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IDEAL OR DELUSION

AN Indian correspondent now residing in Berlin has provided us with a discussion of "Man's Quest for Perfection," in which the writer adopts the view that the human longing for perfection is an unfortunate pursuit of a delusion. The diagnosis is a kind of "psychoanalysis":

> Man seeks perfection to compensate for his sense of inadequacy and fear of failure. If he feels that the demands of life are more than he will be able to meet, he seeks for some being which is overwhelmingly strong, yet willing to help him. By identifying himself with that being, he assures his own protection.
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> The sense of human inadequacy has arisen because men have found themselves at the mercy of calamities, epidemics, accidents. They have suffered at the hands of other men, their hopes have been blighted and their feelings crushed. The universe grinds on, indifferent to man, and the law of supply and demand plays dice with human destiny. Man is but one speck of cosmic dust. Life is brief and passes away, never to return. Man has only to lift his eyes from his egotistical preoccupations to realize his nothingness.
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> Human self-respect and sense of power suffer many blows. As a compensation, men have projected an ideal being which is free from their shortcomings. Such are the all-embracing Absolute of Hinduism, the one and only God of Islam, and the intricate trinity of Christianity. The same belief lingers on as the ideal of perfection among latter-day thinkers.

The argument proceeds along these lines, growing with illustrations. The prayerful man seeks perfection by endeavoring to merge his being in God; and when failures overtake him, he blames himself instead of his ideal. Admirers of the "perfect" moral life also suffer from feelings of guilt, as they regard their shortcomings. This produces frustrations, which are escaped by blaming others, who become scapegoats. "Perfectionists," this writer says, "are persecutors," since they can acquire their "perfection" only relatively, by degrading others. He then meets an obvious objection:

> It will be argued by some that, for all the misdeeds of its votaries, we can no more discard the notion of perfection than we can run away from our own shadow. They will say: "You admit that imperfect communication, imperfect peace, imperfect friendship, exist. If you admit imperfection, then you must admit perfection. For how can you maintain that something is perfect unless you contrast it with something that is imperfect?" But this argument is specious. When we use the term "imperfect," we mean "below optimum," or "below normal." The contrasting notion is not that of perfection, but that of the normal or the optimum.
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> What we call "perfect" eyesight is in fact a "normal" vision. It presents the optimum working of the seeing organs in man, and it is adequate for the general purposes for which we use our eyes. When we need to see more, we use other aids, such as microscopes or binoculars.

While acknowledging that faith in the ideal of perfection can arouse great zeal, our correspondent believes this zeal is bought at the price of fanaticism, and "fanatics achieve their greatness at the cost of other people." He concludes with the following summary:

> The idea of perfection became a living reality in human affairs because men felt inadequate and insecure in their relations with nature and with other men. But the sense of man's inadequacy is perpetuated by his belief in perfection, for it itemizes his nothingness. To turn a man into a superman so that he can match a creation of his own fancy is no solution; it merely compounds the fallacy.
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> Mankind has tasted success during the past centuries. It has made tremendous strides in controlling the forces of nature and reducing human misery. The chances for happiness have been enormously expanded, while morality becomes increasingly practical. Yet man's self-confidence is accompanied by a deepening sense of guilt. The psychology of defeatism dogs the victories of science and industry. Some fear that they are poaching on

> holy territory. Others notice that the glass of success, however much they pour into it the milk of human effort, remains always more than half empty, and progress is thus frustrating.
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> An obsolescent faith holds the human enterprise in bondage. Its ransom impoverishes our achievements and threatens total bankruptcy. The creative energies of man prepare the stage for human destruction. The only solution is to banish the psychology and morality of perfection, and let human life be guided by scientific self-understanding, so that good will may be fully efficient. Democratic humanism must free man from his self-imposed degradation and generate a guilt-free society.

Whether it is faith in the ideal of "perfection," or something quite different, that has produced the guilt-feelings and frustrations of modern times, there can be no doubt that human beings have always been deeply involved in thoughts about perfectibility. And whether or not the mouth-filling phrase, "scientific self-understanding," has the rich and benevolent content this writer assigns to it, there is certainly need for freedom from man's self-imposed degradation, and for a guilt-free society. So let us return to the starting-point of this discussion, which concerns the nature and origin of the idea of perfection, and later examine what may be its psychological consequences in human behavior.

A thing which is *perfect*, according to the dictionary, has "all the properties or qualities belonging to its natural, completely developed, or whole state; lacking no essential detail." This being the case, there can hardly be any real quarrel with perfection as an ideal, so long as we are able to fill in the terms of this definition with the necessary particulars. In fact, we suspect that our correspondent's objections apply to fanciful or illusory notions of perfection, ratter than to a strictly accurate meaning of this word.

This is really an argument about the nature of man, and not about "perfection" at all. The religious version of perfection is salvation, or the "completely developed, or whole state" of the human being in theological terms. In religions—in, at any rate, theological religions which make human destiny dependent upon the will of God, and which are unable, therefore, to give an account of man without also presenting an account of God—the nature of man is really no more than a secondary characteristic of the nature of God. No self-reliant human being is able to take much satisfaction in such an idea of man, nor in the possible perfections thereof. Thus the critical comments of our correspondent seem quite appropriate when aimed in this direction.

There are, however, other views of the nature of man. The Buddhists manage an ideal of human perfection in the ultimate development of the *Bodhisattva*, without any intrusion of the personal-God idea. Nor is there anything to suggest that the Buddhists embraced this ideal as a protective device to shield themselves from a "sense of human inadequacy." The ideal of perfection in Buddhist thought is as natural as the ideal of a perfect bloom flowering from the potential perfection of a seed. And let us note that perfection means a *natural*, not a miraculous, development to full and unblemished maturity.

In Hinduism, too, the ideal of human perfection is found in the idea of the *Mahatma*, which represents a stage of development climaxing the efforts of the yogi toward enlightenment. In neither of these two religions of the Orient—Buddhism and Hinduism—is there the dependence upon divine intercession, nor a "spiritual" transaction through which theological perfection is bought by belief in a Saviour, who thereupon "saves" the suppliant by means of the Vicarious Atonement.

Whatever we may think of the idea of human perfection, it is completely incredible that the great literature of the Hindu and Buddhist traditions, both of which gain their inspiration from this ideal, is simply the fruit of a cringing response to the slings and arrows of outrageous fortune—a "compensation" for the human sense of "inadequacy." The literature is rather a proud and splendid affirmation of human potentialities, with perfection as the crowning possibility.

But what, on the other hand, *is* human perfection, supposing it to be possible, in the terms of our definition? The question presses us to an investigation of the nature of man, since the perfection of man will be the perfection of his nature.

Conceptions of nature may be either static or dynamic. The static conception of human nature at its best is found in the many catalogs of saints, provided by every religion. The dynamic conception is of an entirely different sort, dealing with life as an eternal growth process, instead of some specified goal that is spoken of in reverential tones.

Accordingly, ideas of perfection vary with the idea of man. In the closed social systems, whether ancient or modern, in which particular forms of behavior constitute the ideal, the conception of the perfect is static, marked by the virtues which symbolize harmony in that particular milieu. Hence the familiar "types" of perfection which come down through tradition, and are reverenced by the masses. The scriptures of such cultures celebrate the virtues of these types and their example is enshrined in rites and ceremonies which are supposed to habituate the pious to ways of righteousness. Krishna, in the *Bhagavad-Gita*, preaches this ideal to Arjuna, in the second discourse:

> As many benefits as there are in a tank stretching free on all sides, so many are there for a truth-realizing Brahman in all the Vedic rites. . . .

This, however, is soon followed by a somewhat contradictory utterance:

> When thy heart shall have worked through the snares of delusion, then thou wilt attain to high indifference as to those doctrines which are already taught or which are yet to be taught. When thy mind once liberated from the Vedas shall be fixed immovably in contemplation, then shalt thou attain to devotion.

The perfections of the virtues, Krishna implies, are perfections of time and place; they belong to the man who is willing to settle for the goal of peace and harmony. But when the age comes to an end—when the problems of mankind cry out for a revolutionary solution—then the saint has no place or part in the sort of perfection now required. Here another definition, implied, perhaps, by Krishna, but not explicit, becomes more useful. The ideal of the Renaissance man, as proclaimed by the Florentine genius, Pico della Mirandola, supplies us with the dynamic conception.

In his Oration on the Dignity of Man, Pico proposes that the perfection of the animals is easy to describe. Each has its own nature, capable of perfect fulfillment. But man—man is different. Man is continually redefining the limit of his development. He suffers—and enjoys—a divine restlessness. Whatever he achieves, the ideal recedes, becoming a new height and horizon. There is no final end, no finished, concrete perfection. The perfection of man, then, lies in the continuous function of growth. Hence, perhaps, the ancient symbol of the serpent as the type of human wisdom—a creature which is continually casting its skin; or of the Phoenix, repeatedly born again from its own ashes.

We should say that this suggestion is not offered as a "poetic" escape from the issue formulated by our correspondent, but as an actual resolution. All human ideals ought, so far as we can see, to be described in terms of process and direction, rather than as definable and obtainable goals. A goal is where you stop; a finite perfection means no more than the polishing of limitations; and these are not, and can never be, the true inspiration of human beings.

Our correspondent says that "Man has only to lift his eyes from his egotistical preoccupations to realize his nothingness." It is a fair rejoinder to ask: What, then, is there in scientific humanism to relieve this sense of nothingness?

Or, what, exactly, is the point of this comment? Is "nothingness" the correct estimate of man, once we abandon our "egotistical preoccupations"? Or is nothingness what is left of

man after he is disillusioned with his belief in God? One wonders how scientific naturalism improves upon this view, if it teaches that man is "only a speck of cosmic dust" whose life is no more than a blink in the eye of eternity.

This is not an argument for the various religions which scientific humanism aspires to replace. Those religions after all, except for a handful of mystics and philosophers, are formulas for getting to heaven. They advocate the static perfection of righteousness as the formula for success—not the "building for endlessness" of the *Katha Upanishad*, but the proper performance of rites and other dutiful observances.

But the march of scientific progress, however impressive to the eye, and comforting to the senses, has been little more than another formula for getting to heaven. Why should the sense of defeatism "dog the victories of science and industry," unless it be that these tools of progress have not brought us the sense of fulfillment that an entry to heaven is supposed to bring? Lately, in these pages, considerable attention has been given to the fact that scientific theory, however stretched or conceived, provides no real place for the human individual. Yet, unless we are prepared to make our peace with some species of totalitarian philosophy, it is in the individual that all real development must proceed.

From the doctrine of "Let God do it," we have arrived at the slogan, "Let Science do it," but from both authorities we acquired beliefs which in practical terms led to the devaluation of man. The idea of human perfectibility is at least a stronghold of independence of mind and spirit, in which to resist the conception that man is a "nothing."

The appeal for confidence in "scientific self-understanding" is a carry-over of nineteenth-century optimism which now has very little evidence in its support. We can no more claim the glory of the *spirit* of scientific discovery for the modern institution of scientific theory and technological application, than we can transfer the transcendental atmosphere of the *Upanishads* and the *Bhagavad-Gita* to the modern institutions of Hinduism, or find the mood of the Sermon on the Mount in the scores of Christian sects. By and large, science as an institution has made all the necessary adjustments to the acquisitive society of the present. An unorthodox scientist is just as rare and just as liable to social punishment as an unorthodox religionist was a few hundred years ago. The way to progress, if progress is what we want, is not by way of institutions. Man plus institutions is not the formula. The formula, if there can be a formula, is simply *man*.

However, to give our correspondent his due, there is no doubt about the fact that the feeling of inadequacy in human beings opened the way for the imposition of beliefs in gods and other supernatural beings who might be appealed to for aid. And it can be argued, also, that the role of these beings as saviors or manipulators of human destiny made it possible for them to replace the ideal of human perfection with the external substitute of their own magical powers, in effect confirming the sense of weakness felt by those who come to believe in such gods. By some process as this, human beings lost the heroic quality in life and gave their hopes of a high destiny as hostages to the priests, who now became their masters.

But why, because it has suffered through long centuries and millennia of corruption, should we abandon the ideal of human perfection? Why, if we can gain our own godhood, should we throw the chance away?

The geniuses of all ages, the independent spirits, the poets and creative artists, have given us all that we know of human perfection. It would be a betrayal of their testament to the greatness of man to reject their undying ideal. Rather it is a matter of deepening our understanding of the meaning of our lives and formulating the ideal anew.

REVIEW

A MILTON MAYER PRODUCTION—GRADE A

EVERY so often it strikes us that new readers of MANAS should be introduced to Mayer's contributions to *The Progressive,* if they have not made his acquaintance. For whatever else Mayer may be, he is full of surprises. Ironic, humorous, challenging, but never dull. There are Mayer-haters and Mayer-lovers, and Mayer goes on and on, much in the same vein, with a high proportion of MANAS readers as well as *Progressive* readers quite glad to have him around.

One of the most valuable pieces of writing to result from his current European pilgrimage is an article appearing in the July *Progressive,* entitled "Olivetti—Design for Italy." In the space of three and a half pages, Mayer manages to solve the problem of Socialism and Capitalism, praise Italy for what Italy should be praised for, and percipiently call attention to the most characteristic shortcomings of American culture. Here are some beautifully-put generalizations as to why the Italian has been able to live somewhere outside of the grim struggles for success which contort most of the Western world:

> Now the French know how to say *joie de vivre,* but the Italians know how to do it. When I asked a sourpuss Swiss, long resident in Italy, why the Italians do not celebrate Mardi gras, he said, "They don't have to. They're always celebrating." It's true. Joy unconfined is the cause of their overpopulation, and they keep their overpopulous children up half the night (who, walking the Italian streets, has not remarked it?) just to enjoy them. You have seen enough Italian art to know that the Annunciations, M-&-C's, and Ascensions outnumber the Crucifixions and the Pietas. (Some day—but not today; we must get on—somebody ought to find out why the Old Church peoples, Roman and Greek, of southern and eastern Europe have so much better a time than their brethren liberated by Calvin and Luther.)
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> The Italians are anarchists (and unheroic anarchists) because beauty distracts them from duty. Joy loves not order. The Italians are incompetent soldiers (as Machiavelli observed), incompetent fascists, incompetent democrats, incompetent bureaucrats, and incompetent manufacturers—all because they do not separate beauty from joy. The visitor who cannot understand the Catholic Communist in Italy can not understand the Italian necessity to illuminate the mechanics of subversion with the joy of salvation.

But the reason for Mayer's title, the explanation of his interest in a typewriter manufacturer named Olivetti, is Olivetti's philosophy of combining humanism and art with technical excellence, which has worked one of the most amazing changes of recent years in the social fabric of a region. To begin with, Olivetti didn't want to succeed as much as he wanted to produce beautiful machines—and by beauty he meant a design that pleased the eye of the man or woman who used his office equipment. The same attitude was integral to the conditions established in Olivetti's remarkable plants. He saw how "piece-work" dehumanizes the worker by penalizing him for every lost moment with a loss in family income; on the other hand, piece-work is a spur and an incentive to produce. The unions simply fought for longer stretches of work, but this, Olivetti felt, was not the answer. All on his own, Olivetti did what he could do to preserve both the incentive and the human being. "Four-fifths of every Olivetti worker's wages are guaranteed; the other one-fifth he can earn or not, in whole or in part, on piece-work basis." Olivetti also established some excellent schools, for both workers and their children, whenever the economy allows—and Olivetti is flourishing—where workers with ability are given full wages for as much as two years of education.

But Olivetti did not stop here. He made his industrial plant into a *Comunita*—corresponding to the very old Christian idea of the *commune.* He then looked around to see what he could do on a broader scale. In 1949 Olivetti sat down with some farmers and workers in the little village of Palazzo and decided to give his energy to the building of a community center. A man named Genesio Berghino offered to give his life savings

toward the building of an attractive library and accompanying classrooms, if the villagers would work toward taking the burdens of local politics on their own shoulders. This first *Comunita* established itself as a dynamic force in the village. When the *Comunita* had elected its officers and turned to discussion of local problems, it was then able to build—roads, schools, or a hospital—without applying to Rome for help. As Mayer puts it, "they went ahead and built, each sacrificing according to his ability." Now there are fifty *Comunitas* in the north of Italy. Olivetti has drawn around him, according to Mayer, the best young men of the country, and gives nearly all of his time to the establishment of new centers:

> A rich man's plaything, his *Comunita*, something to do when you're tired of making still more beautiful typewriters. And it *is* a rich man's—although the Olivetti investment is small compared to the investment of the townspeople who built it. But is it a plaything? Adriano Olivetti can no longer keep up with the calls all over Italy for help with the new *Comunitas*. Now there are regional *Comunita* organizations and cultural centers for *Comunita* in all the big cities of Italy. And nobody in Italy, including the party politicians, thinks it's a plaything; nobody in Italy thinks any more of Olivetti as typewriters, but, rather, as *Comunita*. . . .
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> The ruling class, calling itself Christian, is decadent, says Olivetti, both in politics and in business. It no longer has the energy or the intelligence to cope with the situation. And the Socialists—more particularly the Communists and their allies—offer the Italians half of their heritage, a better living condition based on the same conflict and hate, the same State bureaucracy, the same reconstruction from the top, that is strangling Italy and France and threatens every parliamentary, party-system nation, including, says Olivetti, the United States.
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> In the modern State, functioning through "the machinery of the central bureaucracy, the half-light of government commissions, and the hidden power of party apparatuses," there is no democracy; the *person* has no place and no role: "In the present political situation, man seems like a weekend guest. He does not take part in any new democratic institutions, not in patterns of associated life that might guide him to emancipation and liberation."
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> *Comunita* is a rich man's threat to the established disorder of Italy. Communists and fascists deplore it as a capitalist dodge. Capitalists deplore it, even more vigorously than Communists and fascists, as an assault (which neither communism nor fascism makes) on the centralization through whose hidden management, behind whose curtains of Christian democracy, the rich and the clever exploit the poor and the simple more effectively in Italy than anywhere else in Europe. Communists, fascists, and capitalists know that Olivetti, traitor not to his class but to class itself, has hold of something that threatens them not from the top (where they threaten each other with parties, ministries, bishoprics, and the "trade union vote," but from the very bottom, where the Italian people, their pawns for good or evil, are. Olivetti is patiently, persistently, even shyly, smashing the leader-follower pattern, allowing the person, Christian and socialist, to be born.

The inspiration and the lesson of Mayer's report on the factory and the *Comunitas* of Adriano Olivetti are far-reaching. Olivetti isn't "against" anything—not even Communists. He is neither anti-union nor pro-union, neither anti-established church, nor doctrinaire Catholic or Protestant. He took Christianity, Communism, Socialism and Capitalism and somehow distilled merits from each, so this manufacturer of typewriters is really worth typing about. He has, as Mayer puts it, "hit the Italian chord—the beauty of things done by people who, when they think of those things, feel good, beauty at whose heart there is joy," and because Olivetti has "hit the Italian chord," he has lifted the hopes of all men, everywhere, who become conversant with the extraordinary synthesis he has achieved in modern Italy.

COMMENTARY
ALL OR NOTHING

THERE is an instinct of the mind in human beings which is suspicious of happy endings, as though the happiness which rests in circumstances—which can be "arranged" by a story-teller or dramatist—were a kind of sentimental deception. While we "like" the story which comes out well in the end, we honor the tragedy with a more profound attention, feeling that representation of the tragic element in human experience comes closer to a transcendental truth.

It is here, we think, that the difficulty arises with respect to the ideal of human perfection. If our idea of perfection is conceived at the "happy ending" level, we eventually find ourselves betrayed by a superficial version of human achievement. Then all or most of the criticism made by the correspondent quoted in this week's leading article is seen to apply.

But if, on the other hand, we take the idea of perfection as simply a symbol of ultimate insight into the processes of life, then the relative successes and relative failures which attend all human striving are seen as phases of that process, and no longer as occasions for either elation or despair.

Formal perfection, then, is seen to mark the climax of a process in life, but human perfection is recognized to be a state above and beyond all processes and particular forms of excellence. Hence the unearthly light shed by authentic tragedy, in which vision, and not a happy arrangement of circumstances, brings the sense of completion.

It is the man who misconceives the kind of perfection of which human beings are capable who suffers intolerable frustration, and who, being blind to the instruction of tragedy, turns in rage to nihilist destruction as his response to the failures which dog his life, or his dreams of utopian paradise on earth. He cannot see that the discovery that he is a "nothing" in formal or sentimental terms is only the shadow of another sort of realization—that he is or may be an "everything" as a witness and knower of the larger processes of life.

Here, perhaps, we find the real reproach of what we call "the Humanities" to all scientific theories of knowledge. Of necessity, scientific conceptions of goals and ends for human striving ignore the wisdom which flowers when men raise their heads above the processes of existence with which the sciences are exclusively concerned. Science has no vocabulary for the transcendental order of value, and will not, until it learns the language of paradox and grants to the mystic the right to lay down premises which have no meaning in the world of change.

CHILDREN
and Ourselves

SINCE generalizations about "the younger generation" are rather inevitably inclined to either fatuousness or alarmism, the writer who attempts comment on whatever current "transition" may be taking place among our youth may often waste both his own and his reader's time. Nor do the sociologists, offering statistics on delinquency and divorce, the average age of university students, etc., help a great deal, either. The one clearly discernible truth seems to be that, both nationally and regionally, and even in the individual high school and college, cycles of inspiration and creativity alternate with periods of relative stagnation. The educator, then, is bound to be influenced by the conditions prevailing in his particular locality, toward either optimism or pessimism.

But an article in the May issue of the British monthly, *Encounter*, nevertheless tempts us to generalizations on "The Younger Generation"—chiefly for the reason that the intellectual life of the American university now *seems* to us to be in a state of constructive ferment, while *Encounter's* report suggests very different conditions in Great Britain. D. Mack Smith, reporting on "The Changing University Today," summarizes from a Cambridge perspective:

> At the risk of romanticising the past, the present generation can be called less gay and less adventurous. There are fewer eccentrics, because with more freedom there is less reason for eccentricity. There is less rowdiness and more self-discipline, less high spirits and, thank heaven, less practical joking. No doubt this low temperature compares quite well with the hectic, jazzed-up pressures of a transatlantic world, but the cloister tends to produce only a cloistered virtue. There is plenty of curiosity, but insufficient indignation. Shyness, the national vice-virtue, comes out in a shyness of heresy. The infectious habits of group behavior, as they house-train the mind and character, expunge some healthy idiosyncrasies and originality, and against his college's 600-year-old tradition the young man in a hurry will bark his shins in vain.
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> The various disciplines are shy of polemics and pugnacity, and by tacit agreement work jointly for a quiet life—though again Oxford provides several notorious exceptions. Academics are reluctant to preach, either because they have no message at all, or because their message is a positive scepticism, a teaching of how to think and not what to think. At least this is their excuse. The hungry sheep therefore look up and are not fed; or perhaps they simply are not eating, which is not quite the same thing; or perhaps, when they ask for bread, they are told to go and eat cake, and are thus stimulated rather than nourished.
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> Undergraduates are not much interested in the wordy debate on the nature and purpose of the university which flared up several years ago. They themselves are birds of passage who take it all in their stride without long-term loyalties or heart-searchings of a theoretical order. After some initial surprise, they uncomprehendingly accept that the university is not primarily interested in them.

Since MANAS has reported with considerable enthusiasm on the activity of the students who have produced, in the environs of Harvard, *i.e., The Cambridge Review*, and has mentioned other philosophically related efforts, we could easily wonder if the prospects for university youth in America were not considerably better than those of England. But, again, why not assume that both at Harvard and throughout the United States, we may be moving into a general *cycle of* inquiry, while England, in general, may experience a temporary flagging of creative enthusiasm? If the intellectual climate is less stimulating in post-war England than before, this is the dip in a cycle—just as each of us, personally, has experienced and will experience such oscillations. The universities of England have long been beacon lights for the best teachers of the United States, and there is no reason to suppose that such leadership will not arise again in time.

The modern world, quite apparently to everyone, is characterized by rapidly succeeding changes, and this is particularly noticeable in America. As a *Harper's* writer recently remarked: "Our history is the process of motion into and out of cities; of weltering and the counter-process of return; of motion up and down the social ladder—a long, complex, and sometimes terrifyingly rapid sequence of consecutive change. And it is this sequence, and the attitudes and habits and forms which it has bred,

to which the term 'America' really refers. America is process. And in so far as people have been 'American'—as distinguished from being (as most of us, in at least some of our activities, have been) mere carriers of transplanted cultural traditions—the concern with process has been reflected in the work of their heads and hearts and hands."

The cultural traditions of England, involving a fairly settled state of religious opinion, have not been conducive to the conception of radical change. American youth, on the other hand, knows nothing other than prospective change, nor are they much concerned with the hope that a beautiful status quo will ever prevail. It may be that this psychological difference now helps the American universities to come into their own, carrying along much of inspiration from British traditions of higher learning from the past, but finally "adjusted" to the realization that learning is not for the purpose of becoming *something*—be it wealthy or cultured—but simply in order that one may enjoy whatever process of becoming circumstances make possible. England's youth, therefore, may now actually be a step behind rather than a step ahead of their American counterparts.

Mr. Smith lists indications that many British university students are looking for a "cause" to follow:

> If students today are still uncommitted to a cause, it is unwillingly. However much they are frightened away from a narrowing faith like Marxism or fundamentalist Christianity, in fact they are searching earnestly for a philosophy of life, for simplicity, for an Explanation, an intelligible, integrating purpose. Simplicity thus blasphemously becomes as important as truth, for simplicity can at least be grasped. There is a natural fear of the complexity of things, and, as politics for instance has become so intricate and remote, they have turned their backs on political disputation.

This sounds something like a description of a typical American University prior to 1941. Mr. Smith notes a "current fashion to probe the human soul and its depravity" as an adjunct to a trend away from political disputation. So it used to be here. Affirmative literature, fictional or otherwise, was not in vogue.

For those interested in other dimensions of current comparison, we refer to a sociological report in the same issue of *Encounter*, entitled "The Facts of Young Life." So far as high-school age goes, very little difference of attitude is to be noted between America and England—save for degree of intensity in seeking excitement. Mark Abrams reports that, on the average evening throughout the year, 60 per cent of the young people are "out." A gentle, fumbling restlessness, in the presence of a rapidly changing social order, makes "going out in the evening the focal purpose of the day." According to the London *Times Educational Supplement*, government attempts to provide trades courses and discussion facilities for youths are highly unsuccessful. "The [investigating] committee found that of the hundreds who enrolled annually in the first year of trades courses, 10 per cent never attended a single class, 30 per cent gave up by January, and only 25 per cent enrolled for a second term. Of that 25 per cent, only 5 per cent received some certificate of qualification at the end of three years."

We are not trying to make an important "point," here, but simply to indicate that "cycles of learning," about which some talking has been done recently in this column, apply to societies as well as to individuals. No teacher or student can properly regard the improvement of human understanding as analogous to the steady movement of biological growth. American youth has much in common with the youth of England, while, at the same time, some of the special disadvantages of our stepped-up national life have been complemented by a new kind of toughness in the face of change. For a time, then, it is possible that the students and young professors of America will draw leading minds from Great Britain, just as Great Britain has for so long drawn our most promising youths to Oxford and Cambridge. The "gentler tempo" of England, however, is much to be envied in respect to youth of high-school age. It is no virtue to be placid, but the remnants of filial and national respect undoubtedly play a considerable role in curbing delinquency in England.

FRONTIERS
SCIENCE AND PHILOSOPHY

SOME weeks ago, an article in MANAS spoke of the perennial debate between science and religion, or science and philosophy, as turning on the issue of "sovereignty." Which, in other words, has the right to dictate the terms of the cooperation which may be expected between these two branches of human endeavor?

An article, "Science and the Philosopher," by Alfred Stern, associate professor of philosophy at California Institute of Technology, in Pasadena, published in the July issue of the *American Scientist*, adds a valuable chapter to the debate.

Prof. Stern has several important contentions to offer, but the climax of his discussion involves the idea of causality—a subject on which he, as a philosopher, takes a different view from the prevailing scientific attitude. In developing the grounds of his position, Prof. Stern starts by pointing out that there was no quarrel between scientists and philosophers about causality in Isaac Newton's time. In fact, Newton's classical mechanics was a perfect expression of the traditional idea of causality. Then, in the twentieth century, with the emergence of sub-atomic particles in modern physical theory, came discoveries which led many scientists to abandon causality as a basic principle.

The trouble was this: When you look at a sub-atomic particle—or look, rather, at what is supposed to be its track in a cloud chamber—the light which enables the examination of the particle has an effect on the particle:

> When we measure the electron's position it is struck by a light quantum, so that its original momentum is altered by an uncontrollable amount. The shorter the wave length of the light used, the bigger will be the alteration of the electron's momentum, for the shorter the wave length, the bigger the light quanta. Unfortunately, light of shortest wave length is needed to measure with precision the electron's position. Thus, the more precise the measurement of the electron's position, the less accurate will be the measurement of its momentum, and vice-versa. This means that in principle the precise measurement of an electron's position and that of its momentum are mutually exclusive, so that we cannot know the present, we cannot know the present state of the universe. And if we do not know the present, we cannot predict the future, hence the law of causality cannot be applied.

Werner Heisenberg, the German physicist whose conclusion from these facts is known as Heisenberg's Principle of Uncertainty, explained the loss of causality for science in the following terms (translated by Prof. Stern):

> In the sharp formulation of the law of causality: "When we know the present with precision we can calculate the future " not the conclusion is wrong, but the premise. On principle we *cannot* know the present in all of its determining factors. Therefore all perception is a selection from a multitude of possibilities and a limitation of future possibilities. Since the statistical character of the quantum theory is so closely linked to the inaccuracy of all perceptions, one might be led to the conjecture that behind the perceived, statistical world, a "real" world is hidden, which is governed by the law of causality. But such speculations seem to us sterile and meaningless—and we wish to emphasize this opinion. Physics is only supposed to describe the connections of perceptions in a formal way. The true situation can be better characterized in the following way: Since all experiments are subjected to the laws of quantum mechanics, the *invalidity of the law of causality is definitely proved by quantum mechanics.*

Prof. Stern, however, argues—with sufficient show of reason, it seems to us—that use of the law of causality enabled Heisenberg to declare its invalidity! He adds:

> With this observation I think I have pointed to an unsurmountable logical limit to any denial of the law of causality. As soon as the validity of this law is guaranteed in the realm of reason we can again look outside into the empirical world for its application. It results that, although eliminated by quantum mechanics from the microcosm, the law of causality still is valid in the macrocosm. To be sure, Louis de Broglie called our attention to the fact that in the microcosm determinism is only "apparent," because there the uncertainty principle and statistical indeterminism resulting from it are only masked by the imperfection of our measurements. I believe, however, that if *one* impossibility of principle—that of determining the location and the momentum of a

> micro-particle with equal accuracy—obliges us to *abandon* causal determinism in the subatomic world, *another* impossibility of principle—that of establishing the uncertainty principle in the macrocosm obliges us to *maintain* causal determinism in the macroscopic world.

Before going to Prof. Stern's more general propositions, we should note that he adds to the foregoing analysis an important note on the "fictitious" character of such "entities" as electrons, protons, neutrons, etc. The electron is a "construct" of the scientific imagination, by means of which certain practical results are achieved. Those results, and therefore the construct enabling them, are tremendously important for the progress of science, but we should not lose sight of the fact that the electron is as much creature of atomic theory as atomic theory is about something called an "electron." To make this point clear, Prof. Stern quotes Prof. Dancoff:

> It is an obvious fact that no one has ever seen an electron, no one has ever weighed an electron, felt an electron, or in fact made any observations whatever on an electron. What we have seen are scintillations on a screen, water droplets in a cloud chamber, deflections of a dial, black spots on a photographic plate. By themselves, they represent just a lot of observations having no particular connection with each other. But when we use the Schroedinger wave equation, or perhaps the Dirac wave equation, we find that it is possible to calculate the results of the various experiments mentioned and get agreement between theory and experiment. . . . Strictly speaking, an electron is merely that thing, that state of affairs, which is defined by the Schroedinger-Dirac theory.

When, then, on the basis of observations of "objects" so tenuously related to immediate perception as are these subatomic particles, theoretical physicists derive the sweeping conclusion that the law of causality must be abandoned other men, and philosophically-minded men in particular, are entitled to question the entire proceeding.

We now return Prof. Stern's examination of the difference between science and philosophy. What tasks is science competent to perform, and what should be reserved to philosophy? In discussing the impact of Heisenberg's principle of uncertainty, Prof. Stern was endeavoring to illustrate and distinguish between the roles of science and philosophy. His general proposition is as follows:

> All natural and physical sciences deal with nature, but none of them tries to find out how determining thought determines the concept of nature. That is a philosophical problem. All sciences lead to certain results, examine the truths of these results and try to protect them against possible error. But none of the sciences examine the concept of truth itself, its structure and criteria. That is done by philosophy. The scientist asks: What is *true?* The philosopher asks: What is *truth?* All sciences try to find natural laws; that is, the mutual relationships among the objects determined as nature. Philosophy, however, tries to find out how determining thought arrives at the determination of natural laws. Thus it delves into the structure of the concept of law. Science is potential philosophy. And today, more than ever, we can see how the ultimate questions of science lead with necessity to philosophy.

In an historical summary relating to this question, Prof. Stern reminds us that the ancient Greeks joined philosophy and the sciences, feeling that "sciences without philosophy are an aggregate without unity, a body without a soul." And "philosophy without the sciences is a soul without a body." Further:

> As soon as the sciences wish to understand themselves, as soon as they wish to grasp the purpose and significance of their own doings, they have to turn to philosophy, which is the supreme satisfaction of the theoretical mind and its tendency to comprehend everything in a *unity.* For science is a *partitive* consideration of reality. Each science cuts out a small section of reality and deals with it as if it were independent. This division of labor is certainly a methodological necessity, and it proves to be very successful. Its result, however, is that our scientific knowledge is *fragmentary.* This is one of the reasons why the special sciences do not completely satisfy our longing for knowledge. What they refuse to us are the unification and evaluation of that great number of scientific truths which remain completely isolated from each other. It is the task of philosophy to unite these diverse fragments of the special sciences into a unitary idea and to determine the significance and the cognitive value of all these partial truths in relation to the idea of the *whole* of reality and knowledge. There is no science concerned with the *whole* of reality and knowledge. It is a specific field of philosophy. Any question which considers any phenomenon, scientific

> or other, in its relation to the idea of the whole of reality and knowledge is a philosophical question.

Few readers will have much difficulty in accepting the common sense of Prof. Stern's proposals. The difficulty is rather in why there should ever have been resistance to this view, and so much contempt, on the part of Western thinkers, for philosophy. Here, not philosophy, but religion—authoritarian religion, that is—must be held responsible. The first attacks of science on religion were not upon philosophical but upon scientific grounds. Medieval religion had invaded the field of natural knowledge and had imposed upon the world a tissue of superstitions and cosmological fallacies. Accordingly, modern science was brought to birth in an environment of bigoted hostility, with the threat of the faggot not very far removed from theological disapproval. As everyone knows, Copernicus and Galileo were exposed to threatening pressures from the Church, and the Copernican Theory remained on the *Index Expurgatorius* until 1820! This sort of tyranny could hardly earn any respect for religion among the pioneers of science, and, as a result, the growth and spread of scientific discovery and influence were in the form of a *war* rather than a friendly collaboration.

Thus means, as always, determined ends, with science acquiring the habit of belligerent opposition toward both theology and philosophy, and refusing to concede the competence of anyone not a scientist to pass on scientific conclusions. This was appropriate enough, so long as the conclusions of scientists remained scientific, but since scientists are also human beings, in whom there is the tendency "to comprehend everything in a *unity*," not long after the great foundations of science were laid in the seventeenth century scientists were beginning to make philosophical dogmas and to claim them as "scientific facts." The history of how philosophical notions have been smuggled into science and repeated in mutilated or truncated form is one of the most fascinating studies that can be pursued in these days of slow recovery from the delusion of the absolute authority of science. Bradley, Burtt, and Ducasse, among others, are philosophical writers who have contributed to understanding of this extraordinary, if somewhat pardonable, egotism of scientific inquiries. So confirmed by common assent has been the assumption of absolute sovereignty for science in all intellectual matters, that to question it often seems like a frontal attack on the entire institution of science which, of course, it is not.

For clarity of definition, Prof. Stern's distinction between science and philosophy can hardly be improved upon:

> While all *sciences* are exclusively concerned with the examination of the mutual relationships among determined objects, trying to understand their factual relations as logically and mathematically necessary ones, *philosophy* is interested in the relations between subjective determining thought and the objects determined. Or, concretely speaking: *Sciences* are interested in the mutual relations among the objects which constitute the world; *Philosophy*, however, is interested in the relationships between *man as a subject and the objective world.*
>
> The sciences examine the mutual relationships among empirical objects without regard to the subject. This subject is not only perceiving and thinking but also evaluating, so that in disregarding it, science creates the fiction of a purely objective world, exempt from values. . . . In nature there is neither good nor evil, and the same is true of natural science. Thus, for science, the horse is not more valuable than the horsefly. Biology studies them both with the same care. For scientific reflection values are nothing but empirical facts, without any value. . . . The fact that, in modern science, it is not always possible to make a neat distinction between objective and subjective phenomena does not invalidate the distinction of these two spheres for the great majority of cases.

Prof. Stern, it seems to us, has won his argument for the sovereignty of philosophy in philosophical questions. He does not, however, mention the *social* sciences, nor the psychological sciences, concerning which other opinions may be held. Discussion of the relation between philosophy and the sciences dealing with *man* raises again the issue of sovereignty, in a fresh context, and must be left for another occasion.