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# THE ROOT OF CHANGE

CAN the world of the twentieth century move the center of gravity controlling its thinking? No one, surely, would have thought this possible a hundred years ago. But there were two men of the nineteenth century who conceived such a change to be not only possible but necessary, and who began to work for its beginning, although both were well aware of the odds against them. The men were Tolstoy (1828-1910) and Gandhi (1865-1948).

Books about these two keep coming out. The writers of our time can't leave them alone. What they set out to do has become too important to ignore. They were determined to change the way history is made. They demanded that States embrace the policies and habits of good and honest men. In their own time they were jeered at and ridiculed by many, although very nearly worshiped by others. But only since about 1950 has there been a real beginning at taking them seriously—by, that is, the writers and thinkers who may be said to represent the world at large. Both Tolstoy and Gandhi dreamed of a world of transformed individuals. One could argue with justification that their hope was utterly "unrealistic," and indeed the inroads of violence have become far worse than in Tolstoy's and even in Gandhi's time. Yet this state of affairs, now so evident, is persuading more and more people that there is no hope for mankind except along the path to which Tolstoy and Gandhi opened the way.

Both were immeasurably powerful men, of influence so great that, even if they could not themselves change the world, they made it a place where self-questioning proceeds continually.

In the India of today, the "free India" for which Gandhi labored for more than fifty years, resounding voices are raised for renewed recognition of what Gandhi actually stood for, in contrast to the use made of his name and reputation by the inheritors of his achievement. One such writer, A. K. Saran, makes it clear that if modern India is to find help in Gandhi's ideas and teachings, what he set out to accomplish must be better understood. In the October 1979 issue of *Gandhi Marg,* journal of the Gandhi Peace Foundation in New Delhi, Mr. Saran writes:

> Gandhi's critique of the modern West is peripheral to his thinking: its real purpose is to prepare the ground for Gandhi's life-long struggle to make it possible, once again, for man to participate in the transcendental Centre. In *Hind Swara;,* Gandhi is concerned with the destiny of man, not with the prospects of any given civilization. Hence its deeply explosive and subversive nature, hence also its radically positive and constructive stance. Once we grasp this firmly, it will be clear what the right context of Gandhian thinking is, and all efforts to relate it to the quest for "an alternative model" will cease—hopefully once and for all. Gandhi was never concerned with models, his concern was with Truth, to which he demanded absolute commitment. . . . It is of the utmost importance for the renewal of Gandhian thinking that attention be focussed on Gandhi's world-view and philosophy of life so that each aspect and sphere of Gandhian thinking could be located within it and thus be seen in its proper perspective.

Gandhi's *Hind Swaraj,* the little book he wrote on shipboard in 1908, declares what he believed Indians should do, by reason of his fundamental philosophy and worldview. In an article on this epoch-making work in the same issue of *Gandhi Marg,* another Indian writer, K. Raghavendra Rao, says:

> To Gandhi, a true civilization, which should be taken to mean the totality of all aspects of life, is one which conforms to the principles of God, Religion, and Truth. This is simply another way of saying that a true civilization embodies true human nature. The Western or "modern" civilization which Gandhi castigates in the strongest language possible, is a

violation of this true human nature. He rejects it theoretically and, therefore, rejects it fundamentally without reservations of time and space. It is one of Gandhi's insights worth pursuing that modern civilization flourishes by default of criticism. It thrives on a tremendous communication system with world-wide coverage, manned by experts, to silence all criticisms against it. Gandhi believed that "people living in it make bodily welfare the object of life." With this obsession with bodily comfort went slavish dependence on machines. With it also went the goal of making money. Gandhi argues: ". . . Now, one man can plough a vast tract by means of steam engines and can thus amass wealth. . . ." As he saw it, civilization was based on a tendency toward an expanding system, eventually geared to a global compass. It led to an expansion of facilities such as the production and consumption of knowledge to enable the masses to do what in the past only a small minority could do. It degrades the body because it makes it increasingly dependent on machines and thus obsolete. He says: "Men will not need the use of their hands and feet." The driving force behind the system is a complex and interrelated motivation involving money and its purchasing power. Though Gandhi concedes that the enormous facilities gifted to us by modern civilization—the railways, factories, communications systems—are potentially amenable to good uses, they are mostly used for the wrong ends in actual practice. Gandhi delivers a *coup de grace* to modern civilization when he draws attention to its ultimate failure even in achieving its own self-chosen objective. To put it in his words, "civilization seeks to increase bodily comforts and it fails miserably even in doing so." In a relentless mounting action, Gandhi describes modern civilization as "irreligion," turning people "half-mad," depriving them of their "real physical strength and courage," driving them towards alcohol to keep up their zest for life, making them restless with themselves, and transforming women into slave labour for the factories. Gandhi contends that civilization of this type will be destroyed, and says that it perfectly answers to the Hindu definition of the Black Age.

Sixty years after Gandhi had published *Hind Swaraj*, an American writer, John Schaar, set down this independent confirmation of his indictment:

> Modern production obscures the sun, pollutes the air, and chews up great forests. It drinks whole lakes and rivers or transmutes them into abominations. . . . The civilization of production periodically destroys men by heaps and piles in war, and it daily mangles the spirits of others in meaningless labor. . . . The modern state, then, insofar as it is provider and guarantor of increase, and insofar as its success in this task is a source of legitimacy, has succeeded too well: its success has become a threat to survival.

Gandhi foresaw this destiny clearly in the first decade of our century and called upon his countrymen to set going moral and social forces which would lead in the opposite direction. He found that the British rule of India stood in the way of the development of a self-reliant way of life for Indians, and it was this which forced him into politics. As he explained, "if I seem to take part in politics, it is only because politics encircle us today like the coil of a snake from which one cannot get out, no matter how much one tries." Gandhi's politics, however, was a politics founded on religious vision, and for his social ideal he held up the ideal of the peasant community. As Raghavendra Rao says in his study of the "political theory" of *Hind Swaraj*, Gandhi wanted a decentralized system composed of villages that would be largely self-governing, thus doing away with the party system and parliamentary rule.

> In these small-scale systems, a life based on religion, morality and consensus can easily arise. In fact, such a political life is natural to such communities. Gandhi felt that this system was intact in India, and, therefore, India had a chance to halt the inexorable and devastating march of modern civilization. At the level of strategy and tactics, Gandhi believed that a political system characterized by absence of centralized principle, legal sovereignty, group political competition and excessive concern with material progress, which he called *Swaraj* in political terms, was possible only if each one of us acted as if he or she wanted it. . . .
>
> To Gandhi, *Hind Swaraj* was already there, embodied in the political history and life of its masses. It was the elite whom Gandhi was anxious to educate for *Hind Swaraj.*

Indian village life was Gandhi's social ideal, yet he saw that the villages had suffered almost fatal decay and were in a paralyzed state. The educated of India, he decided, would have to

change their goals and go into the villages to restore the country's ancestral way of life. The following are statements made by him at various times in his weekly magazine, *Harijan:*

The real India lies in the 7,000,000 villages. If Indian civilization is to make its full contribution to the building up of a stable world order, it is this vast mass of humanity that has . . . to be made to live again.

> We have to tackle the triple malady which holds our villages fast in its grip: (i) want of corporate sanitation; (ii) deficient diet; (iii) inertia. . . . They (the villagers) are not interested in their own welfare. They don't appreciate modern sanitary methods. They don't want to exert themselves beyond scratching their farms or doing such labour as they are used to. . . . We must have an unquenchable faith in our mission. We must be patient with the people. We are ourselves novices in village work. We have to deal with a chronic disease. Patience and perseverance, if we have them, overcome mountains of difficulties. We are like nurses who may not leave their patients because they are reported to have an incurable disease.
>
> Villages have suffered long from neglect by those who have the benefit of education. They have chosen the City life. The village movement is an attempt to establish healthy contact with the villages by inducing those who are fired with the spirit of service to settle in them and find self-expression in the service of villagers. . . . India is made of villages, but our intelligentsia has neglected them. . . . Village life must not become a copy or appendage of city life. The cities have to adopt the pattern of village life and subsist for the villages. . . . In the case of the Indian villager, an age-old culture is hidden under an encrustment of crudeness. Take away the encrustation, remove his chronic poverty and his illiteracy and you will find the finest specimen of what a cultured, cultivated, free citizen should be.

Many years earlier, in Russia, Tolstoy had made a similar discovery. Having become revolted almost to the point of suicide by the parasitic life of the Russian elite, to whom he belonged, he turned to the masses who were unaffected by the habits and ways of the sophisticated and affluent. As he wrote in *My Confession* (1879):

> Then I began to cultivate the acquaintance of the believers from among the poor, the simple and unlettered folk, of pilgrims, monks, dissenters, peasants. The doctrine of the people from among the masses was also the Christian doctrine that the quasi-believers of our circle professed. With the Christian truths were also mixed in very many superstitions, but there was this difference: the superstitions of our circle were quite unnecessary to them, had no connection with their lives, were only a kind of an Epicurean amusement, while the superstitions of the believers from among the labouring classes were to such an extent blended with their life that it would have been impossible to imagine it without these superstitions,—it was a necessary condition of that life. I began to examine closely the lives and beliefs of these people, and the more I examined them, the more did I become convinced that they had the real faith, that their faith was necessary for them, and that it alone gave them a meaning and possibility of life. . . . I began to love those people. The more I penetrated into their life, the life of the men now living and the life of men departed, of whom I had read and heard, the more did I love them, and the easier it became for me to live.

Thereafter Tolstoy devoted himself to the purification of his faith, and to the way of life to which a purified faith pointed. Totally committed, as Gandhi became, to non-violence, and convinced that social change would come about only through the spread of individual conviction and self-reform, Tolstoy declared in 1894 (in *Christianity and Patriotism*)*:*

> If only free men would not rely on that which has not strength and is never free—on external power, but would believe in what is always powerful and free—in truth and the expression of it. If only men would boldly and clearly speak out the truth that has already been revealed to them of the brotherhood of all nations and the criminality of exclusive devotion to one's own nation, the dead false public opinion upon which all the power of governments and all the evil produced by them rests would drop off of itself like dried skin, and make way for the new living public opinion which only waits that dropping off of the old husk that has confined it in order to assert its claims openly and with authority, and to establish new forms of life that are in harmony with the consciences of men. . . .
>
> And so the change is not only possible, but it is impossible that it should not come about—just as

> impossible as that a dead tree should not decay and fall, and that a young one should not grow up.

Through Tolstoy's inspiration small agricultural communities endeavoring to apply his ideas sprang up in various European countries, and of course in Russia. While most of them lasted only a few years, these communities were instrumental in spreading his ideas. Gandhi had Tolstoy's works in his library, and said that what appealed to him most was that Tolstoy "practiced what he preached and reckoned no cost too great in his pursuit of truth." Gandhi called the community farm he developed in South Africa Tolstoy Farm and at one time hoped to retire to such a community and earn his livelihood by manual labor. In a brief essay, *The Communities of the Tolstoyans,* Henri Lasserre remarks that these communities constituted a vital and important link in "the long chain of groups which from antiquity to the present have sought to realize their ideal of the good life by living in communist colonies, as economically independent as possible of the outside world."

Tolstoy, however, was of two minds concerning Tolstoyan and similar communities. While he gave the royalties on his famous novel, *Resurrection,* to the Doukhobors, a sect of traditional Christian non-resisters who had moved from Russia to Canada, where they lived in community, he was troubled by the isolation of young intellectuals from a world which needed changing. In his *Intimate Diary,* he wrote:

> To withdraw into a community, to live this community life, to preserve in it a certain innocence—all this is a sin, an error! One cannot purify oneself alone or even in a small company. If one wishes to purify oneself, it must be done with others without separating oneself from the rest of the world. It is like wanting to clean a place by working at the edges where it is already clean. No! He who seeks to do good work must plunge right into the mire. At least if he is already in it, he must not think that he should escape from it.

A few months before he died (in 1910), Tolstoy wrote to Gandhi—responding to a copy of *Indian Opinion* Gandhi had sent him—telling about a Russian girl who, during a scripture examination at a Moscow women's institute, insisted that killing is *always* wrong. She rejected the sophisms of the Orthodox bishop who said that killing was permissible in war and the execution of criminals. Commenting, Tolstoy wrote:

> And despite all his grandeur and art of eloquence, the bishop fell silent and the girl went away victorious.
>
> Yes, we may talk in our papers about the successes of aviation, about complicated diplomatic relations, about various clubs, discoveries, alliances of every kind, or so-called works of art, and still pass over in silence what this girl said; but we oughtn't to do so, because every person in the Christian world feels it—feels it more or less vaguely, but still feels it. Socialism, communism, anarchism, the Salvation Army, the growth of crime, unemployment among the population, the growth of the insane, luxury of the rich and the destitution of the poor, the terrible growth in the number of suicides—all these things are signs of this internal contradiction which ought to and must be solved and, of course, solved in the sense of recognising the law of love and repouncing all violence. And so your work in the Transvaal, at the other end of the world as it seems to us, is the most central and most important of all tasks now being done in the world, and not only Christian peoples, but peoples of the whole world will inevitably take part in it. (*Tolstoy's Letters,* edited by R. F. Christian, Scribner's, 1978.)

How could only two men, Tolstoy and Gandhi, exert so much leverage on the mind of the age, that today uncounted individuals are wondering if the time has come to change the center of gravity of their lives, of life generally? Gandhi's power grew from his strength of conviction and his unshakable will. Tolstoy, never serene like Gandhi, tortured by what he felt to be his own shortcomings, agonized by his inability to change the world all at once, had nevertheless a similar determination. Both were splendidly articulate and both were devoted to the good of the world.

These words, while "true" enough, are pallid in the light of the accomplishment of the two men.

There is in the volume we have been quoting a letter to Bernard Shaw, written in 1908, on Shaw's play, *Man and Superman,* which may reveal more of Tolstoy's character and the reason for his impact on readers throughout the world. After complimenting the playwright on the drama's contentions—in particular the idea that civilization cannot improve "the state of mankind unless people themselves change"—Tolstoy wrote:

> The difference in our views only amounts to this that in your opinion the improvement of mankind will be accomplished when ordinary people become supermen or new supermen are born, while in my opinion it will come about when people divest true religions, including Christianity, of all the excrescences which deform them and when all people, uniting in that one understanding of life which lies at the base of all religions, establish a reasonable attitude of their own towards the world's infinite first principle, and follow the guidance for life which stems from it. . . .
>
> Dear Mr. Shaw, life is a great and serious matter, and all of us generally, in this short interval of time granted to us, must try to find our appointed task and fulfill it as well as possible. . . . And so, in the confident hope of not offending you, I will tell you what seems to me to be the defects of your book.
>
> Its first defect is that you are not sufficiently serious. One should not speak jokingly about such a subject as the purpose of human life or the causes of its penersion and of the evil that fills the life of all of us mankind. . . . A second reproach is that the questions you deal with are of such enormous importance that, for people with such a deep understanding of the evils of our life and such a brilliant aptitude for exposition as yourself, to make them only the object of satire may often harm rather than help the solution of these important problems.
>
> I see in your book a desire to surprise and astonish the reader by your great erudition, talent and intelligence. And yet all this is not only not necessary for the solution of the problems you deal with, but very often distracts the reader's attention from the essence of the subject, attracting it by the brilliance of the exposition.
>
> In any case I think that this book of yours expresses your views not in their full and clear development, but only in their embryonic state.

The call of Gandhi and Tolstoy is to all human beings to be more than embryos of what they might become—a challenge increasingly heard and felt in our time.

# *REVIEW*
## ON THE TRANSLATOR'S ART

THE University of California Press has issued another translation of the *Bhagavad Gita* (1979, $14.95). Whatever draws attention to this exquisite poem and scripture of ancient India—a portion of the *Mahabharata*—gives opportunity for enrichment of Western culture, no matter what version is read. The present translator is Kees Bolle, who teaches history at the University of California in Los Angeles. He believes that a translation "should speak for itself," without dependence on footnotes or long prefaces. "Most great texts," he says, "lasted long not because they forced their hearers or readers into erudite explanations, but because they were clear and immediate." His ideal is that the text should seem to "have been composed in the modern tongue of the reader." In his essay on translation, however, he speaks of a difficulty which may oppose this purpose:

> The *Gita's* beauty is not at once obvious to the reader who was not nurtured in Hinduism. The reader without a background in Sanskrit and its literary styles may become aware of a certain redundancy. . . . In comparison with the Sanskrit of the *Gita,* the English language is a puritanical straitjacket. It makes some pruning inevitable, for it does not allow for constant superlatives. But the activity of meditation requires repetitions with only slight variations in emphasis and point of view. And as to the superabundant descriptions of Arjuna's visions in chapter II, their redundancies—if that is truly what they are—overwhelm the reader and create a dreamlike trance, setting the meditative faculty in motion.
>
> The redundancy has a purpose, exactly because it is a matter of "rubbing things in" and therefore repeating them. Wisdom is not something to be attained at a certain moment. It is not bestowed on Arjuna like an academic degree. It is a thing practiced continually.

Perhaps, then, an other-worldly quality is a natural part of a work such as the *Bhagavad Gita*, justifying an effort to retain it through the feeling-tone of words.

What is the *Gita?* It is a dialogue between a spiritual teacher and a disciple who is a prince, one of five royal brothers who have been dispossessed of their kingdom. The scene is the battlefield where the brothers will undertake to recover their kingdom. Arjuna, the prince, has asked Krishna, the teacher, to be his charioteer. From a discussion of Arjuna's reluctance to fight—he sees many friends, relatives, and teachers among the opposing forces—Krishna turns the dialogue into a profound philosophic inquiry. It has a practical end—Arjuna's need to do what is right, fulfill his natural duty, and thereby recover his kingdom—which means taking charge of his life as a spiritual being. Krishna's persuasion is successful. Arjuna enters the battle and is victorious.

What shall we say about Mr. Bolle's translation? We can say nothing about his Sanskrit scholarship, except that he finds the same general sense in the lines of the *Gita* that other translators have found. How does he put it into English? A good test passage comes at the end of the second chapter, where Krishna has succeeded in distracting Arjuna from his extreme despondency, stirring him to inquire about the man who knows what is right and acts on his knowledge.

Arjuna asks:

> Please describe the man of firm judgment
> who is established in concentration.
> How would a man of firm mind speak,
> or sit, or move about?

Krishna answers:

> A man is of firm judgment
> when he has abandoned all inner desires
> And the self is content,
> at peace with itself.
>
> When unpleasant things do not perturb him
> nor pleasures beguile him,
> When longing, fear, and anger have left,
> he is a sage of firm mind.
>
> That man has a firm judgment
> who feels no desire toward anything.
> Whatever good or bad he incurs,
> he never delights in it nor hates it.
>
> When on all sides he withdraws his senses
> from the sensual world,
> As a tortoise draws in its legs,
> his judgment has become stable.

For comparison we quote the same passage from a rendition by the nineteenth-century Theosophist, William Q. Judge:

ARJUNA:

"What, O Keshava, is the description of that wise and devoted man who is fixed in contemplation and confirmed in spiritual knowledge? What may such a sage declare? Where may he dwell? Does he move and act like other men?"

KRISHNA:

"A man is said to be confirmed in spiritual knowledge when he forsaketh every desire which entereth into his heart, and of himself is happy and content in the Self through the Self. His mind is undisturbed in adversity; he is happy and contented in prosperity, and he is a stranger to anxiety, fear and anger. Such a man is called a Muni. When in every condition he receives each event, whether favorable or unfavorable, with an equal mind which neither likes nor dislikes, his wisdom is established, and, having met good or evil, neither rejoiceth at the one nor is cast down by the other. He is confirmed in spiritual knowledge, when, like the tortoise, he can draw in all his senses and restrain them from their wonted purposes.

What, one may ask, does the flowing diction of the Judge rendition add? This may be a matter of taste, but something more is perhaps involved. Mr. Bolle says that by Indian tradition the Gita is chanted, but that "the regularity of Sanskrit chanting cannot be reproduced any more than the original poetry." No doubt he is right, yet something of the quality of a chant may be retained—something of the original mood conveyed through our own language. Sacred literature naturally assumes a form which has the power to command attention. It employs the symmetries of language spontaneously, in behalf of the wisdom it communicates. When we feel deeply and perhaps longingly, our speech is altered by the majesty of aspiration. Scholarly fear of "romanticism" ought not to stand in the way of recognizing this.

Pondering Mr. Bolle's labor of love and his thoughtful discussion of translation, we were led to Walter Benjamin's essay, "The Task of the Translator" (in *Illumina*tions, Harcourt, Brace, 1968), for what seem seminal ideas on the subject. Benjamin's account is full of paradoxes—as seems inevitable in this case—but the following is surely an assemblage of first principles:

The task of the translator consists in finding that intended effect (*Intention*) upon the language into which he is translating which produces in it the echo of the original. . . . Fidelity in the translation of individual words can almost never fully reproduce the meaning they have in the original. For sense in its poetic significance is not limited to meaning, but derives from the connotations conveyed by the word chosen to express it. We say of words that they have emotional connotations. A literal rendering of the syntax completely demolishes the theory of reproduction of meaning and is a direct threat to comprehensibility. . . .

In all language and linguistic creations there remains in addition to what can be conveyed something that cannot be communicated; depending on the context in which it appears, it is something that symbolizes or something symbolized. It is the former only in the finite products of language, the latter in the evolving of the languages themselves. And that which seeks to represent, to produce itself in the evolving of languages, is that very nucleus of pure language. Though concealed and fragmentary, it is an active force in life as the symbolized thing itself, whereas it inhabits linguistic creations only in symbolized form. While that ultimate essence, pure language, in the varied tongues is tied only to linguistic elements and their changes, in linguistic creations it is weighted with a heavy, alien meaning. To relieve it of this, to turn the symbolizing into the symbolized, to regain pure language fully formed in the linguistic flux, is the tremendous and only capacity of translation. . . . It is the task of the translator to release in his own language that pure language which is under the spell of another, to liberate the language imprisoned in a work in his re-creation of that work. For the sake of pure language he breaks through decayed barriers of his own language.

While both abstract and obscure, this seems to have hold of something quite fundamental. In partial explanation, Benjamin quotes Rudolf Pannwitz' objection to the habits of German translators:

They want to turn Hindi, Greek, English into German instead of turning German into Hindi, Greek, English. . . . The basic error of the translator is that he preserves the state in which his own language happens to be instead of allowing his language to be powerfully affected by the foreign tongue. . . . He must expand and deepen his language by means of the foreign language.

The Gita, by reason of its intrinsic power and depth, should accomplish this for our native tongue.

# *COMMENTARY*
## AN OUTSIDER'S VIEW

PEOPLE who educate themselves are often the best critics of the educational system. To what is quoted from Lewis Mumford in this week's "Children," the following, from the same source, should be added:

> The bane of real education is the encyclopedia and the textbook. Too often they become simply means of supplying students with so-called knowledge at third hand. To take any kind of knowledge at third hand is like taking milk that has been watered three times: what one method fails to give the stomach, the other fails to give the mind. We have substituted knowledge about facts for direct, active acquaintance with them. As a result we know verbally about a thousand things that other people have seen, done, thought, painted, and fought for without necessarily having for a moment had any direct contact with the actual experiences. The best thing my temporary release from formal education at City College has done for me is to show the futility of a merely formal and superficial education. A man's education is tested not by what he knows but by what he is capable of learning from and using.

Mumford wrote this in 1916. In 1944 he said in a letter to a friend:

> I fooled myself into thinking that the times were ripe for a profound change in our universities: I took the interest of my professorial sponsors in getting me to Stanford as an evidence of such a change; but it was at bottom, if unconsciously, something quite different: a desire to get the credit for such a change without effecting it: at lowest a desire for publicity. The fact is that the very perfection of the scientist's and the scholar's routine has made the university the last place in which to expect renewal. What they are looking for in our schools and colleges is something facile: a rearrangement of courses, a new pattern for the curriculum that will use all the existing elements; without the least change of spirit and ultimate purpose on the part of those participating, whether teachers or students.
>
> As I perhaps told you, the only person at Stanford who really grasped this fact was the new president, Donald Tresidder: another outsider like myself. Within a few years, if I do not mistake him, he will follow me, because he will find too few in the institution who are ready to meet this challenge.

Mr. Tresidder, as we recall, distinguished himself during those war years by remarking that from his observation of the behavior of students, military training contributed less than nothing to the formation of character.

# CHILDREN
## . . . and Ourselves
### A MAN TO GO TO SCHOOL TO

FROM time to time we are obliged to make some sort of reply to: "What would be a good school for me to go to?"—a question for which there can be no answer in the terms expected. If one supposes that just the right school for one to go to exists, a rather awful mistake has been made, right at the beginning of looking around.

Of course, if a person knows what he or she wants, then the question becomes much simpler. You look for a place the way you look for a store to buy an appliance or a tool. Technical training is a commodity and some places are better than others at supplying it. Usually an experienced professional can be found who will give good advice.

But an education! This is something each one must carve out for himself. It is not a commodity, but a kind of maturity through which one learns how to accommodate oneself to the general ignorance of practically everything that is important in life and without losing one's sense of purpose. Education also means knowing how to do what one sets out to do without being distracted by the conventional purposes which are endlessly talked about.

A young person could do much worse than look about for an example of an educated man or woman, and then try to understand how that one "got" an education. Really finding out may prove quite impossible, but there are lots of little lessons to be learned from trying.

If an ideal questioner were to come along, we'd say: All right, pick an ideal example—pick, say, Lewis Mumford, who is certainly an educated man, in the sense that Leonardo da Vinci was an educated man. An educated man is one who finds a way to do well whatever he puts his hand to. How does one acquire such a wonderful capacity? We shall never tire of quoting Ortega on this question. Speaking of those who want to learn a science, he exposes the assumptions which usually attend looking for an education:

> It is enough to compare the approach of a man who is going to study an already-existing science with the approach of a man who feels a real, sincere, and genuine need for it. The former will tend not to question the content of the science, not to criticize it; on the contrary, he will tend to comfort himself by thinking that the content of the science which already exists has a defined value, is pure truth. What he seeks is simply to assimilate it as it already is. On the other hand, the man who is needful of a science, he who feels the profound necessity of truth, will approach this bit of ready-made knowledge with caution, full of suspicion and prejudice, submitting it to criticism, even assuming in advance that what the book says is not true. In short, for the very reason that he needs, with such deep anguish, to know, he will think that this knowledge does not exist, and he will manage to unmake what is presented as already made. It is men like this who are constantly correcting, renewing, recreating science.

But isn't Ortega talking about people who are practically born geniuses? Yes, but what of that? The question is about education, not getting the equipment necessary for some kind of job. But isn't some compromise inevitable for most students? Well, there is a passage in Robert Jay Wolff's *On Art and Learning* (Grossman, 1971) which applies. Wolff is talking to a hypothetical art teacher about an actual student who has marked capacity as a budding cartoonist:

> Convince him that a potential cartoonist does himself an injustice not to at least examine the possibilities in linear expression beyond his cherished Superman convention. Lead him to observe the lightning stroke in the sky and the rich pattern of the bare branches of a tree in winter. He is not so far from the days when such things absorbed his eye and he may somehow find the bridge over the gap between the things he loved and enjoyed as a kid and the things he would like to do as a man. This would be a beginning, and a pretty rough beginning it is on a teacher. It is hard work and it takes sensitive thinking and insight. There's only one alternative: let him develop in the image that the world of Super Suds and words spelled backwards sets up in him. True, he will be living in this world and he will be earning his livelihood there. It is also true that we should do all in our power to prepare him for this task. However, in carrying out this obligation we should never lose sight of the fact that if we prepare him for a job, and nothing else, it is always possible

> that he will end his days with a job—and nothing else. It is our duty above all to see this does not happen.

Well, Lewis Mumford got plenty of jobs. We have been reading in his latest book, My *Works and Days* (Harcourt Brace Jovanovich; $13.95), and soon realized that here is the story of a man who took charge of his own learning rather early in life. Then we began to pick out the passages which deal with what some people might call his "education." Mumford is of course "exceptional," but what sense would there be in picking for an example someone who is not? No education at all is involved in becoming a successful mediocrity. As Mumford says:

> Regius is a thin, slightly stooped youth of nineteen or twenty, with a full forehead, a Napoleonic nose, and persistent, anxious eyes. He is a product of his mother's tender care, his aunt's devotion, his nurse's solicitude, his teacher's coddling, his schoolfellows' toleration, and the protection from any vital contact with the world that has been provided by an ample bourgeois income. Measured by the standards of the society he lives in, he has been excellently brought up: or, as his aunt would probably say, "He has been given every advantage." This means that ever since he learned his ABC's he has been exposed to the most vicious institution of present-day civilization: our so-called educational system. The barrenly intellectualized training he has been given in that system has ingrained in him the habit of living at second hand; with the result that though he has apparently a vast knowledge about art, industry, science, love, friendship, and so forth, he has never had the least direct acquaintance with any of these things. He is emotionally starved, and volitionally frustrate, while intellectually he is prodigious. A modern college president would think him a very promising young man: but according to the ideals of an Athenian in the age of Pericles, he is a hopeless idiot; a nuisance to himself; a burden to his family; and a total loss in manhood to the state.

There has to be something pretty good about a country which, through the years, has kept busy a man who says things like that whenever they're pertinent.

The point is, if you are looking around for the means of an education, look for people, not places. And the people ought to be autodidacts—ones who taught themselves—for no one is educated who has not taught himself. The courses they took are no more than appearances—some, of course, rather useful appearances. At thirty-one Mumford wrote:

> . . . My lack of a degree has become a valuable distinction in America. The Ph.D. is such an inevitable sign of mediocrity here that when the Carnegie Foundation for the Advancement of Art wanted someone to examine and report upon the various schools of art in America they tried to get hold of me—and this in the face of the fact that with their resources they had all the academic young men in the universities at their beck and call. I was lured by the prospect of touring all over the United States and almost accepted for that reason: but I countered with an offer to write a critical history of the development of the arts and crafts in America *when I got around to it*—and at that stage we both left it.

People who teach themselves are usually their own best critics. Who but an autodidact could say this about a book he was writing?

> The book [*Technics and Civilization*] has become gigantic, but the more one puts into it, the emptier it gets: or rather the holes become more visible, as when one blows up a child's balloon the flaws in the rubber become clearer with every extra inch it is distended. This monstrous work is but the sketch of the book I want to write: the very touch of failure that already hangs on my words as they reach and snatch after the thoughts that elude me is perhaps in another sense the best pledge of success. When at last one knows anything well one realizes how vastly one is ignorant and how "life is not long enough to know antimony." (Robert Boyle, "The Skeptical Chymist.") As one really gets on with one's knowing one leaves one's little limitations and begins to touch the bottom of things as one becomes, if in minute amounts—godlike, one realizes that one lacks alas! the most important qualification for godlike knowledge—namely, an eternity to acquire it in! . . .

What Mumford acquired during his eighty-five-year sample of eternity is richly instructive on how to get an education, and much else besides. He inspires self-confidence, but shows that you need to deserve it, which makes him a teacher to go to school to, in these confusing and fraudulent days.

# *FRONTIERS*

## Sun, Wind, and Farms

A NOTE on algae research in the May-August 1979 issue of *Kidma,* an Israeli journal devoted to development, is of interest for both historical and energy reasons:

> Over the years, researchers in many places have considered the production of algae—primarily as a source of protein—as a method of harnessing solar energy. Two basic difficulties have been the harvesting of the algae—because they are extremely small organisms—and the fact that they are not readily digestible. An extremely interesting approach has been adopted in Israel following the discovery that certain (halophilic) algae which thrive in very salty water contain 20-50% of their dry weight as glycerol. By pyrolytic processing of the algae, it is possible to produce a petroleum-like substance. (Indeed, it is believed that the original production of petroleum in Nature has followed such a path.) Harvesting is still a problem and the geneticists are trying to find the best species. To give some numbers: if the algae yield can be brought to the expected level, and if half the dry weight could be converted to petroleum, the annual yield would be of the order of two thousand tons per sq. km.

Meanwhile Israel, which has no oil wells, has not ignored the sun as a source of energy. A photograph on the back cover of *Kidma,* gives a panoramic view of the roofs of houses in the Negev desert city of Beer-Sheva, with solar collectors almost everywhere. Harry Z. Tabor, a solar energy authority, describes the research going on in Israel and the present use of sunlight. He begins:

> Israel is a small country having a population of less than four million. It is not endowed with readily exploitable indigenous conventional energy sources. A small oil field was found some twenty years ago: today it is dry. Bituminous limestone and oil shales are known to exist, but their exploitation is fraught with technical difficulties and unattractive ecological consequences. Yet the annual per *capita* energy consumption (of the order of about 3 tons of oil equivalent—all imported) is that of a developed nation, and is expected to grow significantly in the coming years.
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> A combination of circumstances has made Israel—one of the sunniest countries in the world—probably the largest per capita user of solar energy in the world. Thus the Dead Sea provides a natural source of chemicals—primarily potash and bromine—which are won from Nature by using solar energy: the solar heat used in that one operation is equivalent annually to about three times the *total* imports of oil, and represents a use of about 10 tons oil equivalent per capita.
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> Some thirty years ago, solar water heaters were introduced on a small scale, being substantially a copy of a system then popular in Florida. However, the design was not very sophisticated, and the timber used was really not suitable, so that the water heaters used at that time were rather discredited.
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> Research and development work, starting out on a relatively modest scale in the early 'fifties, improved the product so that, even before the present fuel crisis, solar water heaters were in widespread use in Israel. Today there are an estimated 300,000 domestic installations: about one in 4 or 5 families gets its domestic hot water from the sun. The figure of about half a square metre of solar collector per capita is impressive, and there are plans to increase this considerably.

Other Israeli research developments are in solar pond collectors, solar greenhouses, solar cells, and biogas.

In the United States, wind power has at last won attention from large public utility companies. According to *Science* for Feb. 15, Southern California Edison is installing near Palm Springs (Calif.) a 200-foot wind turbine generator (without federal assistance), expected to produce enough electricity to supply about a thousand homes—saving the utility company nearly 10,000 barrels a year of low-sulphur crude oil. Other large-scale installations are said to be on the way around the country. While congressional support lags in relation to wind power, the *Science* writer says: "A host of private firms have made clear their intention to pursue the technology into the marketplace with or without additional federal help." Meanwhile, a prototype windmill installed by the Department of Energy on Block Island, R.I., operating at wind speeds of 18 to 34 miles

per hour, is producing about 20 per cent of the island's power supply.

In *Not Man Apart* for February Brian Berkey begins a comparison between small farm productivity and that of the vast holdings of agribusiness by quoting Section 5 of the National Land Reclamation Act of 1909, honored in theory and in the courts, but largely ignored in practice:

> No right to the use of water for land in private ownership shall be sold for a tract exceeding 160 acres to any one landowner, and no such sale shall be made to any landowner unless he be an actual bona fide resident on such land, or occupant thereof residing in the neighborhood of such land.

The law is clear but has never been effectively enforced, while billions of tax dollars have been spent on enormous irrigation projects, especially in California. The big farmers claim that the law shouldn't be enforced, arguing that giant corporate farms are more efficient in food production. They declare that a return to small-scale farming would "set the nation back by years."

Replying to this claim, Brian Berkey cites various studies which show that yield per acre actually goes down as farm size increases beyond a certain point. "In agricultural terms, the small farm's performance indicates that it is not outdated at all." He continues:

But can small farms survive economically? Some basic figures show that they have so far:

> California state agency studies show that farms of 320 acres or less have a net yield of $27,000 to $63,000 a year, depending on the crop grown.
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> The 1974 farm census showed that 47 per cent of the California farms that returned a profit did so on less than 50 acres.
>
> The same census revealed that 71 per cent of California farms operated on less than 180 acres.
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> Although these figures are only for California, it should be noted that California is the state most heavily dominated by land monopolies. What would it be like if the odds were not so fiercely stacked against the small grower—if, for example, the reclamation laws were truly enforced?

Not only do small farms create healthy communities for the rural population, but it can be shown that the heavy machinery, nitrate fertilizers, and monocropping used by the big farmers bring greater dependence on pesticides and do long-term damage to the soil.