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THE RESTORATION OF REASON

IT is necessary, in a consideration such as this, to begin with definitions, even though, as we proceed, the inadequacy and misleading character of most definitions may become evident. We take our account of reason from Erich Kahler, who identifies Reason as *Nous,* or Mind—the capacity to know, and know that you know. Writing in amplification (in *The Meaning of History*), Kahler said:

> Reason is a human faculty, inherent in the human being as such; rationality is a technical function, a technicalization and functionalization of the ways in which reason proceeds. Functionalization makes rationality capable of being detached from its human source, and generalized as an abstract, logical method. Again, this process ultimately goes back to Aristotle's *Organon,* particularly his *Analytics*. But it is only recently, in consequence of the general process of specialization, that rationality has become completely independent of, indeed radically opposed to human reason. And just as the expansion of collective consciousness entails the shrinking of individual consciousness, rationality grows at the expense of reason.

He illustrates the excesses of rationality by examining its collective expression:

> Years may be devoted to saving the life of a single child, while in the field of war technology, rationality juggles the lives of millions of human beings as mere proportional figures. The most dainty comforts are produced alongside colossal destructivity. The prevalence of reason in human affairs would presuppose a comprehensive evaluation of all factors, including psychic and generally human factors, in a given situation. But in the anarchical condition of an incoherent collective consciousness, functional rationality has reached a point of autonomy where it simultaneously serves the most contradictory ends, among them purposes which human reason must regard as monstrous insanity.

In recent years this insanity has been subject to thorough examination and animated attack. Jacques Ellul's *Technological Society* is one comparatively recent example, Mumford's *The Myth of the Machine* another. Practically *all* the good books of recent years participate in this campaign. One need only mention writers such as Wendell Berry and Theodore Roszak. E. F. Schumacher's deft comparison of straight-line logic with curved logic and his discussion of convergent and divergent problems deal with the displacement of Reason by technical rationality, and Amory Lovins and Vince Taylor show the part that reason must play if the practical problems of energy supply are ever to be humanly solved.

How shall we identify "rationality" in isolated form, as the ruling habit in the thinking and acting of the age we have been living in? E. A. Burtt does this most effectively in his *Metaphysical Foundations of Modern Physical Science* (first published in 1924) by giving an account of the achievement of Galileo. This single individual, he says, was

> the one who, by experimental disproof, overthrew a hoary science, who confirmed by sensible facts a new theory of the universe that hitherto had rested on *a priori* grounds alone, who laid the foundations of the most stupendous conquest of modern times, the mathematical science of physical nature; and then, as if these accomplishments were not enough, we must turn to him likewise as the philosopher who sufficiently perceived the larger implications of his postulates and methods to present in outline a new metaphysics—a mathematical interpretation of the universe—to furnish the final justification for the onward march of mechanical knowledge. Teleology as an ultimate principle of explanation he set aside, depriving of their foundation those convictions about man's determinative relation to nature which rested on it. The natural world was portrayed as a vast, self-contained mathematical machine, consisting of motions of matter in space and time, and man with his purposes, feelings, and secondary qualities was shoved apart as an unimportant spectator and semi-real effect of the great mathematical drama outside.

Thus the restoration of reason involves the restoration of man. The best minds in the sciences and the professions are now at work on this project, pointing out to their colleagues and students that the part played by man is not that of "spectator" merely, but that human capacities and qualities establish what is knowledge and also set limits to it, while at the same time there is an unending struggle to transcend those limits. A professor of law at the Davis campus of the University of California, John D. Ayer, recently set the problem for his colleagues in an article in the *New York University Law Review* (May June, 1978):

> The crux of the matter is that since the enlightenment we have bifurcated our thought. On the one hand are all those matters subject to empirical verification or mathematical organization. On the other hand is everything else. Anything that is unspecifiable, that leaves no trace, is cast out of the category of empirical-analytical knowledge to find, if it can, a category of its own. Such conceptual separation may be instrumentally necessary in some cases, of course, but we have gone far beyond instrumentality. Rather, we have let the dual strands of our bifurcated thought be trapped in an intellectual amber that allows no chance that they will meet. Worse yet, we have established a palpable noetic hierarchy. Only that knowledge in the empirical-analytical category deserves the name of knowledge at all. The rest is gas.

Today we are beginning to understand that our "knowledge" is not a collection of finite bits of information about the external world, but an intellectual (and moral) organism, and that what we really know must become part of our being—an extension of ourselves—and that this in turn affects what we recognize as knowledge. Knowledge is not a fixed description of the world "out there," but the living growth of our being in relation to the world. As Prof. Ayer says:

> As knowledge is part of the structure of our being, so all experience that becomes new knowledge becomes integrated into that structure. Facts do not lounge idly in our minds as fragments of unattached experience. They make a place for themselves (or we for them) in the structures by which we receive them. The ability to make choices about the experiences that confront us presupposes and rests on this integrative structure. The activity of choice, then, signals that the structure is in place and in play, and is thus a statement telling who we are. . . .
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> We construct our world then by patterning it and by perceiving pattern in it. Necessarily also, this is the way we create our law, and our legal system. Such a conception helps clarify two important but frequently obscured relations between the law and other human enterprises. First, it suggests a way to go about understanding the relation between law and aesthetics. Under an empiricist view, which takes the law as a discrete body of data, there would appear to be little or no relation. But we have seen that the empiricist view is of limited appeal, because it does not put the events it explains into a human context. Æsthetics, on the other hand, does just that. It examines the way we give form to experience, with a view to understanding why certain patterned works—the *Iliad* or the Ninth Symphony—are capable of assuming such an important role in the way we view the world. The outline of knowledge sketched here, which shows that all symbolic, all communicative, behavior, including legal behavior, is a matter of giving form to experience, thus suggests that the legal system is a symbolic construct that could fire an æthetician's meditations.

The eminent physicist, Louis de Broglie, years ago, admitted that physics had been lagging in its development because the physicists lacked the words or images essential to their progress, bringing the comment from Jean Paulhan that such images and illuminations come from the poets. And Roszak, writing more freely, declared five years ago:

> Behind the sensibility to which Darwin's theory appealed lay three generations of Romantic art which had pioneered the perception of strife, dynamism, and unfolding process in nature. Behind Darwin stands Byron's Manfred, Goethe's Faust, Constable's cloud-swept landscapes, Beethoven's tempestuous quartets and sonatas.

Roszak asks: "Can there be any doubt that much of the cogency of Darwin's theory of natural selection stemmed from the pure drama of the idea?" Commenting on the virtual impossibility of excluding metaphor from scientific discourse, Prof. Ayer draws on Max Black's *Models and Metaphors:*

His exhibit is "Field Theory in Social Science," by Kurt Lewin, in which Lewin says that he has "tried to avoid developing elaborate 'model'; instead, we have tried to represent the dynamic relations between the psychological facts by mathematical constructs at a sufficient level of generality." Lewin's paper is awash with words from physical theory: field, vector, phase-space, tension, force, boundary, fluidity: Black says, "visible symptoms of a massive archetype awaiting to be reconstructed by a sufficiently patient critic."

The message here is not that we should try to succeed where Lewin failed. Quite the contrary: The message is, first, that if Lewin cannot succeed in the controlled situation of a scientific paper, we are much less likely to do so in the living world of law. Second, and more provocatively, we should rejoice that we cannot succeed. If, indeed, the law is rooted in human experience, then the unembarrassed use of metaphor permits us to keep in touch with our roots. It may be precisely the suggestive, open-ended character of metaphor that keeps language and thought alive, and debars us from confusing the symbol with the truth.

Today both physicists and biologists are acknowledging the play of æsthetic and personal preference in the formation of scientific theory. Commenting on the MIT volume, *On Aesthsetics in Science* by Judith Wechsler, a reviewer (in *Science*, July 20) remarks that the spirit of the book is "one of reaction against the cold formality of the idealized model and admission of the subjectivity of science." Cited by one contributor is "Poincare's premise that the distinguishing feature of the mathematical mind is not logical but esthetic," and another writer notes Niels Bohr's "discovery that visual thinking precedes verbal thinking" and Bohr's "lifelong interest in art, especially cubism." The reviewer quotes from the essay by Cyril S. Smith several "gems of wisdom":

"Most human misunderstanding arises less from different points of view than from perceptions of differing levels of significance"; "One cannot over-emphasize the fact that everything--meaning and value as well as appropriateness of individual human conduct or the energy state of an atom depends upon the interaction of the thing itself and its environment."

Small wonder that the philosophers and philosophizing scientists of the past are getting more and more attention, these days, while the scientific mechanists are forgotten! In *Human Geography* (Ley and Samuels, eds.), a recent text, David Seamon describes Goethe's "Approach to the Natural World," which may well anticipate an aspect of the science of tomorrow. Goethe wanted the senses trained, along with the intellect, but his interest was in two kinds of seeing:

He maintained that as our abilities to see outwardly improve, so will our inner perceptions become more sensitive: "Each phenomenon in nature, rightly observed, wakens in us a new organ of inner understanding." As we learn to see more clearly, we also learn to see more *deeply;* we become more "at home" with the phenomenon, understanding it with greater concern and empathy. In time, he believed, the method reveals affective, qualitative meanings as well as empirical, sensual content. "There may be a difference," he wrote, "between seeing and seeing . . . the eyes of the spirit have to work in perpetual living connections with those of the body, for one otherwise risks seeing yet seeing past a thing." This kind of understanding does not come readily, but it can be had, Goethe claimed, by anyone who is devoted enough to immerse himself in systematic training. "Thus not through an extraordinary spiritual gift, not through momentary inspiration, unexpected and unique, but through consistent work, did I eventually achieve such satisfactory results," he wrote about his own scientific discoveries.

The very instruments of research may, Goethe felt, turn into barriers. He wrote:

It is a calamity that the use of experiment has severed nature from man, so that he is content to understand nature merely through what artificial instruments reveal and by so doing even restricts her achievements. . . . Microscopes and telescopes, in actual fact, confuse man's innate clarity of mind.

Further evidence of the new mood in scientific inquiry is the article by S. Chandrasekhar (professor of astronomy and physics at the University of Chicago) in *Physics Today* for July. This is a serious discussion of whether scientists should test what is beautiful by what is true, or what is true by what is beautiful. The writer quotes J. W. N. Sullivan:

> It is in its aesthetic value that the justification of the scientific theory is to be found, and with it the justification of the scientific method. Since facts without laws would be of no interest, and laws without theories would have, at most, only a practical utility, we see that the motives which guide the scientific man are, from the beginning, manifestations of the aesthetic impulse. . . . The measure in which science falls short of art is the measure in which it is incomplete as science. . . .

This appeared in the *Athenaeam* for May, 1919, and Roger Fry, the art critic, then asked whether a scientific theory (presumably beautiful) "that disregarded facts would have equal value for science with one which agreed with facts." Pursuing this question—to which the answer may seem obvious—Prof. Chandrasekhar says:

> Freeman Dyson has quoted [Hermann] Weyl as having told him: "My work always tried to unite the true with the beautiful; but when I had to choose one or the other, I usually chose the beautiful." I inquired of Dyson whether Weyl had given an example of his having sacrificed truth for beauty. I learned that the example which Weyl gave was his gauge theory of gravitation, which he had worked out in his *Raum—Zeit—Maierie.* Apparently, Weyl became convinced that this theory was not true as a theory of gravitation; but still it was so beautiful that he did not wish to abandon it and so he kept it alive for the sake of its beauty. But much later, it did turn out that Weyl's instinct was right after all, when the formalism of gauge invariance was incorporated into quantum electrodynamics.
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> Another example which Weyl did not mention, but to which Dyson drew attention, is Weyl's two-component relativistic wave equation of the neutrino. Weyl discovered this equation and the physicists ignored it for some thirty years because it violated parity invariance. And again, it turned out that Weyl's instincts were right.
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> We have evidence, then, that a theory developed by a scientist, with an exceptionally well-developed æsthetic sensibility, can turn out to be true even if, at the time of its formulation, it appeared not to be so. As Keats wrote a long time ago, "What the imagination seizes as beauty must be truth—whether it existed before or not."

The quotations taken by this writer from the greatest of scientists are more than impressive. Hermann Weyl called Einstein's general theory of relativity "a supreme example of the power of speculative thought," and Einstein wrote at the end of his first paper (announcing his field equations): "Scarcely anyone who fully understands this theory can escape from its magic." Werner Heisenberg tells what happened as he worked out the crucial equations of quantum mechanics. He was so tired that he began to make mistakes in arithmetic:

> As a result, it was almost three o'clock in the morning before the final result of my computations lay before me. The energy principle had held for all the terms, and I could no longer doubt the mathematical consistency and coherence of the kind of quantum mechanics to which my calculations pointed. At first, I was deeply alarmed. I had the feeling that, through the surface of atomic phenomena, I was looking at a strangely beautiful interior, and felt almost giddy at the thought that I now had to probe this wealth of mathematical structure nature had spread out before me.

Heisenberg said to Einstein:

> If nature leads us to mathematical forms of great simplicity and beauty—by forms I am referring to coherent systems of hypotheses, axioms, etc.—to forms that no one has previously encountered, we cannot help thinking that they are "true," that they reveal a genuine feature of nature. . . . You must have felt this too: the almost frightening simplicity and wholeness of the relationships which nature suddenly spreads out before us and for which none of us was in the least prepared.

We should note, however, that Einstein dissented from the statistical approach of quantum theory: "God does not throw dice," he said.

Finally, there is the comment of Wolfgang Pauli on Kepler's belief that the scientist draws on archetypal ideas of cosmic harmony, "inherently present in those who are capable of apprehending them." Pauli spoke of—

> The bridge, leading from the initially unordered data of experience to the Ideas, consisting in certain primeval images pre-existing in the soul—the archetypes of Kepler. These primeval images should not be located in consciousness or related to specific rationally formulizable ideas. It is a question, rather,

> of forms belonging to the unconscious region of the human soul, images of powerful emotional content, which are not thought, but beheld, as it were pictorially. The delight one feels, on becoming aware of a new piece of knowledge, arises from the way such preexisting images fall into congruence with the behavior of the external objects. . . . One should never declare that theses laid down by rational formulation are the only possible presuppositions of human reason.

Can we take this discussion of the mind—how, at its best, it works, and what are its resources—any further? It hardly seems so. There is so much to assimilate here. Meanwhile, however, to illustrate another dimension of the subject, there is the common reaction of Western psychologists to the reported heights of "mystical" experience. In a recent seminar, Roger N. Walsh remarked:

> Western behavioral scientists' assessments of the spiritual disciplines almost invariably focus on the dramatic experiences. It's interesting that the disciplines acknowledge such experiences as mere epiphenomena, to be noted with mild interest and then let go. The story I enjoy most is of the Zen master training his student to be aware of the breath continually. And after a few days the student came racing back and said, "I've seen Golden Buddhas, surrounded by light." And the master said, "Ah yes, very nice, but did you keep your mind on the breath?"

Psychiatrists say, according to Dr. Walsh, that they are interested in "mystical phenomena" because it involves "behavior intermediate between normality and frank psychosis." He adds:

> Within the traditional psychiatric model, it is the only interpretation that makes sense. This is an example of the general principle that we can never see the limitations of a model from within it. We have to step outside of it.

The physicists (some of them) have been leaders in stepping outside. Speaking of the later works of Erwin Schrodinger, Prof. Chandrasekhar says: "The translucence of the eternal splendor through material phenomena (of which Plotinus spoke) are made iridescent in these books."

REVIEW
THE PROVINCE OF PHILOSOPHY

ISAIAH BERLIN is a contemporary writer on philosophy with whom the general reader may feel both comfortable and uncomfortable. The comfort comes from the fact that he is a professor who wants to be understood. A lot of the time you know what he is talking about without having attended Oxford University. The discomfort usually comes for the best possible reason—the Socratic reason. The calling of philosophy is to questions that cannot be settled by ordinary means, and this—until we grasp why it is natural and necessary—may prove not only uncomfortable but greatly irritating. The Mogul emperor, Aurangzeb, gave classical expression to such resentment when he wrote to the tutor of his youth:

> You told my father, Shah Jehan, that you would teach me philosophy. 'Tis true, I remember very well, that you have entertained me for many years with airy questions of things that afford no satisfaction at all to the mind and are of no use in humane society, empty notions and mere fancies that have only this in them, that they are very hard to understand and very easy to forget. . . . Have you ever taken any care to make me learn what 'tis to besiege a town, or to set an army in array? For these things I am obliged to others, not at all to you.

In the opening essay of *Concepts and Categories* (*Vi*king, 1979, $12.95), a collection of writings of the past twenty-five or more years, Isaiah Berlin confirms Aurangzeb and justifies the tutor. He confirms the Mogul ruler by showing that there are teachable solutions for practical problems, and he vindicates the tutor by illustrating the importance of questions that have no ready answer, and perhaps no answer at all, in the terms sought. This is one notable merit of Berlin's work. He helps the reader to recognize what sort of questions he may be considering or asking, and what sort of answers may be possible. The following will show how he pursues this task, how thorough he is, and how wide his coverage of possibilities:

The history of systematic human thought is largely a sustained effort to formulate all the questions that occur to mankind in such a way that the answers to them will fall into one or other of two great baskets: the empirical, *i.e.*, questions whose answers depend, in the end, on the data of observation, and the formal, *i.e.*, questions whose answers depend on pure calculation, untrammeled by factual knowledge. This dichotomy is a drastically over-simple formulation: empirical and formal elements are not so easily disentangled: but it contains enough truth not to be seriously misleading. The distinction between these two great sources of human knowledge has been recognized since the first beginning of self-conscious thinking.

Yet there are certain questions that do not easily fit into this simple classification. "What is an okapi?" is answered easily enough by an act of empirical observation. Similarly "What is the cube root of 729?" is settled by a piece of calculation in accordance with accepted rules. But if I ask "What is time?", "What is number?", "What is the purpose of human life on earth?", "How can I know past facts that are no longer there—no longer where?", "Are all men truly brothers?", how do I set about looking for the answer? . .

Many who think long enough, and intensely enough, about such questions as "What is time?" or "Can time stand still?", "When I see double, what is there two of?", "How do I know that other human beings (or material objects) are not mere figments of my own mind'", get into a state of hopeless frustration. . . . There seems to be something queer about all these questions—as wide apart as those about double vision, or number, or the brotherhood of men, or purposes of life; they differ from the questions in the other basket in that the question itself does not seem to contain a pointer to the way in which the answer is to be found. The other, more ordinary, questions contain precisely such pointers—built-in techniques for finding the answers to them. The questions about time, the existence of others and so on reduce the questioner to perplexity, and annoy practical people precisely because they do not seem to lead to clear answers or useful knowledge of any kind. . . . those who ask them are faced with a perplexity from the very beginning—they do not know where to look for the answers, there are no dictionaries, encyclopedias, compendia of knowledge, no experts, no orthodoxies, which can be referred to with confidence as possessing unquestionable authority in these matters. . . .

> Such questions tend to be called philosophical. Ordinary men regard them with contempt, or awe, or suspicion, according to their temperaments. For this reason, if for no other, there is a natural tendency to try to reformulate these questions in such a way that all or at any rate parts of them can be answered either by empirical or formal statements; that is to say efforts, sometimes very desperate ones, are made to fit them into either the empirical or the formal basket, where agreed methods, elaborated over centuries, yield dependable results whose truth can be tested by accepted means.

Well, we see where he is going. He is about to show that it has been the historic role of "science" to take over all it can from philosophy, and attempt to show that the real problems are actually finite and solvable by the methods established by scientists. Result:

> The perennial task of philosophers is to examine whatever seems insusceptible to the methods of the sciences or everyday observation, *e.g.*, categories, concepts, models, ways of thinking or acting, and particularly ways in which they clash with one another, with a view to constructing other, less internally contradictory, and (though this can never be fully attained) less pervertible metaphors, images, symbols and systems of categories. It is certainly a reasonable hypothesis that one of the principal causes of confusion, misery and fear is, whatever may be its psychological or social roots, blind adherence to outworn notions, pathological suspicion of any form of critical self-examination, frantic efforts to prevent any degree of rational analysis of what we live by and for.
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> This socially dangerous, intellectually difficult, often agonizing and thankless, but always important activity is the work of philosophers, whether they deal with the natural sciences or moral or political or purely personal issues. The goal of philosophy is always the same, to assist men to understand themselves and thus operate in the open, and not wildly, in the dark.

What Berlin calls "philosophy" Hannah Arendt identified as *thinking*, in her remarkable paper, "Thinking and Moral Considerations," in *Social Research* for the Autumn of 1971. Such thinking remains, as she said, "a marginal affair for society at large except in emergencies."

> For thinking as such does society little good, much less than the search for knowledge in which it is used for other purposes. It does not create values, it will not find out once and for all, what "the good" is, and it does not confirm but rather dissolves accepted rules of conduct. Its political and moral significance comes out only in those rare moments of history when "Things fall apart. . . .

This passage, laden with quiet irony, ends with Hannah Arendt's declaration that for her, nonetheless, this "resultless" thinking enables her to distinguish right from wrong, beautiful from ugly, and on occasion to "prevent catastrophes.),

In *Guide for the Perplexed,* E. F. Schumacher deals with the baskets Berlin speaks of by comparing what he calls "convergent" and "divergent" problems. The convergent problems are the ones with finite solutions—how to build a bicycle or design a computer. The divergent problems are never settled—how to bring up our children, how to awaken the ignorant to a hunger for knowledge, how to get people to think more seriously about the brotherhood of man. In these recurrent and always present problems, as Schumacher says, a higher consciousness than the rational—call it intuition—must play a part, and the solutions, when obtained, are always private. After all, how do you share an intuition, unless you are so presumptuous as to claim for it the status of "revelation," from which assertion so many horrors ensue?

Again, the distinction between practical and philosophic questions is made simply and poetically by Aldo Leopold in A *Sand County Almanac:*

> To the laborer in the sweat of his labor, the raw stuff on his anvil is an adversary to be conquered. So was the wilderness to the pioneer.
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> But to the laborer in repose, able for a moment to cast a philosophical eye on his world, that same raw stuff is something to be loved and cherished, because it gives definition and meaning to his life.

Which is to say that spirit obtains its awareness of being and feeling of purpose *through* matter, but neither one is in matter, which makes

life terribly confusing, because, as practical people, we expect to find our answers there. And when we don't, we sometimes feel wholly justified in doing nothing but wild and wonderful guessing, asserting that science is useless and we, forsooth, have all truth inside ourselves.

Well, maybe we do, but there are certain responsibilities to the world to be fulfilled before we are able to get the truth out of ourselves. Or so it seems. Isaiah Berlin says of free speculation:

> Worlds upon worlds of new entities suddenly became unfolded. Regions inhabited by mathematical or logical entities were revealed to the view—unchanging Platonic forms, connected in queer ways with the "real world," or else detached from it and secure in their own serene and beautiful universes. Realms of "subsistent" entities, inhabited by immortal essences, came into being to correspond to the many forms of the imagination, scientific, mathematical and poetical. . . . These theories, which grew more and more fantastic, provided for everything which had been or could be thought of, true and false, reasonable and nonsensical. . . .

There is no entry for "Buddha" in the index of this book, yet it seems that the author has thoroughly vindicated the Indian philosopher's contention that speculation, to the neglect of everyday responsibilities in and to the world, is an abuse of the mind and the source of endless delusion. Work, the Buddha urged, for the reduction of human suffering. In thinking, don't ever let your theory outrun your practice, except to serve as a beacon which shows what should be done.

COMMENTARY
NON-PHYSICAL EVOLUTION?

NUMEROUS exceptional people are quoted in this issue, sometimes in relation to moments of high inspiration. Encountering such material may have two effects. First, we feel how wonderful it is, but then comes the melancholy thought that such things don't seem to happen to very many. At any rate, few speak of these experiences or are able to be articulate about them.

This makes an obvious problem of the sort that used to bother A. H. Maslow now and then. The full-blown peak experience is not noticeably common, and does this mean that Maslow's psychology of health is an aristocratic theory? He maintained, however, that such experiences are within the reach of all, and often pointed out that not only artists and writers achieve self-actualization. A good cook or a fine craftsman does, too.

Yet the heights of inner experience seem nonetheless rare, just are really good books are rare, and fine music and great paintings, also. Lucid perception of truth may be rarest of all. Coleridge said in *Biographia Literaria* that he believed there is a "philosophic organ" which is not much developed in a great many people, and Ortega, as one can see from his books, believed that the world might be bettered only by an aristocracy of character. There is, after all, some evidence in history for this view.

The idea seems at least defensible if we say that a single life on earth is not enough for the higher possibilities of all human beings to gain expression. From the democratic point of view, this seems a strong argument for reincarnation. And, after all, we don't get upset when children prove unable to perform like adults. They have to grow up, we say. Is it wrong to propose that most of us haven't yet evolved to the stature of a Lincoln, a Schweitzer, or a Martin Luther King?

Meanwhile, one might admit that no aristocratic theory of progress could be morally tenable until Gandhi developed his theory of non-violence, declaring that the *superior* man is always one who absolutely refuses to lend his capacities to the exploitation of others. He serves them instead.

This is a conception of human evolution which allows admission of the evident differences among human beings, differences hardly acceptable on any other grounds.

CHILDREN
. . . and Ourselves
A MYSTERY FROM AN EARLIER WORLD

THERE are two ways to consider or understand childbirth. One is to have a baby, with as much consciousness as can be retained. The other is to read a book about it. Here, of course, we are reduced to reading, but there are, again, two ways of reading about childbirth. You can read a medical or sociological study, or you can read a dramatic story about having a baby. We have on hand both kinds of reading.

The closing chapter of *Lying-In—A History of Childbirth in America* (Schocken, $4.95) by Richard and Dorothy Wertz, starts out:

> We began this study to explore how America's peculiarly medicalized birth rituals developed: Why, we wondered was birth in America, unlike birth in England and in European countries, enfolded in doctors' control at so early a date, routinely subjected to medical interventions, and enmeshed in hospital care? We strongly suspected that such extensive and regular medicalization was unnecessary, was often dangerous and dehumanizing, and was primarily the product of a long-term, relentless, and pervasive effort by doctors to control birth, to technologize, institutionalize and ultimately denaturalize and standardize it.

The research of the writers confirmed some of these suspicions, but they found that the distortion of this originally most natural event was not all the fault of the doctors. The ladies chose doctors who armed with know-how and drugs, promised speedier and less painful births and while, during the 1940s, feminists asked why women could not have more responsibility, arguing for acceptance of the birth experience, for birth education, less anesthesia, and the presence of the father during delivery many of the old habits remain. The writers say:

> While women welcome these changes, most still defer to medical judgment about medicalization and would find any other arrangement unthinkable: Women are largely eager and passive consumers of medicine, depending on doctors drugs, and hospitals to produce health for themselves and their children and on the innate strength of natural processes. Most women therefore acquiesce in the view of birth as potential disease. . . . Much of our anxiety and the resulting willingness to become passively dependent upon medicine result from the removal of birth from direct human experience. We fear what we do not know. How many children witness birth, even at a distance? Children learn instead that birth is a "sickness" that requires the hospital and the doctor.

This book is filled with history and common sense. It is also as fair as a book can be when the writers have convictions and present them. In this last chapter they present a comparison of home births with hospital births, compiled by medical doctors, concluding that "home birth is as safe as hospital birth for normal deliveries and that hospitals will nonetheless not disappear, since abnormal births must occur there." This study, which was based on a thousand home births and a thousand hospital births, showed that the women who had their babies at home had less anesthesia—they wanted less, apparently.

> Less anesthesia, of course, reduces the chance of fetal damage. The home births involved fewer forceps maneuvers, such as to turn the fetus so that every child was born in the same presentation, perhaps because doctors felt less peer pressure to use them. Home births also less often employed drugs to speed up delivery. Sociologists of medicine have commented that obstetricians in hospital delivery allot a given amount of time for routine procedures because they feel obliged to manage hospital space economically. Doctors may also be more dismayed by pain in the hospital.
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> The home births examined in the study also resulted in fewer perineal tears into the fleshy bisques, into the muscles of the vagina, and into the anus, despite the fact that hospital births routinely involved episiotomies to prevent such tears. Why hospital births caused more tears is uncertain. Perhaps the lithotomy position itself, the use of drugs that secondarily constrict the perineum, and the patient's emotional anxiety contributed to this unexpected situation. The home births also entailed fewer post-partum hemorrhages and resulted in fewer birth injuries to children than did the hospital deliveries.

The more you read in this book, the better and more important it seems. But that other kind of reading is important, too. In *Part of a Winter,* George Sibley tells about the birth of his second child in a cabin in the mountains of Colorado.

> We wanted to have the baby at the cabin, no question about that. But no one else wanted us to, no question about that, either. One doctor wouldn't even talk to us about "emergency childbirth procedure"; he wanted Barbara to spend her last couple of weeks in Gunnison, near the hospital. We found another doctor who was considerably more sympathetic. One of our reasons for wanting to have the baby at home was vulgar money: who can afford hospitals today? But that was not enough of a reason; we had a more philosophical issue behind our desire. We wanted to try to edge in a little closer to the center of our own lives at a time when the chips were down, rather than moving to the background as mere onlookers while the trained teams of experts moved in to do the job quickly, carefully, efficiently, and of course expensively.
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> But it did occur to me that night—rather forcibly, catching me at a bad moment—that it is one thing to take over the maintenance of our own car, or the growing of your own food; something else entirely to literally take your own lives into your own hands. At the very least, it ought to be done with greater decision, a total commitment from the start with no waffling under the barrage of well-meant warning and criticism.

The baby, Sarah, was successfully and easily born.

> She arrived a little after one o'clock in the morning washed in on that great tide of salt fluids, blood, and slime. Although I was there to help, do whatever a man might do, I had become increasingly, humblingly aware how little there was that I could or should do. As each contraction built swelled, broke, and subsided, I had begun to feel like an old seawife on the shore listening to the boom and smack of waves rolling in from an offshore storm, knowing (from the tales of survivors) what was happening out there to the old man on the boat, but unable to do a thing about it. . . . once more the boat and the old man who would require no more than a hand at the last moment, a rope caught, the boat secured and then home to supper . . . yes, I felt like that old seawife that night.
>
> In our case, everything went more or less as nature apparently intended. Barbara negotiated the storm, I waited the right way in the right place and at the last moment "caught the rope" as it were. It is one of the foolish ironies of our male-oriented society that, on the basis of my service as a catcher, I can say that "I delivered my daughter" and not even very many women would laugh.

It's all there in Sibley's book—how it happened—down to the last gory detail. It didn't take long. An hour after Sarah arrived everything was cleaned up, the sheet left soaking, mother and child asleep. But George couldn't sleep. He lay there, thinking, and listening to the gentle night noises of the mountain, and his wife's breathing.

> Unlike Barbara's, the baby's was not a sound against the night. Light and quick, her signs of life were more a barely visible flutter than an audible rhythm. Have you ever watched a butterfly sitting on a leaf, at rest, but its wings still worked on by subtle convective currents we can't even feel? So lightly did life seem to rest on the baby, less than two hours old. It seemed entirely appropriate to say that she wasn't entirely all there yet; she was nothing more than a rallying point for something still straggling in from the night.
>
> Yet her face on emerging—and I'd seen it first, before anyone or anything else in this world—had been Buddhalike, cowled with history. . . . I think I drifted into a kind of mild state of shock at that strangest of sights, the small wrinkly head emergent between the straining legs—and even as I'd looked, amazed, Barbara had pushed again, and a great gush of bloody water had washed out over the head, not yet a living head. . . . It was a moment that I remember, even now, most of all for its incredible wild beauty. . . . a mystery from an earlier world . . . a face *covering a history.*

FRONTIERS

A Parable by Twain

WE return again and again to the work of artists and writers for the reason that, more than anyone else, they see what is going on—often long before it happens—and are able to tell about it in language people can understand. Kurt Vonnegut, who is well aware of this responsibility, gave Mark Twain as an illustration of how it works in a speech at Twain's house in Hartford, Conn, this spring. (Printed in the *Nation* for July 7.) He quotes from *A Connecticut Yankee* the part where the Yankee's small force, equipped with Gatling guns, overcame "thousands of English warriors armed with swords and spears and axes." As the Yankee proudly claimed, "Twenty-five thousand men lay dead around us." Vonnegut muses:

> What a funny ending.
>
> Mark Twain died in 1910, at the age of 75 and four years before the start of World War I. I have heard it said that he predicted that war and all the wars after that in *A Connecticut Yankee.* It was not Twain who did that. It was his premise.
>
> How appalled this entertainer must have been to have his innocent joking about technology and superstition lead him inexorably to such a ghastly end. Suddenly and horrifyingly, what had seemed so clear throughout the book was not clear at all—who was good, who was bad, who was wise, who was foolish. I ask you: "Who was most crazed by superstition and bloodlust, the men with the swords or the men with the Gatling guns?"
>
> And I suggest to you that the fatal premise of *A Connecticut Yankee* remains a chief premise of Western civilization and increasingly of world civilization, to wit: the sanest, most likable persons, employing superior technology, will enforce sanity throughout the world.
>
> Shall I read the ending of *A Connecticut Yankee* to you yet again?
>
> No need.

Well, no need for the people who heard Vonnegut, perhaps, but what about the rest of us? Planning this week's Frontiers, we noticed we were accumulating reports of a lot of things that wouldn't have happened or be happening if that "fatal premise" had been replaced by ideas less pretentious and false. First is an AP story date-lined April 22 from Djibouti—a north African country which gained its independence from France two years ago—already the reluctant host to 25,000 refugees from Ethiopia. The story begins:

> The greatest exodus of refugees in modern history is spilling over international borders all over the globe, creating a "Fourth World" of misery, disease and despair. An estimated 10.5 million men, women and children today have no country. They have been uprooted by gunfire and revolution, shifting ideologies and changing maps, nationalism, racism. . . . The winds of war have blown them across the rock-strewn mountains of the Horn of Africa. They have fled genocide in Laos and Cambodia. The siren call of revolutionary leaders has lured them out of Rhodesia and Namibia . . . they have fled from Nicaragua to Honduras and Costa Rica. . . . from South Yemen to the north, from Afghanistan to Pakistan. . . .

Commenting, a spokesman for the Direct Relief Foundation of Santa Barbara (Calif.) adds:

> The number of refugees from Vietnam, Cambodia, and Laos who have sought refuge in other areas of Indonesia is estimated at 300,000, severely straining the resources and patience of the small nations that have received them, as we go to press (July) they are now being turned back—expelled—from the shores on which they have landed.

This is no longer "hot news," but the refugee problem—existing since the end of World War II—is not likely to diminish. The Direct Relief Foundation (P.O. Box 1319, Santa Barbara, Calif. 93102) keeps close track of such needs and ships medical drugs and equipment to disaster areas of every sort.

From a MANAS reader who lives there, we learn that some European "Yankees" have discovered Juneau, Alaska, a town which had about six thousand population ten years ago. Today, our reader writes, plans have been "unveiled" for—

> An 18-story luxury hotel, an 18-story luxury office building, and an 18-story luxury condominium building, to be erected here in Juneau on the site of the old A.J. Gold Mine. At first the cost was estimated at $46 million, financing from the Swiss. Now it has been revealed that the cost will be $146 million because of Alaskan building costs (remember the Pipeline?) and the financing is to be by a German investment company in Dusseldorf, which will own the complex when it is complete. So instead of becoming a Swiss colony, we are to be a German state! There are also grandiose plans for foreign investors to take over our ski area and enlarge it to international size, and to build a 500-boat marina, with hotel and condominiums at Auke Bay, some fifteen miles away. . . .
>
> Juneau could use all the things that are planned if only they were much, much smaller—of a size that this area could support without straining its natural resources or space—and not all "luxury" class. Juneau needs low-income housing far worse than it needs luxury hotels. . . .

No doubt these developments are planned with an eye to the tourist business. Which brings to mind a report from Hawaii, where there has been much experience of the "benefits" of tourism. The Hawaiians themselves—those that are left—are not entirely enthusiastic. The Mayor of Maui, the island resort where only the smallest of condominiums can be purchased for $250,000, wonders about the "capacity of the community to absorb and assimilate such pressure." A *CS Monitor* report (Aug. 8) summarizes:

> Thus $50,000 homes, although scarce, are possible to find. The average resale price of a single-family home (earlier this year), however, was $146,000. . . . At the same time, the average income for the year-round population in this county of 60,000—which includes four islands—is less than $7,000. Luxurious Maui is mostly for tourists.

Ray Reece, whose article (in the *Texas Observer*) on solar enterprises in Texas was quoted in Review a few months ago, has written a book—*The Sun Betrayed* (South End Press, Box 68 Astor Station, Boston, Mass. 02123, paperback, $5.50). It tells the story of the great promise of solar energy for all the world, and how it might "generate a peaceful revolution in the socio-economic structure of the United States." But the book is also "a detailed, behind-the-scenes history of the collusion between federal and corporate energy executives against small-scale solar energy development. . . . It documents the fraud and waste in the [government] program as well as the plight of independent scientists and solar entrepreneurs." Mark Twain's fatal premise needs to be *changed.*