VOLUME XXXII, NO. 38
SEPTEMBER 19, 1979

WHAT BELONGS OF RIGHT TO MAN

LEAFING through a book that came in recently for review, we found a short essay on Simone Weil, meant by the author to dispose of her as no more than a writer desperately involved in self-absorption. Her follies are exaggerated, her genius ignored. This journalist-authority, a columnist of some repute, could have said something of transcendent importance about Simone Weil, contrasting her wild impracticalities with her critical brilliance and unparalleled insight into the cultural life and social struggle of the twentieth century. He could have said something about the comparative insignificance of the odd psychic disorders which frequently attend sibylline wisdom, pointing out, perhaps, that the modern world is not a place where authentic vision often finds expression through people of normal good health and common sense. But no. He chose instead to hold her up to casual ridicule, as though her awkward inability to fit into the common life were a reason for not reading her at all. This is not criticism, but merely journalistic irresponsibility on parade.

Fortunately, another sort of journalism is practiced in the United States. Early this year WBAI, the listener-supported Pacifica radio station in New York, read over the air an essay by Simone Weil (published in English in 1973 in *Oppression and Liberty*, University of Massachusetts Press). She wrote this material in 1934, at the age of twenty-five. Titled "Reflections Concerning the Causes of Liberty and Social Oppression," the essay has four parts: "Critique of Marxism," "Analysis of Oppression," "Theoretical Picture of a Free Society," and "Sketch of Contemporary Life."

Nothing has happened in the forty-five years since 1934 to suggest any important changes in what Simone Weil says. She understands what is happening to human beings, considers why it is happening, suggests what sort of effort might change the course of events, despite manifest obstacles and human limitation, and ends with a devastating account of the way we live now. Besides the penetration of her diagnosis, the most impressive thing about this essay is its anticipation of themes which are now foremost in the thinking of the present. Her analysis will help all workers for human good to ground their efforts in greater understanding of what they are attempting. By understanding we mean, becoming better able to do what counts and not being discouraged by how little may seem to result. This is Simone Weil's first paragraph:

> The present period is one of those when everything that seems normally to constitute a reason for living dwindles away, when one must, on pain of sinking into confusion or apathy, call everything into question again. That triumph of authoritarian and nationalist movements should blast almost everywhere the hopes that well-meaning people had placed in democracy and pacifism is only a part of the evil from which we are suffering; it is far deeper and far more widespread. One may well ask oneself if there exists a single sphere of public or private life where the very spring-heads of activity and of hope have not been poisoned by the conditions under which we live. Work is no longer done with the proud consciousness that one is being useful, but with the humiliating and agonizing feeling of enjoying a privilege bestowed by a temporary stroke of fortune, a privilege from which one excludes several human beings by the mere fact that one enjoys, in short, a job. The leaders of industry themselves have lost that naive belief in unlimited economic progress which made them imagine that they had a mission. Technical progress seems to have gone bankrupt, since instead of happiness it has only brought the masses that physical and moral wretchedness in which we see them floundering; moreover, technical innovations are now banned everywhere, or very nearly so, except in industries connected with war. As for scientific progress, it is difficult to see what can be the use of piling up still more knowledge on to a heap already much too vast to be able to be

> embraced by the minds even of specialists; and experience has shown that our forefathers were mistaken in believing in the spread of enlightenment since all that can be revealed to the masses is a miserable caricature of modern scientific culture, a caricature which, far from forming their judgment, accustoms them to be credulous. Art itself suffers the backlash of the general confusion, which partly deprives it of its public, and by that very fact impairs inspiration. Finally, family life has become nothing but anxiety, now that society is closed to the young. The very generation for whom a feverish expectation of the future is the whole of life, vegetates, all over the world, with the feeling that it has no future, that there is no room for it in our world. But if this evil is felt more sharply by youth, it remains common to the whole of humanity today. We are living through a period bereft of a future. Waiting for that which is to come is no longer a matter of hope, but of anguish.

Read as a unifying account of the swiftly moving psychological currents of the age, this seems accurate enough. It may be picked at here and there, but whole books now document some of these ideas—Barbara Garson's *All the Livelong Day* on work, for example, and John Platt's *The Step to Man* on the incomprehensible complexity of the multiplying stores of scientific information. There are half a dozen or more books on the mental and emotional degradations which result from watching television. Finally, there is the accelerating suicide rate, especially among the young, now widely reported, and musingly discussed by Viktor Frankl in *The Unheard Cry for Meaning.*

The critique of Marx, not unappreciative of some of his formulations, is an over-view that goes to the core of his thinking, showing how much he had in common with capitalist assumptions and pointing to his fatal belief that the liberation of the masses would depend mainly upon technological progress. She says in one place:

> For the moment it is enough to have understood that the possibility of future progress so far as concerns productivity is now beyond question; that, to all appearances, we have at present as many reasons for expecting to see it diminish as increase; and, what is most important of all, that a continuous and unlimited increase in productivity is, strictly speaking inconceivable. It is solely the frenzy produced by the speed of technical progress that has brought about the mad idea that work might one day become unnecessary. On the plane of pure science, this idea has found expression in the search for the "perpetual motion machine," that is to say a machine which would go on producing work indefinitely without consuming any; and the scientists made short work of it by propounding the law of the conservation of energy. In the social sphere, divagations are better received. The "higher stage of communism," regarded by Marx as the final term of social evolution, is, in effect, a utopia absolutely analogous to that of perpetual motion.
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> It is in the name of this utopia that revolutionaries have shed their blood. Or rather, they have shed their blood in the name of this utopia or of the equally utopian belief that the present system of production could be placed by a mere decree at the service of a society of free and equal men. Is it surprising then, if all this blood has been shed in vain?

The section on Marx concludes:

> The problem is, therefore quite clear, it is a question of knowing whether it is possible to conceive of an organization of production which, though powerless to remove the necessities imposed by nature and the social constraint arising therefrom, would enable these at any rate to be exercised without grinding down souls and bodies under oppression. At a time like ours, to have grasped this problem clearly is perhaps a condition for being able to live at peace with oneself. If we can manage to conceive in concrete terms the conditions of this liberating organization, then it only remains for us to exercise, in order to move towards it, all the powers of action, small or great, at our disposal; and if, on the other hand, we realize clearly that the possibility of such a system of production is not even conceivable, we at least gain the advantage of being able legitimately to resign ourselves to oppression and of ceasing to regard ourselves as accomplices in it because we fail to do anything effective to prevent it.

One could say that Simone Weil here outlines the assignment for the lifework of E. F. Schumacher, although he may not have read her at all. She anticipates (in principle) both his spirit and his practical program as revealed in *Small Is*

Beautiful and other writings. She describes the effects of complexity:

> The enlightened good will of men acting in an individual capacity is the only possible principle of social progress. . . . Among the forms of social organization which history has to show, there are very few which appear to be really free from oppression; and these few are not very well known. All of them correspond to an extremely low level of production, so low that the division of labor is pretty well unknown, except between the sexes, and each family produces little more than its own requirements. . . . What is surprising is not that oppression should make its appearance only after higher forms of economy have been reached, but that it should always accompany them. This means, therefore, that as between a completely primitive economy and more highly developed forms of economy there is a difference not only of degree, but also of kind.

Ivan Illich is also anticipated in this passage. He gives the same rule in other words:

> . . . any social structure must disintegrate beyond some level of energy use. Beyond this critical level, education for bureaucracy must take the place of initiative within the law. . . . technocracy must prevail when mechanical power exceeds metabolic energy by a certain ratio.

Simone Weil shows how social complexity means the loss of individual independence:

> . . . from the days of the *Iliad* to our own times, the senseless demands made by the struggle for power have taken away even the leisure for thinking about welfare. The raising of the output of human effort will remain powerless to lighten the load of this effort as long as the social structure implies the reversal of the relationship between means and ends, in other words, as long as the methods of labor and of warfare give to a few men a discretionary power over the masses, for the fatigues and privations that have become unnecessary in the struggle against nature will be absorbed by the war carried on between men for the defense or acquisition of privileges. Once society is divided up into men who command and men who execute, the whole of social life is governed by the struggle for power, and the struggle for subsistence only enters in as one factor, indispensable to be sure, of the former. . . . Thus it is that man escapes to a certain extent from the caprices of blind nature only by handing himself over to the no less blind caprices of the struggle for power. This is never truer than when man reaches—as in our case—a technical development sufficiently advanced to give him the mastery over the forces of nature; for, in order that this may be so, cooperation has to take place on such a vast scale that the leaders find they have to deal with a mass of affairs which lie utterly beyond their capacity to control. As a result, humanity finds itself as much the plaything of the forces of nature, in the new form that technical progress has given them, as it ever was in primitive times; we have had, are having, and will continue to have bitter experience of this.

What, then, is to be done, since "nothing on earth can stop man from feeling himself born for liberty"?

In this section on the theory of a free society Simone Weil begins by saying:

> Perfect liberty is what we must try to represent clearly to ourselves, not in the hope of attaining it, but in the hope of attaining a less imperfect liberty than is our present condition; for the better can be conceived only by reference to the perfect. One can only steer toward an ideal.

What are the essential conditions? First, men must work. There is, she says, "no self-mastery without discipline, and there is no other source of discipline for man than the effort demanded in overcoming external obstacles." Moreover, "If one were to understand by liberty the mere absence of all necessity, the word would be emptied of all concrete meaning; but it would not then represent for us that which, when we are deprived of it, takes away the value from life."

What is work well and fruitfully done? Most important of all, Simone Weil says, is that the worker should understand what he is doing and why. She proposes that—

> a society in which the whole of material existence had as its necessary and sufficient condition that each individual should exercise his reason could be absolutely clearly understood by each individual mind. As for the stimulus necessary to overcome fatigue, sufferings and dangers, each would find in it the desire to win the esteem of his fellows, but even more so in himself; in the case of creative work by the mind, outward constraint, having become useless and

harmful, is replaced by a sort of inward constraint, the sight of the unfinished task attracts the free man as powerfully as the overseer's whip stimulates the slave. Such a society alone would be a society of men free, equal and brothers. Men would, it is true, be bound by collective ties, but exclusively in their capacity as men; they would never be treated by each other as things. . . .

To sum up, the least evil society is that in which the general run of men are most often obliged to think while acting, have the most opportunity for exercising control over collective life as a whole, and enjoy the greatest amount of independence. Furthermore, the necessary conditions for diminishing the oppressive weight of the social mechanism run counter to each other as soon as certain limits are overstepped, thus the thing to do is not to proceed forward as far as possible in a specific direction, but, what is more difficult, to discover a certain optimum balance.

Most of our remaining space will be devoted to expressions by Simone Weil which suggest practical applications. The striking thing about these ideas is their recognized relevance today. Yet there is absolutely no false optimism in Simone Weil. She says:

The only possibility of salvation would lie in a methodical cooperation between all, strong and weak, with a view to accomplishing a progressive decentralization of social life, but the absurdity of such an idea strikes one immediately. . . . It is quite patently impossible for decentralization to be initiated by the central authority; to the very extent to which the central authority is exercised, it brings everything else under its subjection. . . . In such a situation, what can those do who still persist, against all eventualities, in honoring human dignity both in themselves and others? Nothing, except to introduce a little play into the cogs of the machine which is grinding us down; seize every opportunity of awakening a little thought wherever they are able; encourage whatever is capable, in the sphere of politics, economics or technique, of leaving the individual here and there a certain freedom of movement amid the trammels cast around him by social organization. That is certainly something, but it does not go very far.

In her conclusion she asks:

What exactly will perish and what subsist of our present civilization? . . .

If, in the course of the last twenty years, the machine-tool has become more and more automatic in its functioning, if the work carried out, even on machines of relatively ancient design, has become more and more mechanical, the reason lies in the ever-increasing concentration of the economy. Who knows whether an industry split up into innumerable small undertakings would not bring about an inverse development of the machine-tool, and, at the same time, types of work calling for a yet greater consciousness and ingenuity than the most highly skilled work in modern factories? We are all the more justified in entertaining such hopes in that electricity supplies the form of energy suitable for such a type of organization. . . .

It would thus seem to be a question of separating, in present-day civilization, what belongs of right to man, considered as an individual, and what is of a nature to place weapons in the hands of the collectivity for use against him, whilst at the same time trying to discover the means whereby the former elements may be developed at the expense of the latter. . . . As for technique, it ought to be studied in a thoroughgoing manner—its history, present state, possibilities of development—and that from an entirely new point of view, which would no longer be that of output, but that of the relation between the worker and his work. . . .

Only fanatics are able to set no value on their own existence save to the extent that it serves a collective cause; to react against the subordination of the individual to the collectivity implies that one begins by refusing to subordinate one's own destiny to the course of history. In order to resolve upon undertaking such an effort of critical analysis, all one needs is to realize that it would enable him who did so to escape the contagion of folly and collective frenzy by reaffirming on his own account, over the head of the social idol, the original pact between the mind and the universe.

This is a writer who *back in 1934* pointed out that the rapid increase in productivity of modern technology was by no means a reason for thinking that such increases will go on and on! (See Lewis Mumford, *The Myth of the Machine.)* "Our so-called scientific culture has given us this fatal habit of generalizing, of arbitrarily extrapolating, instead of studying the conditions of a given phenomenon and the limits implied by them." Simone Weil continues, pointing out that the energy basic to

economic process comes to us in the form of coal and petroleum, warning that "the extraction of coal and petroleum becomes continually and automatically less profitable and more costly," and that the deposits of these nonrenewable fuels "are destined to become exhausted at the end of a relatively short time." She shows that automation is useful only in mass production for enormous markets, leading to the inevitable waste involved in excessive economic centralization, artificial stimulation of demand, and the expansion made possible by the extension of credit, without recognition of the inevitability of economic regression.

Simone Weil's major work, *The Need for Roots,* was published by Putnam in *1952.* Her biography by Simone Petrement was issued by Pantheon in 1976. Her essay, *The Iliad: The Poem of Force,* is available from Pendle Hill. Her stature as a thinker will grow with the years.

REVIEW
COPING KIN

FROM time to time we are oppressed—and impressed—by the continuous flow of paper—newspapers, magazines, professional journals, and paper organized into books—that arrives on the table, the desk, the shelf, and sometimes spills on the floor. It arrives here and then stays—for a while. One has a duty to all this paper. Somewhere in it may be something worth remembering, taking note of, writing about—or even saving. Yet there is just too much of it. The idea is to do justice to the good material, which means recognizing it quickly (which is likely to be unfair), then digesting it properly, which is likely to be impossible, and then telling about it interestingly and usefully, which is likely to be difficult. Call it Operation Filter—which sounds better than saying it is done by luck and by free association.

Well, we have a book whose contributors seem to be wholly aware of this general problem and who tell how they cope in ways that are worth repeating. It is the report of a lecture series put on by John Pentland and Jacob Needleman called "The Art of Living in the Cultural Revolution," published by Harper and Row under the title *Speaking of My Life* ($4.95—paperback). These people—artists, businessmen, a biologist, an architect, a nun and a journalist—are all coping rather well, it seems. In this book they lean back and tell a little of what they think about it all. The best we can do is to provide a few snapshots of the contents. The contributors describe ways of looking at the world, and how they respond. Jacob Needleman asks most of the questions. We quote from their replies.

The first dialogue is between Dr. Needleman and Richard Baker-Roshi of the Zen Center in San Francisco. Well along in their talk, Baker-Roshi commented on a question by telling a story:

> One day at the University of California, when I was a graduate student, I was waiting in a long line of maybe twenty-five people. All of us waiting at this one small window to make some change in our schedules. There were quite a few windows, but only one was open. In the room behind the windows I could hear many people talking, joking, phones ringing, and so forth. I was suddenly reminded that people don't know how to deal with machinery, with phones, except by answering them, while they will keep many live bodies standing in long lines. So I walked across the lobby, in sight of the entire line, into a phone booth, and dialed the number of the university and was transferred into the room behind the windows, where the phone was answered. I said, "Could I change such and such a course," and they said, "Fine." I said, "Thank you,' and hung up. Then I debated for a while the logistics, politics, and futility of having every other person line up at the phone booth or jam the lines with requests that they open more windows. Here are actual human beings with all their molecules, atomic and human energy, waiting—and the phone is responded to, not the people.

Airports are worse. If you are not used to air travel, you may need simple directions. In some of these places there are little white phones to ask questions through, but half the time no one answers. And continually you hear the nasal, strident tones of some announcer who couldn't care less what he or she is saying, so you don't listen. Places like that are simply wrong, and not just in principle. Yet we have become dependent on them.

Baker-Roshi goes on:

> Another problem brought to us by technology is that, with the physical and electronic transportation available, people can arrive at your doorstep in such numbers, and in so many forms—letters, telephone, television, newspapers, and so forth—that there is no way to cope with it all. A rule I've made for myself is that, if a person is there in person, I respond to them above everything else.

A rule like that should help. Ivan Illich made a corresponding rule for himself a couple of years ago—never again to go on television. He found he was offering only a caricature of himself, pretending to converse with a mass audience. So now he insists upon person-to-person.

A photographer, Paul Caponigro, muses on how he felt at Stonehenge, where he made some splendid pictures (reproduced in the book):

> An indefinable force persists and pervades. The effect is to silence one with wonder. These uncompromising stones radiate with an awesome prescience. Although the uprights and lintels obviously served as windows and doors, one senses a greatness coming through yet another door, a greatness which perseveres in another dimension, and causes chronological time to melt away. There is indeed mystery here, of boundaries that unbind, and of instruments for the measuring of time which leads to the timeless. We may never know for certain why ancient man assembled these stones, but man's humanity can sense that nobility and feel the aspiration that materialized into a great internal idea. Sentinel-like, these stones stand as if encompassing all inner and outer boundaries. Stones uplifted, aspiring and balanced. Stones chanting a ring of protective power for the sacred space within.

Did the builders of Stonehenge know that? Did they do it deliberately? The photographer thinks they did. He also thinks that the mystery of Stonehenge will remain a mystery because "that architect, that head architect I'm talking about, placed it just so, and the effect, if one could be open and quiet enough to be in the presence of it, would be a sense that he was telling you something important. He did it in just that way to keep that incredible something that persists eternally."

Hassan Fathy, the Egyptian architect who wrote *Architecture for the Poor,* tells about the Nubians, from whom he learned so much. Nubia, he says, was three times sacrificed to dams on the Nile. Nubia is the southern part of Egypt from Aswan to Sudan. The whole area was flooded when the first Aswan Dam was built in 1902. The second time was in 1934, when there was an addition to the dam. Fathy says:

> During its construction the people built new homes. The people built an entire region in one year with no architects, no contractors, no lorries, nothing at all to build with except what they had in their hands and under their feet as material, which was mud. . . . What is more important is that they would not have been able to achieve this miracle of construction unless they had both the material, which was clay, and, at the same time, the techniques which they inherited from ancient times, especially the vaulting. Any peasant can build a wall, but when it comes to the roof he is defeated. But they solved this problem from antiquity by having the barrel vault form the shape of a catenary. The continuity of tradition is suggested by a mud house of a man called Amid Adidin that was built in 1934. The latter is almost a copy of a Third Dynasty Palace even to the ventilation holes underneath and the cornice on top. There is something like four thousand years separating the two, but the image has been transmitted, and the knowledge must have been continuing on in a culture, as we said, that is full—invested—with magical forms.

Unfortunately, after the third flooding—by the New High Aswan Dam—modern architects rebuilt the homes of the Nubians with concrete: "they built in rows seventeen thousand identical attached houses." Result:

> When the Nubians come home at night—they like to drink and often come home a little tipsy—they have to count the doorways to find which house is theirs. Should they lose count, they have to go back to the beginning and start again. When compared to what the Nubians had before, this kind of architectural or cultural revolution is dehumanizing because it is not sensitive to nature. It is not needed.

Fathy is trying to teach the Nubians to go back to mud construction. It takes time, and evidence such as the fact that "Air temperature in April was 17° Celsius (30.6°F) higher in the prefabricated concrete model than in the mud brick." Yet, says Fathy in disgust, "we call the mud brick 'backward' and the concrete 'progressive technology'."

René Dubos thinks we are waking up:

> In the year 1933 the city of Chicago celebrated its one-hundredth anniversary with one of the most spectacular world's fairs that was ever held. It was called The Century of Progress. The whole theme of the fair was that progress, improvement, betterment of human life, were *all* due to scientific technology. I secured a guidebook to the fair, and I have kept it all these years because it's so revealing of the state of mind that prevailed all over the Western world in the

> early 1900s until the 1940s. The guidebook to the fair described all the marvels of scientific technology and then continued, "Human beings, all societies, will fall in step with the creations of scientific technology." And the writer of the guide was so enthused with his theme that he had a final chapter with a title: "Science Discovers, Industry Applies, Man Conforms." I dare state that nobody would write that phrase today. It would be considered absolutely unacceptable. . . . we no longer believe that man must conform to technology; we believe that we must rethink technology to make it conform to all the natural forces, including the forces of the human spirit.

Well, René Dubos believes it, and the thinkers and writers often quoted in these pages believe it. But for all the rest, as for the Nubians, it will take time. As Winthrop Knowlton, who runs Harper & Row, points out with the irony of a money man turned word man:

> We know now that change is all about us, that our competitors are hatching new devices in their laboratories, that they are greedily eyeing market share (our market share), and so we must be eternally prepared. . . . Now we have all been forced to become junior-sized versions of Hermann Kahn, and it creates great personal uneasiness. . . . And then there are broader uncertainties about the future created by our astronomers, who are the real seers. There are new words like *cosmic dust* and *black holes* and *entropy*. Entropy scares me most of all, especially as I can never completely grasp what it means. But I know it isn't good. If I lived in California, I think I would favor banning entropy before the property tax.

Mr. Knowlton thinks the artists may understand the way out, which obliges us to admit that while artists say some very good things in this book, we have run out of space. The real artists sound like missionaries, and one of them, a sculptor, François Stahly, predicts:

> Another world is coming, a world not directed by specialists in art, critics, museum directors, and art dealers. They all have been given important places in the world, deciding what is good and what is bad according to price. The young generation today rejects these values accepted for an elite and commercial purpose. A Van Gogh would not be overlooked.

COMMENTARY
CLARITY AND INTENSITY

GENERALIZATIONS are often weak, by reason of their abstraction from the immediacies of life, but this is not true of the generalizations made by Simone Weil. There is power, intensity, and clarity in her work. In *The Need for Roots*, written in 1943, the year of her death, she set down the fruit of her thinking in the form of one penetrating generalization after another. The book has two parts, one titled "Uprootedness," the other, "The Growing of Roots."

In "Uprootedness" she holds modern education largely responsible for the separation of culture from the everyday life of the people—a culture, she says, "very strongly directed toward and influenced by technical science, very strongly tinged with pragmatism, extremely broken up by specialization, entirely deprived both of contact with this world and, at the same time, of any window opening onto the world beyond."

> Nowadays a man can belong to so-called cultured circles without, on the one hand, having any sort of conception about human destiny or, on the other hand, being-aware, for example, that all the constellations are not visible at all seasons of the year. A lot of people think that a little school boy of the present day who goes to primary school knows more than Pythagoras did, simply because he can repeat parrotwise that the earth moves round the sun. In actual fact, he no longer looks up at the heavens. This sun about which they talk to him hasn't, for him, the slightest connection with the one he can see. He is severed from the universe surrounding him, just as little Polynesians are severed from their past by being forced to repeat, "Our ancestors, the Gauls, had fair hair."
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> What is called today educating the masses is taking this modern culture, evolved in such a closed, unwholesome atmosphere, and one so indifferent to the truth, removing whatever it may still contain of intrinsic merit—an operation known as popularization—and shoveling the residue as it stands into the minds of the unfortunate individuals desirous of learning, in the same way as you feed birds with a stick.
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> Moreover, the desire to learn for the sake of learning, the desire for truth has become very rare. The prestige of culture has become almost exclusively a social one, as much for the peasant who dreams of having a schoolteacher son, or the schoolteacher who dreams of having a son at the *Ecole Normale Supérienre*, as for the society people who fawn on savants and well-known writers.
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> The youth of our schools are as much obsessed by their examinations as our workmen engaged in piecework are by their paychecks. There is something woefully wrong with the health of a social system, when a peasant tills the soils with the feeling that, if he is a peasant, it is because he wasn't intelligent enough to become a schoolteacher.

The strength in Simone Weil's writing comes from the fact that, having seen these things, she didn't sit back and write some more paragraphs of brilliant criticism. She went out in the world, a frail young woman, determined to share in the woes, if not the lost virtues of common folk. She tried, with desperate resolve, to act on her principles. A reading of *The Need for Roots* might well be followed by Simone Petrement's life of her girlhood friend, to see how the ideas in this book were hammered out on the anvil of deliberately sought experience.

CHILDREN
. . . and Ourselves
WANTED: A SIMPLE ANSWER

Is there such a thing as human nature? Can it have definition?

If you go to the sciences the conventional sciences—you find hardly any definitions worth talking about. This is the case for the reason that "human," in ordinary speech, indicates an assemblage of qualities unique to man. These qualities cannot be defined except in terms of themselves. The whole range of moral ideas and the conceptions relating to the human capacity for self-awareness is without application to any part of the physical world—with which, by methodological assumption and practice, the sciences are content to deal. But if you go to literature and philosophy you find almost endless and very rich material about human nature. The Stoics wrote about it, Montaigne wrote about it, and Shakespeare wrote magnificently about it. Human nature is the only real currency of all story-telling.

Can the wisdom and sagacity about human nature found in literature be related to scientific findings about human beings? Or, putting the question another way, Can science serve to amplify and confirm insight about man?

The gap between science and the humanities has been discussed and deplored for generations. The humanists, not being scientists, don't feel able to close this gap, and the scientists have for the most part claimed exemption from what seems to them an impossible task. Meanwhile the criticism of humanist thinkers becomes more and more animated, incisive, and direct. See for example the works of Lewis Mumford and Theodore Roszak, especially the latter's contribution to *Dædalus* for the Summer of 1974.

For a sharp focus on this question, we go back to a discussion of free will in the *Journal of Philosophy* for Jan. 18, 1940 by Douglas Clyde Macintosh (of Yale). To sum up his point, Prof. Macintosh tells about a doctoral thesis in which the candidate could discover no rational basis for responsibility in human conduct. Yet he wanted to be awarded a Ph.D.! One of the examiners found this ludicrous and addressed the graduate student in verse:

> Here's a question; if you can, sir,
> Please supply a simple answer.
> Was your novel dissertation
> Product of predestination
> Result of native drive and knowledge,
> Effect of home and school and college?
> Why, if so, should you have credit
> Even though your name may head it?
> Why not graduate some actor
> Who died ere you became a factor?
> If, however, no causation
> Accounts in full for its creation,
> Why should you be made a doctor,
> And not some other don or proctor?

Is there, in short, *anybody there* in a human being—some identity which does things, makes autonomous choices, and requires recognition as such?

The sciences, from a humanist point of view, are really impoverished when it comes to such questions. They have no conceptual language for dealing with them. It follows that if you are going to go to school and study one or more of the sciences, or send your son or daughter to a university, this becomes a very important matter. Moral issues now occupy practically all the foreground of the modern consciousness, and what can education which ignores them do besides confuse and depress the student?

Are the scientists themselves doing anything about this? We think of two who have done a great deal—Michael Polanyi and Abraham Maslow. Polanyi, rather late in life, became supremely disgusted by the fact that social science was admittedly unable to identify the moral impulse behind the human longing for truth and justice. He saw that persons who regard "the seeking of right and truth" as their right and duty could not be scientifically recognized as such. "In this positivistic view of empiricism," he said, "to call something immoral, unjust, or evil is to speak with no empirical meaning and it appears doubtful then whether such a

statement could have any meaning beyond the kind of exclamation one may make when biting into a worm in an apple or when shouting to stop others from doing things one finds distressing."

Polanyi wrote *Personal Knowledge* (University of Chicago Press, 1958) to restore subjective reality to human beings. With a similar objective in mind, Maslow published *The Psychology of Science* in 1966. Both books (and other works by these writers) have been enormously influential. It is a quality of the age that the moral awareness of human beings is now insisting on recognition. But scientists move slowly toward such a radical change, and their disciplines alter only under great pressure, and then only inch by inch. Yet they move. Taking note of such changes, seeing their direction, and sensing their implications is an important part of understanding the time in which we live.

The well-known linguist, Noam Chomsky, is responsible for changes in thinking about language and its significance. His most recent book, *Language and Responsibility* (Pantheon paperback, $3.95), a dialogue between Mitsou Ronat, a French linguist, and himself, is appropriately titled since his studies of language and how it is shaped lead to conclusions supporting the idea of responsibility in human behavior. Is there a "human nature"? Chomsky would say yes. He offers the beginnings of an explanation of what it is, based on the innate capacity of humans to create language and use it with great resource. His book, however, is by no means easy to understand. Like other modern sciences, Linguistics has an elaborate technical vocabulary and a layman would have to give months of study to grasp the major contentions of such work. Yet there are overtones generated by his stance on basic questions, and illustrated by occasional asides, which can be understood. (John Lyons' *Noam Chomsky,* Viking, 1970, would be a help in this.)

In *Language and Responsibility* Chomsky tells how he gradually worked his way out of the empiricist framework of linguistic science, rejecting behaviorism as unable to throw light on how and why people speak as they do, and affirming that language is a native endowment of the human intelligence, which is different from animal intelligence. Linguistic science, he says, is a part of psychology. The mind is not a *tabula rasa* bearing only the imprint of environmental influences, but has "an intuitive, unconscious knowledge of its own" which enables humans to create and use language in a variety of ways. He proposes that the mind "is constituted of 'mental organs' just as specialized and differentiated as those of the body."

Chomsky holds Descartes responsible for blocking the development of an explanatory theory of the mind. Descartes said that the soul "is a simple substance which cannot be analyzed." The result has been that mind, as something in itself, something to be defined in terms of its own attributes, was ignored as a possibility. Without the Cartesian assumption—

> It might turn out that we are led to new principles when we inquire into the nature of the mind. It is conceivable, though not demonstrated, that principles entirely different from those of contemporary physics enter into the explanation of mental phenomena. In all these matters one must guard against dogmatism.

Concerning the potentialities of mind, Chomsky says:

> In my view, scientific creativity depends upon two facts: on the one hand, on an intrinsic property of mind, and on the other, on a combination of social and intellectual conditions. There is no question of choosing between these. In order to understand a scientific discovery, it is necessary to understand the interaction between these. . . . I would be in agreement ... that human nature is not yet within the range of science. Up to the present, it has escaped the reach of scientific inquiry; but I believe that in specific domains such as the study of language, we can begin to formulate a significant concept of "human nature," in its intellectual and cognitive aspects. In any case, I would not hesitate to consider the faculty of language as part of human nature.

It would be a mistake, however, to assume that Chomsky is wide open to metaphysical assumptions about the nature of man. He regards the mind as a genetic endowment, and by no means takes leave of the organism as its foundation. But for Chomsky, man is a free agent, not a creature whose decisions are wholly determined by outside events.

FRONTIERS

What They Have to Show for It

THE *July Atlantic Monthly* published an article by William Tucker on the spread and success of organic farming in the midwestern United States. Tucker quotes at length from good-sized farmers who wouldn't go back to chemical methods for any reason, and he outlines the history and development of organic farming to show its scientific foundation. The appearance of this article in the *Atlantic Monthly* has the significance of indicating the editorial interest of a leading and intellectually influential magazine. Tucker writes his story in a way that suggests that organic farmers have the best of two worlds—they are on the side of nature and life (their methods of pest control don't slaughter the birds), their soil is full of humus—and at the same time they are making good money!

The story seems calculated to win friends and influence people. It begins with quotation from Roman Wortman, who farms 320 acres in Nebraska. He says:

> "I don't need the chemical companies selling me the nitrogen they pull out of the air by burning natural gas. . . . I've got millions of bacteria doing the same thing for me right here and they're doing it for free. I don't need an irrigation system—I've got earthworms aerating my soil so the rainwater will soak down into it instead of running right off. I'm working with nature now, instead of working against her."

These organic farmers, Tucker impresses on his readers, are prosperous. Through his spokesman he makes some fun of the "long-hair" claim that better, healthier food is grown by organic methods and insists only that organic farmers keep their soil in good condition. That's *enough,* he proposes, to prove their case.

> Wortman indeed seems to be doing very well with his new method of "natural" farming. His crop yields have stayed at about the same levels he used to get [he went "organic" in 1972], while his costs have dropped markedly. His soil has become so soft and workable that plowing is simple, while other farmers in the area are buying bigger and bigger tractors to fight hardpan conditions where the loss of organic matter has made their soil harden up like cement. His soil's water retention capacity has increased so he needs less water than other farmers, and erosion is no longer a problem. He is making money, and has paid off most of his debts since turning to organic farming.

Wortman told Tucker: "I was the first farmer in this county to use chemical fertilizers, and now I'm the first farmer to give them up." And he added: "If I had to go back to farming the way I was doing it seven years ago, I'd never farm another day in my life."

How did he happen to change?

In 1972 he was spraying a new pesticide on his fields, and noticed a trail of dead birds behind him. He rode back to his yard and found more dead birds in the driveway where he had sprayed half an hour before. Tucker relates:

> He fixed his keen brown eyes on me for a moment. "I turned around and I said to myself, 'What the hell am I doing out here?' From that day to this, I've never used another pesticide, herbicide, or fertilizer on this farm." He waved his arm out over his fields of corn and alfalfa, which were shimmering with a bright, deep green. "Look what I have to show for it."

Another Nebraska farmer, Marvin Kurpgewiet, who has 500 acres, tells about his production after six years of organic farming:

> "My yields haven't been off much at all, and I'm actually getting better crops on some of my high ground, where things never used to grow well because of the water runoff. I'm getting about 90 to 110 bushels of corn an acre, and my ground is getting so soft and spongy that the rain soaks down instead of sitting on top or running right off. Two years ago, during the drought here, I still got sixty bushels an acre while some of these farmers didn't even bother to go out and harvest a crop. The next year they all went into debt for $65,000 to buy center-pivot irrigation systems. Some of these farmers around here are so far in debt that they have to make 150 to 200 bushels of corn every year just to meet their interest payments. They're spending $75 an acre on fertilizers and pesticides, plus another $25 an acre to pump water out of the ground. Corn is $2 a bushel, so that puts them 50 bushels in the hole just to start.

> I'm only spending about $5 an acre and my yields are just about as high." A genuine note of perplexity had entered his voice, and he gave me a long, slow shake of the head. "Somebody's just not thinking," he said.

Interestingly, according to Tucker, organic farming on this scale is out of key with a vegetarian approach. The organic theories practically all involve use of livestock for manure and for consumption of rotation crops that humans don't eat, such as alfalfa. Moreover, organic farmers work harder than the chemical farmers. They cultivate more and have to spread manure and compost, while the livestock keep the farmers at home, caring for them. One farmer said at a conference: "I'd love to have a flock of sheep on my farm and have all that manure to spread around, but if I had sheep to look after, I couldn't be at this conference." (Casual thought: If more farmers were organic they wouldn't need to have organic farming conferences to persuade people of its virtues. Everybody'd be doing it.)

The history part of this article touches the high spots, beginning back in 1908 with a University of Wisconsin professor, F. H. King, who went to China and Japan to learn how they were able to feed so many people. Their land had been farmed for 4,000 years and was still good land. He found oriental farming to be a masterpiece of recycling and wrote *Farmers of Forty Centuries*—now a basic scripture of all organic farming—to tell how it worked.

Albert Howard, the grandfather of the movement, another professor and soil scientist, read King and discovered for himself the importance of composting by experiments in India. Then, in 1938, an auditor in Pittsburg, who dreamed about living on a farm, read Howard. A few years later, J. I. Rodale, as the auditor chose to be known, started *Organic Gardening and Farming,* and Rodale became "the prophet of American organic agriculture." His son, Robert Rodale, now carries on what has become an enormous business, with several sister publications, and a 300-acre experimental organic farm which has become a leading research facility. Robert Rodale says his work is to serve the homesteading and back-to-the-land movement, not large-scale commercial farming, but according to Tucker's article and occasional surveys of organic farmers in the corn belt, some of the commercial farmers are deciding that organic methods are the way for them, too.