," "synthesis" and "closure," both meaning ability to create something new out of various elements, and "penetration" in the science tests and "institution" in the art survey.

Mr. Millier summarizes Mr. Lowenfeld's conclusions

> Art education in general schooling has long had to compete unsuccessfully with the verbal disciplines. Those abstractions, words and numbers, are important tools of civilization. But there are other important disciplines which are the task of art education to inculcate—the æsthetic values which make us aware of the reports of our senses.
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> "The great contribution of art education," Lowenfeld concluded, "remains the same: the emphasis on the individual and his own potential creative abilities and, above all, the power of art to integrate all the components of growth which are responsible for the whole man."

CHILDREN
. . . and Ourselves

A SUCCESSFUL REVOLUTIONARY

ANOTHER volume to be added to the MANAS list of unusual books on education is *The Werkplaats Adventure*, published in 1956 in London by Vincent Stuart. This is the story of one of the best known of the world's "radical" teachers, Kees Boeke, of Holland—a former missionary who could never submit to a formal creed.

The author of *The Werkplaats Adventure*, Wyatt Rawson, has been for many years Joint Organizing Director of the New Education Fellowship and has enjoyed unique opportunities for comparing pioneering educational efforts in different parts of the world. Coming from a teacher who played a part in starting four new schools in England, Rawson's extreme praise of Boeke's accomplishments carries considerable weight.

The full designation of the enterprise Kees called "Werkplaats" is the Children's Workshop Community of Bilthoven, Holland. It began January 6, 1926, as the adventure of a young married couple who decided to teach their own children. The Boekes believed that there must be some way of uniting spontaneity in children's desires and responses with a sense of order and discipline. Because it was so apparent to his neighbors that Boeke's children were enjoying a remarkable opportunity, other families in the neighborhood became interested. Soon the four little Boeke girls were joined by sixteen more children. Eventually a friend made it possible to erect "a real school building" to house fifty children, with Boeke himself contributing long hours at the carpenter's bench and allowing the children to participate in the enthusiasm of construction. By the end of 1935 the Boeke school population numbered one hundred—including teachers of rare idealism who contributed their services in return for whatever remuneration could be managed at the time. Only with great difficulty did the school survive the years of German occupation—Kees was arrested and imprisoned because a Jewish member of the Resistance had been caught in one of the school buildings. By 1945 the financial situation was desperate. The pupils were distributed among different private houses, since no capital existed to repair the school buildings, which had been pre-empted and damaged by the Germans. However, in 1946 an emergency grant was accorded by the Dutch Parliament, on the advice of Boeke's many admirers, and Bilthoven has grown, now numbering eight hundred students. Children come from as far away as America and South Africa, and families travel to Bilthoven in order to let their children attend.

During his exploratory years prior to the founding of his school, Boeke was drawn to the attitudes and methods of the Quakers, which played a significant role in the formation of the Werkplaats policies. However, to the gentle tolerance of the Quakers, Boeke added his conviction that every child *longs* for order, discipline, and tangible accomplishment. The whole question lay, he saw, in the methods designed to promote the end. As with the unusual teachers, the real secret of success was Boeke's attitude of mind, his demeanor and spirit in dealing with "misbehavior."

Mr. Rawson describes the "spirit of the school" in terms of Boeke's manner as he encounters a "culprit." "I like all the wrong people," Boeke says and means. Rawson explains this by saying that its reason "lies in his attitude to wrongdoing of all kinds. Not for one moment would he condone it, for he is only too aware of the moral weaknesses of human beings and the difficulties of the growing child. But for him judging and condemning are worse than useless: appeal must be made instead to the good in each, which must be helped to grow. And if it is still too weak, what then? The answer is the Biblical one; we must forgive not seven times but until

seventy times seven. This is the only way to bring out the finest in the wayward, reckless and ignorant."

The most significant manifestation of this attitude in the actual workings of the school is described in the chapter on "Discipline and Order." There are rules and sanctions, but the misbehaving child is simply brought before his own contemporaries, "who, no doubt, have done or thought of doing the same sort of thing themselves."

> At these meetings [writes Mr. Rawson] an empirical attitude is taken towards bad behaviour and there is seldom any indignation shown, although children will stand no nonsense. As a rule, it is clear what has happened and who are the culprits. No excuses are likely to be accepted, and the only questions asked are, "Why did you do it?" and "What are you going to do about it?" The burden of the decision is laid firmly on the shoulders of the guilty party. Perhaps he or she agrees to make reparation, or it may be only a new resolution is required. Whatever it is, it is not imposed on the delinquent; it is his or her offer to set things right.
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> Some may roundly deny that this atmosphere can be regularly evoked. It must be admitted that occasionally things are not easy, particularly where a psychopathic child or adult is concerned, and a crisis may result. But there are certain basic impulses that tell in the long run and help to create the situation described above. In the first place, as the psychologists remind us, the sense of guilt arises naturally in the child, we do not need to create it, and with it comes the unconscious desire to make amends. The question, "What are you going to do about it?" merely canalizes this desire, allowing it to come out into the open. Secondly, the absence of threats means that there is no one to oppose, no one to fight against. The choice of reparation, the decision to reform, is your own. If there is anyone to attack, it will have to be yourself. Thus personal antagonisms are avoided, and there is none of the usual open or latent hostility towards the judge.

The scope of the Werkplaats enterprise is enormous, provision being made for training kindergarten help, for a variety of workshops as well as classrooms, and for children who are handicapped by partial eyesight. With the teachers and administrators, also, the emphasis is on the functioning of the school rather than upon any status or position. Then, as Rawson describes it, "the chief officers of the school (students), since they only retain their posts for one term, are not specifically chosen for their outstanding qualities. Some are good at the job, and some are poor. Thus the school hierarchy is a functional, not a personal, one. The chairman of a group dealing with some default may next term be a defaulter himself. So no one gets into the habit of thinking himself morally superior to anyone else." It would seem, then, that the heart of the enterprise is Boeke's desire to allow the maximum of participation. *Student* officers do a great deal of work that would be done by a paid staff in the more conventional type of school. While they are in constant touch with adults, they are also allowed to have actual directive power. Group and class leaders appointed for all classes keep records of lateness or absence and clean the classrooms and workshops. A few passages from Mr. Rawson's book are illustrative:

> Three things may be said about all these posts. (1) They render services to the community with no special privileges attached: (2) Appointments are made for one term only, continuity being ensured by the deputy becoming principal next term: (3) No one is nominated for them, but instead offers are made and the group selects the one they prefer. But the selection must be by agreement, and there is no voting. This is no longer quite true of the post of Algemeen Regular, since he is now nominated by the Tutor Sets. But his post is one of responsibility without privilege or the power that goes with the imposition of punishments. It is naturally entrusted to an elder boy or girl, but may be refused on various grounds, pressure of work for instance, and the deputy must be of a different sex from the principal.
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> Perhaps another paragraph should be added about the group and class leaders. They are responsible for the arrangement of the room before the lesson begins, and have to see that all the children are there and order is kept. Underlying this is the idea that the children wish to learn and the teacher is there to help them; so it is up to the children to preserve the order without which such learning is impossible. The teacher should not be troubled with

this. This is particularly important in the Junior School, where individual work is the order of the day, and teachers spend most of their time whispering to children beside them who have come up for help.

Such a book must be read through, since a brief review can do little more than suggest that the Rawson volume is "a workshop" all by itself. Discussions of physical training, manual dexterity, and musical education are sufficiently detailed to provide practical suggestions to any teacher. Boeke has even entered the controversial area of "sex education," but with voluntary groups. This and other matters, one might think, would make Boeke far too dangerous a radical for the conservative Dutch, so that it is to the credit of both the founder of Werkplaats and the leaders of the educational system in Holland that teachers are now sent there from all over the country to gain inspiration.

FRONTIERS
Man on a Rock

BIRDMAN OF ALCATRAZ by Thomas E. Gaddis is not a new book. It was issued in 1955 by Random House and was probably widely reviewed at the time, although MANAS neglected to take notice of it. We now repair this omission.

This book is a powerful refutation of the statistical approach to the problems of penology. Actually, Robert Stroud, a man who has now spent forty-eight years in prison, and forty-one of these years in segregation, has probably created more actual knowledge about prisons and what they do to men than any professional penologist.

Stroud killed a man in January, 1909. The man had beaten a woman the nineteen-year-old boy loved. The killing took place in Alaska and a federal judge determined to punish violence severely gave young Stroud the statutory limit—twelve years in the penitentiary on McNeil Island. Three years later Stroud was transferred to the new federal prison at Leavenworth, Kansas, a "maximum security" institution. There, in 1916, on a Sunday noon, in the presence of 1100 convicts assembled in the enormous prison dining hall, Stroud stabbed and killed a brutal prison guard who had mistreated prisoners and had threatened to "club out" Stroud's brains if he moved against the guard. Stroud was tried twice and condemned to hang the second time. A gallows was erected in the prison yard, in plain sight of his cell. But Elizabeth Stroud, his strong-minded and devoted mother, secured through the President's wife a commutation to life imprisonment from Woodrow Wilson. Then began Robert Stroud's real "life"—a life of close confinement, apparently to the very end. Prison officials were frustrated by the commutation. Stroud had killed a guard and they wanted him to die. The lifer now deliberately chose to serve his time in Isolation. He explained: "Mother, I've thought about this. If I'm released to the general prison, I become a cog in a machine. I can be framed there, easy—and if I raise a hand I'm done for. Every guard on the make, every snitch looking for favors, I'm their meat."

So Stroud got solitary and a few privileges, such as writing materials and an hour daily in the open air.

From this point the book broadens out to encompass the two great phases of Stroud's career in prison—and it is properly called a career. The first phase covers the birds. One day, in the exercise yard, he found three, helpless, fledgling sparrows. He took them to his cell and cared for them. He gave one to another convict and kept two. He raised the sparrows to maturity and won the help of the deputy warden, who loved birds. In time, Stroud was permitted to have canaries, which he began to breed. He learned to make bird cages with a broken razor blade. He studied the books on birds in the prison library, but most of all he studied his birds. In 1925, Strdud raised fifty-three canaries, which his mother sold. He was permitted to receive a canary magazine. This Leavenworth convict, with a third-grade education, Gaddis remarks, began reading a magazine of which he was eventually to become the principal contributor.

Stroud became a leading authority on the diseases of birds. Years later his *Digest of Bird Diseases* became the bible of bird fanciers. For instruments in doing autopsies, he used his razor blade and his long, sharp finger nails. When septic fever attacked his birds, destroying many of them, he worked night and day to find a cure. He identified the vague "septic fever" as fowl cholera and after weeks of study worked out a remedy which saved the rest of the birds. At this time Stroud was thirty-eight years old, with nineteen years in prison and twelve in solitary behind him. Stroud now had hundreds of birds in his cell. He had achieved a cryptic fame as a writer for the canary journals, becoming a mysterious authority whose identity had to be .kept secret by order of the prison authorities. It would not do for "sympathy" for Stroud to be aroused.

The birdman cooperated with the prison authorities faithfully, knowing that he could be ruined by a simple administrative decision to take away his birds. Then, in 1931, that decision came, anyway. Stroud took action. A visitor smuggled out of Leavenworth the story of Stroud's achievements, and the sudden withdrawal of his privileges. A friend, Della Jones, appealed to the breeders. Letters and telegrams went to congressmen. The national radio networks told the story. Bird clubs circulated petitions which went to the President with 50,000 signatures. An important congressman warned that the Federal Bureau of Prisons was exceeding its powers.

Stroud won. The Bureau reversed itself. The decision "couched in elaborate face-saving terms," was released to the press. But there were restrictions which made Stroud furious. He bucked the Bureau's policy and cited its own rules against the restrictions. Again he won.

> One lone prisoner, locked with his birds, had battled one of the most powerful bureaus in the country and won. He had enlisted one force greater than any government bureau. He had appealed to the people and the people had responded.

But still there were limitations which hampered his work. His contributions of articles to the bird journals were stopped and his correspondence cut to two letters a week. Stroud battered against the faceless Prison Bureau with whatever means he could. He placed advertisements in the bird journals criticizing the Bureau.

You can't beat the Prison Bureau permanently. Stroud suffered endless frustrations. Despite the consideration and fair treatment he obtained from exceptional wardens and officials, he was slowly prevented from carrying on his work with birds. There were only sixteen birds left in 1942, when he was transferred to Alcatraz. While he still wrote about birds and answered letters about their diseases, his interest gradually gained a new focus. He began studying the prison system—a favorite topic of intelligent prisoners.

It is now fifteen years since Stroud was taken to Alcatraz in handcuffs and leg-irons. There he has no birds. In the prison's files, however, is the manuscript of a book of more than 100,000 words, with the title, *Rehabilitation,* devoted to an analytic study of the Federal Penal System. Gaddis asks: "Does Stroud's enormous tome contain material of value to the public? Is it the mad raving of a prison-crazed mind, or an explosive charge of prison facts strapped to the deck of the Rock? This is known only to the men who keep the men of Alcatraz."

We had hoped to offer some general comment on this book, but our space is gone. Perhaps the last paragraph by Mr. Gaddis will be the means of winning more readers for his extraordinary study of Robert Stroud:

> He is an old man now, ailing and spent. His birds once the lively companions of his solitude, are now the small dead ghosts of memory. His prison writings confiscated, his iron spirit obscured in stone, he waits for pardon or death, his spirit unbroken.