

## TOLSTOY'S THEORY OF KNOWLEDGE

BEFORE we proceed to take the *Confession* of Leo Tolstoy seriously, there is reason to notice what his wife thought about it, and then, almost a century later, one of his biographers. Late in 1879, Sonya wrote to her sister:

"Leo is still working, as he calls it, but alas! all he is producing is philosophical disquisitions! He reads and thinks until it gives him a headache. And all in order to prove that the Church does not accord with the Gospels. There are not ten people in Russia who can be interested in such a subject. But there's nothing to be done. My only hope is that he will soon get over it, and it will pass, like a disease."

But there was no possibility of this. The change that took place in the great literary man was irreversible. Yet few saw its implications. That in this work Tolstoy was formulating ideas of the sort that would, in the twentieth century, help to reduce to ruins the temple of "objective knowledge" was hardly recognized by his contemporaries, not even by his later biographer, Henri Troyat, whose book came out in 1969. For Tolstoy's *Confession* Troyat had only faint praise:

To be sure, the desire for total honesty that prompted it is praiseworthy, and many of its pages are remarkable for their tragic beauty, but the general impression created by the book is an unhealthy one of public exposure and flagellation. One continually feels that the author is burrowing into his dung-heap with too-evident relish. The extravagance of his language casts doubt on the nobility of his purpose. At the end of the book one wonders whether this display of Christian humility is not rather an orgy of masochistic pride, for self-criticism, when performed in broad daylight, can produce a kind of intoxication, and setting oneself up as an example not to follow may be another way of attracting attention.

Such comment, which doubtless has some justification, obliges us to fall back on Lafcadio Hearn's defense of Tolstoy, in his critical essay on *What Is Art?*, the book that excited so much condemnation and ridicule. Hearn said:

If the wrong things which he said were picked out of his book and printed on a page all by themselves (this has been done by some critics), you would think after reading that page that Tolstoy had become suddenly insane. But you must not mind these blemishes. Certain giants must never be judged by their errors, but only by their strength, and in spite of all faults the book is a book which will make anybody think in a new and generous way. Moreover, it is utterly sincere and unselfish—the author denouncing even his own work, the wonderful books of his youth, which won for him the highest place among modern novelists. These, he now tells us, are not works of art.

*My Confession* (completed and published in 1882) is very much self-criticism—the point of the book turns upon it—yet it is also much more. Tolstoy is concerned with how human beings think, how their views of nature and life are reached. If he is right in his conclusion about this, then all the theories of knowledge which ignore his finding are virtually worthless. The way we think, Tolstoy became convinced, is a result of what we *are*.

And then, because Tolstoy believed that humans are able to change what they are, he set about so heroic a reform of his own life that he alienated just about everybody, including himself. His wife said to him: "You used to be worried because you had no faith; why aren't you happy now that you have it?" And his lifelong friend and disciple, Fet Afanasy, protested: "You are in the prime of life; you are not suffering from any illness; why are you so sad and why do you talk of death? Of course, you lead an appalling life. You drive yourself unmercifully."

*My Confession* was not merely a masterpiece of self-examination, it was an examination of the age. Tolstoy wrote of his contemporaries:

These men, my literary brothers, saw life in the following way. Life in general, they said, was moving forward; this progress was due chiefly to the

thinkers and, foremost among them, the artists and poets, in other words, to us. Our vocation is to edify mankind. This principle granted, these men should then have asked themselves one fundamental question: what are we, and what have we to teach? Instead of which, their method was to avoid the issue by affirming that one need not know anything in order to teach, since artists and poets teach unconsciously.

What moved Tolstoy to write his *Confession*? Why did he make such disturbing discoveries, and not Turgenev or some other Russian genius? No one knows. We know only what he tells us—that at the height of his literary fame and prosperity, he became depressed. Whatever he imagined himself achieving, it did not seem worth attempting. Every fulfillment turned to dust and ashes in his head.

And I completely lost my senses and did not know what to think farther. Or, when I thought of the education of my children, I said to myself: "Why?" Or, reflecting on the manner in which the masses might obtain their welfare, I suddenly said to myself: "What is that to me?" Or, thinking of the fame which my works would get me, I said to myself: "All right, you will be more famous than Gogol, Pushkin, Shakespeare, Moliere, and all the writers in the world,—what of it?" And I was absolutely unable to make any reply. The questions were not waiting, and I had to answer them at once; if I did not answer them, I could not live.

I felt that what I was standing on had given away, that I had no foundation to stand on, that that which I lived by no longer existed, and that I had nothing to live by.

It is not enough, in order to understand Tolstoy's *Confession*, just to read it. Nor is it enough, in order to convey its importance, to quote from it. Yet a work which brings this realization becomes all the more worth reading. The questions which were forthright for Tolstoy are at least shadowy presences in the lives of most of us, and the way he asks them, over and over again, turning repeatedly to all the sources of possible answers within his experience, amounts to a general education, or the seeds of one. Sooner or later he will touch a nerve in the reader. In one place he says:

My question, the one which led me at fifty years, up to suicide, was the simplest kind of question, and one which is lying in the soul of every man, from the silliest child to the wisest old man—that question without which life is impossible, as I have experienced it, in fact. The question is: "What will come of what I am doing today and shall do tomorrow? What will come of my whole life?"

The sciences, in which he was much interested, and had some knowledge of, were no help. They were fine and useful until he sought an account of *meaning*. Then they became silent, or fictitious.

Experimental science need only introduce the question of final cause, and nonsense is the result . . . Experimental science gives positive knowledge and manifests the greatness of the human mind only when it does not introduce the final cause into its investigations. And, on the other hand, speculative science is a science and manifests the greatness of the human mind only when it entirely sets aside the questions of the consecutiveness of causal phenomena and considers man only in relation to the final cause.

Well, he found a verbal solution: "What am I? A part of the infinite. In these few words lies the whole problem." But it was still a problem. How could he unite his subjective convictions with the ranges of objective experience?

I began to understand that in the answers which faith gave there was preserved the profoundest wisdom of humanity, and that I had no right to refute them on the basis of reason, and that these main answers were the only ones that gave an answer to life.

I understood that, but that did not make it easier for me.

Tolstoy was too intelligent a man to suppose that the answer he recognized in outline would be easy to render into the fabric of his own life. So his pain, his depression, his disgust for the world and its arrangements, continued.

A short passage will have to do for his rejection of the life he had been living—he goes on for pages about it, extravagantly, as Troyat says—but it is important for the reason that this

rejection opens the way for his epistemological discovery:

What happened with me was that the life of our circle,—of the rich and the learned,—not only disgusted me, but even lost all its meaning. All our acts, reflections, sciences arts, all that appeared to me in a new light, I saw that all that was mere pampering of the appetites, and that no meaning could be found in it; but the life of all humanity, which created life, presented itself to me in its real significance. I saw that that was life itself and that the meaning given to this life was truth, and I accepted it.

This led him to understand why he had adopted so low an opinion of the world:

I saw that the truth had been veiled from me not so much because I had reasoned incorrectly as because I had lived badly. I saw that the truth had been veiled from me not so much by the aberration of my mind as by my life itself in those exclusive conditions of Epicureanism, of the gratification of the appetites, in which I had passed it. I saw that the question of what my life was, and the answer to it, that it was evil, were quite correct. What was incorrect was that the answer, which had reference to me only, had been transferred by me to life in general. . . . I saw that in order to comprehend the meaning of life it was necessary, first of all, that life should not be meaningless and evil, and then only was reason needed for the understanding of it. I comprehended why I had so long walked around such a manifest truth, and that if I were to think and speak of the life of humanity, I ought to think and speak of the life of humanity and not of the life of a few parasites of life. This truth has always been a truth, just as two times two was four, but I had not recognized it because, if I recognized that two times two was four, I should have had to recognize that I was not good, whereas it was more important and obligatory for me to feel good than to feel that two times two was four. I came to love good people and to hate myself, and I recognized the truth. Now everything became clear to me.

It didn't, of course. But everything was clearer. Tolstoy rewrote his own religion as a result, and his privately printed version of the Four Gospels was confiscated by the police.

What had he said in *My Confession*? That we cannot help but see the world through our own eyes, and since the eyes are a part of the mind

turned outward, there is a sense in which we see what we are, a world with qualities invented by ourselves. That is, the meaning of the world is the invention, and the rest is just scenery and props.

This is an idea now coming through in current books—Martin Green's *The Challenge of the Mahatmas* and William Barrett's *The Illusion of Technique* are examples. But the idea that we shape our conceptions of the world by how we prefer to think about it has often been expressed. If we turn to the sciences—and it is comfortable to look at the sciences, for relief from the moral pressure one is bound to feel in Tolstoy's writing—we find increasing recognition of the part played by subjectivity in the formulation of, say, cosmological theory, and also in the theories of the life sciences. There is at least a family resemblance between some observations by Arthur Eddington and what Tolstoy wrote some forty years earlier. In *Space, Time and Gravitation* (1920) Eddington said:

The theory of relativity has passed in review the whole subject-matter of physics. It has unified the great laws, which by the precision of their formulation and the exactness of their application have won the proud place in human knowledge which physical science holds today. And yet, in regard to the nature of things, this knowledge is only an empty shell—a form of symbols. It is knowledge of structural form, and not knowledge of content. All through the physical world runs that unknown content, which must surely be the stuff of our consciousness. Here is a hint of aspects deep within the world of physics, and unattainable by the method of physics. And, moreover, we have found that where science has progressed the farthest, the mind has but regained from nature that which the mind has put into nature.

Now, in a much quoted passage, Eddington waxes poetic:

We have found a strange footprint on the shores of the unknown. We have devised profound theories, one after another, to account for its origin. At last, we have succeeded in reconstructing the creature that made the footprint. And lo! it is our own.

In an article in *Inquiry* for the Winter of 1978, Lewis Feuer, who is something of a

maverick among present-day philosophers, presents carefully integrated evidence to show that some inherent (preconceived?) conception of meaning or purpose is at the foundation of all scientific theory. This seems in effect a declaration that all humans are meaning-seeking and meaning-realizing beings. His title is "Teleological Principles in Science." Ideas or principles embodying meaning or pointing to fulfillment of some sort pervade the sciences. As Prof. Feuer says:

For what underlies the choice of these principles is some underlying emotional aim; a particular kind of world is sought which will answer to the scientist's emotional longings. A teleological principle, in its most general sense, is one which affirms that some ethical, extra-logical purpose is fulfilled in the structure of the laws of nature. Such a principle, moreover, serves then as a heuristic agent for discovering those laws of nature. It is not an after-the-fact theological commentary but an active participant in the work of exploration.

For illustration among modern scientists he begins with Dmitri Mendeleef (1834-1907).

Mendeleef said that he conceived his Periodic System when, undertaking to write a textbook of chemistry, he was faced with the necessity of systematizing a huge body of diverse facts and information. But evidently something of a pantheistic, mystical longing to see a Chain of Being ramify through the chemical facts was the teleological *a priori* of his systematizing task. The pantheistic mystic communicated silently with the textbook writer. For Mendeleef himself was explicitly aware that the personality of the scientist, his emotional longings and values, shaped the character of his scientific theorizing.

Mendeleef was openly philosophical in his explanations, finding inspiration in the Russian poet, Tyutchev, who had said that Nature "has a soul, a voice, inspired/By love and by her own free will." Jacques Loeb, famous biologist, who died in 1924, was quite opposite in his convictions, being, as Feuer says, "the outstanding mechanist and antiteleologist in the history of American biology." Yet Loeb (the "Max Gottlieb" of Sinclair Lewis' *Arrowsmith*) was also

pervaded by moral longing. He believed, after the fashion of Lamettrie and d'Holbach, that only aggressive materialism would set the world free from religious superstition.

For Loeb was indeed the prophet of a special kind of teleological principle. If it was not a divine perfection whose outline he sought to delineate in the workings of nature, he had a teleological demand all his own: the world and its objects must be mechanistically explicable because only in a mechanistic world, recognized as such, could the values of human freedom and dignity be realized. . . . Every time he achieved a mechanistic explanation of the biological phenomenon Loeb felt he had struck a blow against the reactionaries of the world. When he showed that plants, plant-lice, and caterpillars' larvae in their movements toward light conformed to the Roscoe-Bunsen light energy law, that the chemical effect of light is equal to the product of its strength by the time during which it is acting, he felt that the world had been just that much further disenthralled from the men of evil. "Not only is the mechanistic conception of life compatible with ethics: it seems the only conception of life which can lead to an understanding of the source of ethics."

Prof. Feuer notes that during the last year of Loeb's life two eminent physicists, Max Born and Werner Heisenberg, championed indeterminism in physics as making room for free will. This, too, was teleologically motivated, but Loeb's *social* teleology made him firmly rule out anything but completely deterministic causation. "Loeb's scientific logic was indeed constrained by an extra-logical, social teleological principle; the ethical-political outlook of Voltaire and Diderot from his standpoint had to be confirmed by biological research."

In sequence, Prof. Feuer traces the underlying themes in the thinking of a number of other scientists, all eminent, showing that some moral principle or outlook exercised decisive influence in their theorizing. Fred Hoyle wanted a "steady-state" universe for reasons of social experience, and Hubble's "expanding universe" reflected, Feuer thinks, "the background of a characteristically American teleological principle."

It was a "frontiersman's teleological principle that guided his observations."

J Robert Oppenheimer, steeped in the sense of social decline which overtook the Western world in the 1930's, "was the first to examine the theory of 'catastrophic gravitational collapse'." Of another distinguished innovator Prof. Feuer remarks:

A new class of cosmological models was defined by [Paul] Dirac's new principles. They were of a teleological character insofar as they were functions of certain emotional-ethical-esthetic longings of the individual. To men of another temperament another kind of teleological principle would have been more expressive and congenial.

Bridgman's determined operationalism "was emotionally tied," Feuer says, "to a teleological principle which aimed to safeguard the individual against the encroachments of organized society and its 'social ethic'." Even Bertrand Russell is shown to have had deep teleological intent, despite his denials of meaning in 1903, Prof. Feuer concludes:

The scientists' emotional longings are not merely personal details extraneous to an understanding of science. Without their animating spirit, the scientists' creative work would retrograde. Though a textbook might for its purpose exclude them, they are intrinsic to the pre-textualized scientific experience. The common ingredient in the scientific emotion moreover, delineates an ultimate postulate—that somehow the world of verified fact is congruent, or isomorphic with the emotionally sought.

Teleological cravings, these conjoint demands of our intellect, feeling, and will, may somehow take us directly to the core of reality.

When the textbooks begin with this idea, instead of leaving it out, Tolstoy's theory of knowledge will begin to come into its own.

## *REVIEW*

### CLICHÉS AND BULLDOZERS

THE task of the literary critic is the investigation of taste, and in times like the present, its restoration. The critic is far more than a reporter of changing fashions in the use of words. If he is thoughtful—one whose natural philosophic inclinations have had some deliberate development—he will make occasional explorations into the *roots* of taste. It is then that he becomes most valuable, enabling us to understand why we like what we like, and raising questions about it. The fine critic helps us to *feel* value in places long overlooked.

Lately we have been reading in George Steiner's *On Difficulty and Other Essays* (Oxford University Press, 1978), obviously a book written for a highly sophisticated audience, mostly literary specialists, one supposes. Mr. Steiner seems to have read practically everything and to have carefully formed judgments about a great variety of expressions. Because of his erudition, a lot of what he says may be lost on the ordinary reader. Hardly anyone but other critics have read some of the books he refers to, or knows the illustrations he gives, so that the generalizations which follow may have little impact. Yet now and then what he says is so broad and well said that the point is inescapable. The theme of this book seems to be the effect of the present-day externalization of human life and value on literature. He ends one essay by remarking "that the shift in the balance of discourse since the seventeenth century has been *outward*," with now recognizable consequences:

There would seem to have been a concomitant impoverishment in the articulate means of the inward self. We have lost a considerable measure of control over the fertile ground of silence. Expending so much of our "speech-selves," we have less in reserve. In a sense that fully allows the play on meaning, the centre of gravity has been displaced, and we bend outward, mundanely, from the roots of our being. . . . Whether it is this shift, rather than any political-economic crises, that underlies the widely debated but little understood phenomena of anomie, of alienation,

of anarchy of feeling and gesture in the current situation, is a question worth raising.

Mr. Steiner writes with quiet nostalgia of the nineteenth-century habit of learning the classics so well that one has them almost "by heart." Everyone knows the arguments against a lot of "memorizing." They are sound enough. Yet the saturation of the mind with the excellences of past human expression gives resources now being lost. Steiner remarks: "The profound effects of this training and usage of the memory on the architecture of sensibility and on the organization of speech have never been investigated adequately." Then he shows what we have put in its place:

Nowhere has the change in values and practices of Western middle-class culture been more readily observable. Progressive and populist ideals of education can nearly be defined by virtue of their opposition to "learning by heart." The electronically-expressed and inventoried "information explosion" has been such as to make the mnemonic means of the ordinary brain inadequate and unreliable. There is no longer, moreover, a widely-agreed canon of exemplary texts, dates or recognitions. Mappings of what it is that a man or woman must know well enough to call at once to mind to refer to, imply manifestly or cite, are now as diverse and reciprocally polemic as are ideologies or ethnic-political identifications. Even where vestiges of such an agreed syllabus and echo-repertoire exist, the changes in the structures of leisure and attention, the magnified exposure of individual attention to the information-avalanche and synchronic immediacies of the media, leave little time and little natural space for the cultivation of memory. In many politically ecumenical and technologically-oriented schools systems, notably in the United States, the education of the young is planned amnesia (for reasons of censorship, of vital oral tradition, and of the relatively backward state of the electronic mass-media, the Soviet Union and eastern Europe represent a challenging exception; that which is known by heart, from literature, from history, plays a crucial part in the survival of individual and social integrity). In the West, we carry far less inner ballast than did the literate caste, the shapers of spirit and of speech, in preceding generations. Here again, the material and moral desolation of the First World War and its aftermath seem to mark a watershed.

The delegation of remembering to machines establishes the universe of the cliché. Knowing good literature did the opposite:

Seriousness—a quality demonstrated solely in terms of the fabric itself, of the resources of metaphor drawn upon, of the arduousness and originality of the linguistic statement achieved—is the guarantor of relevant morality. Seriously expressed, no "content" can deprave a mind serious in response. Whatever enriches the adult imagination, whatever complicates consciousness and thus corrodes the *clichéd* of daily reflex, is a high moral act. Art is privileged, indeed obliged, to perform this act; it is the live current which splinters and regroups the frozen units of conventional feeling.

The artist, in short, will not allow us to fool ourselves in matters of morality. His sensibility is a defense against sentimental or careless self-deception.

Writers who put us on a diet of violence, cruelty, and sexual exploits—Genet, Norman Mailer, William Burroughs—may argue that to ignore these aspects of modern life would be a lie. But, asks Steiner, does not the literature of violence "almost conjure up the facts (Celine would be a case in point)," and we must ask "whether anything is gained by adding, even in phantasy, to the energies of the inhuman."

The new "freedom," frankness and realism—these used to be dignifying terms—have had consequences which may not be recognized because of changes in the focus of attention:

Already there is some evidence, though difficult to assess, of a standardization in sexual behavior, of a decline from individuality and private discovery in this most inward, most vulnerable of psychic resources. Banality and brutality of idiom diminish the reach, the wondrous specificity of individual human consciousness. . . . So far as most ordinary men and women are concerned, the largesse and publicized splendours of the new sexuality are a lie, perhaps as corrosive as were the repressed daemonologies of puritanism or the cant (often exaggerated) of the Victorians.

It may seem a far cry from George Steiner to the essays of an American botanist, but Edgar

Anderson, whose *Landscape Papers* were published by the Turtle Island Foundation (Berkeley, Calif.) in 1976, worked on the same great project—the restoration of taste. He, too, was a teacher, as every reader of his wonderfully informing *Plants, Life, and Man* (University of California Press, 1969) knows, and he mourned the loss of the natural environment for students and others alike. What Steiner says of the modern reader, Anderson, in another way, says of the modern farmer: After an account of "the gentle sweep and swell of the original prairie surface," the plant successions, the arch of sky, and the swirling air-masses which make the weather, he says:

Few indeed are the moments when the modern prairie farmer is alone with these immensities; in the daily run of things he may go weeks or months without such an experience. During the night, at mealtimes, and for a considerable portion of his daily chores he is within the sheltering tangle of the windbreaks. When he goes out onto the farm it is in company with expensive, high speed, noisy, mass production machinery. He is operating (or helping to operate) tractors, cultivators, spray equipment, field choppers, hay balers, ditch diggers, combines, seeders, corn pickers, bulldozers, manure spreaders, seed drills, dusters, post-hole diggers, hay loaders. These are the intricate machines which allow him and his family to produce more useful molecules of foodstuff per acre, per man hour, than has yet been achieved elsewhere. . . . The operator of such machinery is too busy looking down to spare much time to look up. He has only a little more chance for acquiring a sense of the landscape around him than any skilled operator of complicated machinery in any other modern mass-production factory.

Mr. Anderson worked hard at his profession, which was to teach college students something of the growing things of the natural world. He even used the campuses—found ways to use them. And in the city he used even its ugliness as material for learning, since so many students live in the cities these days. He writes lovingly of the Mexican homes he has had, with architecture suited to a union of urban life with country ways—places suitable for raising chickens and

stabling burros, with even a little orchard in the downtown business zone.

There is little hope of my ever living in such a home again. One cannot improve the American city effectively by building Spanish houses. Aping the outward forms of another culture creates more problems than it solves. Changes, to be of any consequence, must come first at a basic, philosophic level. What is needed is not new architecture but new attitudes. Here, as a teacher and a writer, I may be of some ultimate effectiveness.

What did he do? He changed his teaching pattern.

I now take my botany classes more frequently to dump heaps and alleys in St. Louis than to the Ozark Woodlands and the beautiful gravel bars of the Mississippi River. We study Trees of Heaven, weed sunflowers in the railroad yards, wild lettuce on a vacant lot. Gradually a few of us are beginning to accept man in our own biological limitations as a real part of nature. The ecology of dump heaps should be more rewarding for the time spent on it than the ecology of grass lands in the Great Plains. In the Plains one must study the interactions of organisms, all of which one only halfway understands. In the dump heap *homo sapiens* is the most overwhelming of all the organisms in his primary and secondary effects on the landscapes under analysis. As gradually we get down to the fundamentals of town and city ecology we may hope to analyze them faster and more effectively because of our own inside knowledge of man and our special insights into what he has been doing. If gradually in this and other ways we can build up a real interest in the ecology of our cities and the fascinating plants and animals which live there with us, we shall have made a very small beginning (but a fundamental and effective one) towards helping Americans live happily in the American city.

These essays by Edgar Anderson first appeared in the quarterly *Landscape* while under the editorship of J. B. Jackson, a man of similar qualities who, happily, is still with us. To have them collected in a single volume is a publishing service by Bob Callahan, founder of Turtle Island Foundation.



## COMMENTARY

### THE HIDDEN ASSUMPTIONS

CHILDREN—some children, at least—are natural philosophers. The girl quoted in this week's "Children," who said—

What I worry about is  
that I don't think of God as he is in the Bible.  
I think of him as being in nature  
and as part of all good and bad  
that happens to people

—is saying in her own way what Galileo declared three hundred and fifty years ago, getting himself into serious trouble with the Church. In *The Philosophy of the Enlightenment* (Beacon, 1955) Ernst Cassirer points out Galileo's real offense:

In reality it was not the new cosmology which church authorities so vehemently opposed; for as a mere mathematical "hypothesis" they could just as well accept the Copernican as the Ptolemaic system. But what was not to be tolerated, what threatened the very foundations of the Church, was the new concept of truth proclaimed by Galileo. Alongside of the truth of revelation comes now an independent and original truth of nature. This truth is revealed not in God's word but in his work; it is not based on testimony of Scripture or tradition but is visible to us at all times. But it is understandable only to those who know nature's handwriting and can decipher her text.

This was the great achievement of the scientific movement. It replaced the authority of scripture and its priestly interpreters with the authority of visible nature. It said that human beings should reject all second-hand truth.

But the scientific thinkers were themselves carried away by their successes. The idea that Nature speaks to us in unambiguous language led to the assumption that science alone supplies the correct version of "objective knowledge," an outlook that eventually produced the cultural impoverishment described by George Steiner (see Review).

Why did the scientific movement, which started out so heroically, go so wrong? A simple answer would be that the scientists supposed they

could eliminate subjective leadings in their study of the world, that they could shut out the power of feeling from their calculations. But as often as not, an unidentified feeling becomes mere prejudice. This gives outstanding importance to the article by Lewis Feuer (see page 7) which shows how assumptions and feelings concerning world meaning are always at the root of scientific thought.

## CHILDREN

### . . . and Ourselves

#### GOOD ODDS, BAD ENDS

HERE are some odds and ends we've collected, not knowing quite what to do with them, yet feeling obliged to save them. First, from a review of Kingsley Amis' *Rudyard Kipling and His World* (*C. S. Monitor*, March 31, 1976) by Robert Nye. The critic gives high praise to Kipling's last stories:

Here is Kipling the artist, creator of a prose so extraordinary in its narrative complexity and allusiveness that it fulfills Henry James's requirements of suggesting those "just perceptible presences and general looming possibilities" which Mr. James himself knew to be essential to achieving an effect of reality.

Mr. Amis is scrupulously fair. He stresses with considerable understanding the aggressive streak that was responsible for the best and the worst of Kipling's work. He analyzes Kipling's greatest single gift: the ability to see into states of mind where reason and intuition go together, states of mind not often understood. . . . This is a decent book in that it takes nothing for granted and argues always from the text.

Fred Lorish, who teaches in a public alternative school in Oregon, wonders (in *Rain* for last November) how the meanings implicit in intermediate technology, solar energy, and decentralization generally can be gotten across to children who go to conventional schools. Economics and other forces determine what the young are exposed to:

Textbooks are produced by publishing companies that are part of a much larger corporate umbrella. Standard Oil has its free energy curriculum materials, not to mention a host of other special interest industrial groups. Walt Disney produces comics with Goofy talking up nuclear power. Products are packages with the mark of Madison Avenue; the Marlboro Man is transformed into a textbook character pushing rampant consumerism. . . . School districts must buy certain texts; teachers must use them. That kids can produce their own books, their own equipment, their own environments, is conveniently forgotten. . . .

Teachers no longer have much to do in terms of preparation. Everything is done for them except for the continual requirement to keep records, monitor student "growth," and keep their classroom in order. The publishing companies tell them what to say, when to say it, and have the ditto masters ready to go when the talking is over. This is not to condemn teachers, who find themselves out of control anyway. My concern is that teachers have, to put it bluntly, been taken. They are daily used by the publishing companies and their representatives, by state boards of education, by school boards. And it has happened so slowly (and with such skill) that in many cases the teachers seem scarcely aware of the damage being done them and their students. . . .

In short, we need to develop learning environments that allow children to gain the tools necessary to understand processes that support life. . . . My concern, you see, is that the values associated with appropriate technology are not getting down to the kids. I'm not certain that I know the best way of including them.

There must be a natural way of doing it, which fits with the life of children before they start going to school;

I have the sense that children, more so than any other age group, have an intuitive feel for the processes that make up their world. Sure, they can't categorize it. They can't verbalize in any clear way what they naturally feel so that adults can understand it. They simply know how to be a part of the processes; they flow with them with ease, and this is one of the more beautiful gifts the gods have given children. And when at six the child takes those first halting steps through a classroom door, much of the natural learning process comes screeching to a halt. And in the course of years, the love of learning, the involvement in the wholeness of life, the openness, the enthusiasm of just being alive seem to slowly but inexorably to get pruned away.

It happens that we have just received a book that *does* verbalize how children feel and think—*Greenleaf: The Autobiography of a Child*, by Constance J. Bernhardt, published by Trunk Press, Hancock, Maryland 21750. This lovely book has a warmly appreciative preface by John Holt, who expresses surprise that anyone has been able to get on paper how it feels to grow up—from four to thirteen. The background of this tale is the

country near LaCrosse, Wisconsin. At eleven Constance muses:

I still go to Sunday school.  
 I think it is very long and boring.  
 I even think the grown-up people  
 who go to church are bored.  
 Father and Mother make Karen and me go.  
 I don't want to go  
 because I think God can hear me pray  
 when I'm not in church  
 just as well as when I am in church.  
 I think God knows I don't want to be in church,  
 and I think he would understand if I didn't go.  
 I love God but I don't like church.

At thirteen this feeling became stronger:

What I worry about is  
 that I don't think of God as he is in the Bible.  
 I think of him as being in nature  
 and as part of all good and bad  
 that happens to people. . . .  
 I feel God is very complicated  
 and that if there is a God  
 I have to find him myself  
 and not find Him in church.

This is the autobiography of a "normal" and rather wonderful child!

The *North Country Anvil* for last November-December has an article on N. F. S. Grundtvig, the founder of the Danish Folks Schools of the last century (and this), announcing first English publication of his writing (Fortress Press, Philadelphia). The *Anvil* writer, Erling Duus, recalls that Edmund Gosse, after hearing Grundtvig preach in Copenhagen, wrote: "He did not seem so much a Christian clergyman, as he did some ancient troll come up from Mona who would never die." Paganism, Duus says, "lives on in the language, in the mythology, in the memory of the people." For Grundtvig, he adds, "the old Gods of the North are never denied—transformed, but never denied." He quotes this from him:

If we are vain enough to shape our children and our descendants as a full-blown lithograph of ourselves, we bring shame upon ourselves and we help to make the coming generations unhappy. Man

is not a monkey destined to imitate other animals or, eventually, to imitate himself.

He is a marvelous and wondrous creature in whom divine forces are proclaimed, evolved, and clarified through thousands of generations. He is a divine experiment, which demonstrates how spirit and dust can interpenetrate one another and be transfigured in a common divine consciousness. In this manner man must be regarded, if we are to have a spiritual scholarship on earth.

Finally, there is this devastating comment on the performing arts, by Martin Duberman in *Harper's* for last December:

The few plays with serious themes that reach Broadway do so only if their subject matter has been sufficiently sensationalized (schizophrenia in *Equus*) or domesticated (terminal illness in *The Shadow Box* or in *Gold Storage*) to muffle their potential threat. As for the many more musicals produced, they seem increasingly the effigies of a waxwork museum, the molds cast circa 1950 and now clogged with lead. Next year's prize committee might consider handing out blowtorches instead of statuettes and scrolls.

The larger problem, of course, lies elsewhere—with anesthetized audiences huddling in their swaddling clothes, demanding familiar juvenilia. What the public wants, the public gets. Thus we have a theater that "justifies" itself chiefly in terms of musicals, and musicals that are noted chiefly for sophomoric quipping, circuslike razzmatazz, and callow content. A theater, in short, that accurately reflects the culture's endemic puerility. Hand in hand, the two march confidently into the vinyl sunset.

## *FRONTIERS*

### Downs and Ups

ACCORDING to the population experts who used to talk about nothing but "explosion," present tendencies around the world—observed in "developing" as well as "advanced" countries—reveal a decline in birth rates and fertility levels characterized as "an astounding turnabout in the world's demographic fortunes." In *Saturday Review* for March 3 Albert Rosenfeld summarizes reports made early this year at a conference in London. He quotes a French statistician who says that in the United States and several European nations the rates "have—to everyone's surprise—continued to decline instead of stabilizing at the replacement plateau (where the birth rate is just high enough to keep the population steady)." An English economist announced "a dramatic decline in fertility levels" in many parts of the developing world, even in "the previously most rapidly breeding nations of Asia, Latin America, and North Africa." Along with a number of explanations offered for this apparently sudden change, Jonas Salk proposed that "the trend might be the result of an evolutionary imperative." He gave as an example fruit flies, whose populations may shoot up at what seems an exponential rate, but then levels off. (Farley Mowat in *Never Cry Wolf* tells how wolves themselves restrict their population growth whenever it tends to exceed the available food supply.)

Mr. Rosenfeld warns, however, that populations will continue to grow for a while because more people survive and live longer. The present forecast for the earth's population in the year 2000 is 5.8 billion. (Eight billion was a previous estimate.) Calculations based on present rates predict: "The new urban supergiants will be, not New York and London, but Mexico City, which is projected to have 31.6 million inhabitants by 2000 and Tokyo-Yokohama with 26 million." This doesn't seem possible, but obviously, a required textbook for all members of the coming generation ought to be *Food First* by Lapp and

Collins, with close attention, also, to the findings of the Worldwatch Institute.

Meanwhile, a happier development is that the multiplication of failing businesses in the United States has brought an increase in the number of worker-owned enterprises. Writing in the *Nation* for Feb. 17, Bruce Stokes says:

Most direct worker ownership to date has involved individual firms. Among the oldest and most successful worker-owned enterprises are sixteen plywood manufacturing plants in the Pacific Northwest. They were born out of necessity when workers faced unemployment lines if they did not buy their factories from their bankrupt owners. These companies, ranging in size from eighty to 450 workers, made up about one-eighth of the Douglas Fir plywood industry in 1974.

The workers are able to pay themselves about 25 percent more than is received by employees in other mills, and also get a year-end division of profits. A California economist estimates that the output per hour of work in the worker-owned mills is from 26 to 43 percent higher than in conventionally owned firms. In case after case of other businesses, workers have been able to turn failing companies into profitable ones. This article concludes:

In this era of fiscal austerity, most of the money [to take over the companies] will have to come from the communities and workers themselves. In addition, worker ownership must include an expanded worker participation in management decision making. Unless employees have greater control over the work place, ownership will be a sham and many of the hoped-for economic benefits may not materialize. In 1975, two out of three Americans said they would prefer to work for an employee-owned and-controlled company if they were given the choice. Economic conditions are now forcing many workers into that situation.

Another sort of change is illustrated by a 50-page booklet, *Present Value: Constructing a Sustainable Future*, issued (free to Californians, \$1 out of state) by the California Governor's Office of Appropriate Technology. It is filled with plans, drawings, and photographs of existing energy-conserving designs and technologies in

California. The booklet was made possible by the work of homeowners, builders, architects, engineers, and community planners, and was prepared for readers in the same categories. Described and illustrated are a dozen solar-warmed residences showing methods of heat storage and warm-air circulation. Various commercial and industrial structures are shown to be taking advantage of the same techniques.

Generous space is given to Villages Homes, a development by Michael and Judy Corbett in Davis, California. The houses are arranged in eight-unit clusters in an overall land-use pattern intended to reduce adverse effects on the environment. A "commons" feature adds to the open and planted space for all. Fruit and nut trees are growing in greenbelt areas and as a result of drainage planning nearly all the local rainfall is absorbed instead of being carried away by sewers.

This development has about twelve acres set aside for subsistence agriculture by the residents, who also take part in the planning. According to a summary:

To date, nearly 100 homes have been constructed out of the 220 lots that are available. Fifty of them have solar hot water heaters, and all use some type of passive heating technique. All except two of the houses have conventional (mostly gas) back-up heating systems. And only one out of 10 houses has conventional air-conditioning. . . . Mike Corbett has built three-fourths of the houses himself; some he built on speculation and others were custom built for clients. Houses range in size from 900 to 2,500 sq. ft. and in price from \$38,000 to \$135,000. Ten per cent of the Village Homes were built by their owners.

Where is the largest community garden in the world? At Leisure World, a retirement community of 20,000 people some fifty miles south of Los Angeles. It was started ten years ago by a former teacher of agriculture, and now has a total of a thousand cultivated plots, 10 by 20 feet.

This booklet also describes established community systems of waste-water reclamation

and use, and has a section on energy production from wind and biomass. Wilson Clark, the Governor's assistant on planning, says in his Foreword:

By the late 1980's the solar industry will contribute up to \$7 billion to the California economy and will add more than 50,000 jobs to the labor force. . . . The need for appropriate technologies that consume fewer resources from the natural world but contribute to the quality of life is vital and growing. One of the major purposes of this publication is to point out that adopting more logical approaches to meeting our food, energy, and water needs is economically sound for the consumer.