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BIRTH AND DEATH OF HUMAN CULTURES

[This is a two-part study by Arthur E. Morgan of the effects on human life of the concentration of population in urban areas.]

I

THE course of human history has been marked by the almost rhythmic rise and fall of civilizations. After each brilliant climax there has been deterioration or disintegration. How many times have the peoples of India gone through this cycle of rise and decline, since the collapse of a highly developed civilization that began in the Ganges Valley more than five thousand years ago? Some civilizations have risen and fallen quickly, others develop and decline slowly, but the law of cycles applies to all.

This common course of greatness was illustrated by the Moslems. The most eminent of their historians was Ibn Khaldun, one who knew the vast Moslem culture from Spain and Portugal to the Persian Gulf, including large cities from Madrid to Babylon and beyond to India and China. As Khaldun described the process about 1400 A.D., Moslem cities grew in size and power as the more intelligent and abler people of the small communities migrated to the cities to share their prosperity and culture. A city family, he said, lasted about four generations before the family died out. As the city families declined and as the replacement supply of people with intelligence and energy in the small communities was exhausted, the Moslem culture which had fed on the last of the Greek culture declined. The Moslem civilizations of today rose out of new migrations from rural life.

Studies of the Parsees, who originated in Persia and spread to India, indicate that but for the very substantial migration into Bombay from northern villages and towns and from Iran, thus renewing the higher initial birthrates with people fresh from villages, the large Parsee population in Bombay would have greatly declined, as observant Parsees are becoming aware. Most of the evidence obtainable indicates that, throughout the world, villages are the source of population, while the cities are the burial grounds of the families that come to them.

Some extended comments by Griscom Morgan on the causes governing the duration and interruption of human cultures* are appropriate here:

At about the turn of the century, Jack London went to live in the East End of London to study the area, and wrote one of his most important books on this experience, *The People of the Abyss*. The American writer provided ample confirmation of the conclusion of sociological studies that nearly all the cockneys of east London were but a generation or two removed from rural England, and that urban living for the working class was progressively exploitive of the human resources that had migrated from country areas. Because of this experience, Jack London was able to view with objectivity his own childhood in large cities in America, and to see that what had occurred in England was characteristic of large cities throughout the world.

London's findings were similar to those of much earlier observers, such as Ibn Khaldun, who had observed that degeneration from dense urban living "is inevitable, and the average curve of the rising and degeneration of urban families is the space of four generations."[1] Aristotle had reached a similar conclusion, although with less specific reference to individual degeneration: "a great city is not to be confounded with a populous one. Moreover, experience shows that a very populous city can rarely, if ever, be well governed."[2] More

* *Mental and Social Health and Population Density,* Griscom Morgan.

precise demographic data for cities in general led Warren Thompson, when director of the Scripps Foundation for Research in Population Problems, to write during the forties that "all the evidence indicates that no urban population living in cities of 100,000 or more, and probably in cities of over 25,000, will long continue to replace itself."[3] Dr. Sapur Faradun Desai, a prominent Indian scientist, reports a similar long-term trend that came to characterize the Parsees of Bombay after they moved into the city from rural areas. Quantitatively, he said, the Parsees are dwindling after several generations of urban living, and "qualitatively there is indirect evidence to show that they are on the downgrade." He added: "A once great race has begun to show lesser vitality than ever before; they are prey to various mental, physical, and social ills."[4]

Poverty and bad housing do not explain this phenomenon among the Parsees, who are among the most privileged groups in Bombay. Substantially the same pattern has long existed in American cities. Statistics collected by Fabian Linden show that the twelve million affluent families of the United States (those with incomes above $15,000) live predominantly in suburbs close to large population centers. These people, according to a report of Linden's findings, "are likely to have *no children or only one child.*"[5]

The world-wide pattern of long-term, generation-to-generation harm from dense urban living is perhaps best evidenced by the exceptions. The Surashtras of Madura, India, have for centuries survived the highly urbanized city environment, but only by being rigorously isolated from the surrounding urban society, with separate tax systems, living in small villages scattered throughout the city, separate judiciary, and extended families, carrying over the pattern of rural villages.[6] Even so, the rate of tuberculosis infection among them is extremely high. The Italian-Americans of Boston are another exception to the rule of declining numbers from generation to generation; they too live within the traditions of Italian village life, with small communities maintaining traditional extended families within the larger city. But with the Surashtras of India, when isolation breaks down and the people begin to participate in the surrounding city life, their immunity to harm from urban density declines. So these exceptions do not disprove the rule.

It is true that large cities having a relatively high proportion of population recently immigrated from rural areas are sometimes fairly free from the characteristic degeneration. Hong Kong is a noteworthy example of this, and also Tokyo, which lost much of its population by the fire bombing during the Second World War.

Progressive deterioration from generations of highdensity human living is paralleled by a similar effect among lower animals. Articles in *Scientiic American,*[7] *The Bulletin of Atomic Scientists,*[8] and *The Ohio Journal of Science*[9] have summarized extensive evidence that high density among lower animals leads to stress, exhausting their vitality. Each generation born to parents living under such stress starts life more handicapped than the previous generation.[10] The effects of high density on animals are analogous to the mental, sexual, emotional and physical pathology of highly urbanized man. Since in a wide range of research science has been learning about various human functions from laboratory animals, we should take such evidence into account, even while questioning or evaluating its relevance to man. Here it is entirely pertinent to recognize that, both in captivity and in the wild, most animals are known to suffer from high population densities.

The suggestion that much human impairment results from high density living has been deprecated on the ground that there has seemed to be evidence to show that crowding was not harmful after all. For example, Jonathan L. Freedman and Paul Erlich[11] published results of a study which showed that a few hours of crowding of people in a room was not harmful to their performance. They inferred from this and other evidence that the large city is not so harmful after all. But their conclusion was based on a

misconception. They assumed that moderate crowding of people in rooms or houses was at issue rather than population density per square mile. We may have crowding in an isolated farm house, or in a small village, and we may have freedom from crowding in a very dense urban area, density being defined by the Bureau of Census as the number of people per square mile. It is high densities per square mile that prove to be harmful. In 1966 R. C. Schmitt reported in the *Journal of the American Planners*[12] on a study based on this distinction between density and crowding. His finding was that "with crowding constant, density still was related to morbidity, mortality, and social breakdown, whereas with density held constant, neither crowding, educational level nor income was related to any measure of social disorganization." If we add to the factor of density, at any given moment, the factor of how many years or generations people had been subject to dense living conditions, we find that density gains even more in importance.

"High population density," Hidetoshi Kato writes, "accounts for seven or eight of Japan's ten greatest social ills. Reacting to extreme overcrowding in our cities, people rush to the suburbs and to the countryside to buy land and build homes into which they can withdraw." Kato observes that "Japanese have unconsciously already begun a psychological defense against overcrowding. Withdrawal and passive tolerance of overcrowding are part of a syndrome that dehumanizes people, and, as we have seen, can lead to greater disruption of human behavior. That syndrome has clearly taken root in Japanese society."[13] Withdrawal from social involvement and responsibility leaves society bereft of the major resource for mental health and social order—people caring for each other and exercising social responsibility and informal social control. When these qualities are gone, the formal resources of the police, prisons and psychiatric services become progressively impotent and succumb to the same pathology.

An article by H. R. Lantz in *Sociology and Social Research* correlates mental illness of members of the United States Air Force with the size of the population of their home towns. His conclusion is that "the general pattern is fairly consistent and is suggestive of a greater degree of mental health for persons in sparsely settled regions."

Comparison between rates of failure shown by recent Selective Service mental tests of inductees from the eight northern states with the largest cities and those from the fourteen northern states with the fewest large cities reveals three times higher rates of failure in the highly urbanized states.[14] Since the abler youth (both black and white) along with a preponderance of the nation's wealth selectively migrate to metropolitan areas in and around large cities, this comparison is a significant measure of the harm done the nation's human resources.

Using census data, the writer has examined rates of murder in "standard metropolitan statistical areas" of high and low density.[15] Among metropolitan areas above a quarter million in population, the incidence of murder for high density areas (above 900 per square mile) was more than twice the incidence of murder in low density metropolitan areas (or less than 250 per square mile). A similar though less dramatic contrast turned up in comparing high and low density metropolitan areas of less than a quarter million in population. Here the rate for crimes in general was not so responsive to high density. This corresponds to changes in the crime rate of increasingly urbanized Britain and the United States, where violent crimes have increased more rapidly than crime in general. In the United States the rate for all crime rose seven per cent during the first half of 1971, while violent crime increased eleven per cent.[16] FBI figures give rates of murder for cities in proportion to size. They rise progressively from a low of 3.5 per hundred thousand for cities of less than 10,000 to 19.2 for cities of over a quarter million.[17] How long can this progressive increase in crime of our highly

urbanized nations persist before civilizations crumble?

Among both men and lower animals, high density leads to emotional stress, social disorganization, and fighting. With the widespread possession of guns in the United States, this stress is reflected in the rate of murder even more than in the rate of crime in general. Such murder is predominantly between people who know one another, quite evidently a consequence of stress rather than of gangsterism. It is probable that variations in the rate of murder are paralleled by similar differences in the incidence of insanity in high and low density populations. The famous Manhattan Study of mental health of people living in downtown Manhattan revealed that of the people interviewed, eighty per cent had detectable psychiatric disorders, and twenty-five per cent had significant neuroses that made them indistinguishable from patients in mental hospitals.[18]

A dramatic example of the sociological disaster that comes from high population density is the Pruitt-Igoe housing project in St. Louis. The planners had initially designed for a density of almost twenty thousand people per square mile, but the project was altered to involve thirty-five thousand per square mile. Sheer ignorance of the social and psychological effects of high density allowed the developers to achieve low cost per apartment, but it made the entire housing project a human impossibility. In the light of this experience, the current plan is to reduce Pruitt-Igoe's density to about two thousand people per square mile, by destroying most of the buildings.

Evidence of harm from high density of population meets with disbelief among people emotionally and economically committed to the large metropolis. Statistical and historical data alone are not enough to prove the case. We need explanations as to how density causes harm. There is the associated question of whether modern technology can eliminate such causes of harm—as by correction of polluted atmosphere or infectious disease.

The 1968 annual meeting of the American Association for the Advancement of Science had a section on "The Use of Space by Animals and Man,"[19] and part of the section was devoted to the effects of density on animals and man. When the members of the panel of scientists (including the writer) were asked by journalists if the harmful effects of density could be eliminated, not one indicated belief that it could.

Over the past twenty-five years, the writer has been studying problems associated with urban densities, particularly those involving harm from large city living. It early became apparent that density rather than crowding was the more harmful variable. Many a villager has much more interpersonal interaction than the average city dweller. An important cause of harm from large city density is the lack of small community associations that give individuals healthy social contacts, security, social control, personal identification, and stability of culture. This is in line with the biologist Clyde Allee's pioneering discovery that many species of animals have an optimum size of group (which may vary to some degree depending on its history and circumstances) above and below which the species does progressively less well. Apparently the same is true of human beings. The higher the density of population beyond an optimum, the harder it is to form and maintain small groups, and the more the individual is lost in the impersonal mass—the condition which Clyde Allee found caused stress to such animals as chickens.[20]

But the loss of good, small-community organization may not be the only cause of harm from high population densities. In biology and psychology we have assumed that interaction between animals or persons is limited to overt physical contact through sight, sound, and touch. In the realm of physics, we now know that the immaterial "field" has an influence paralleling that of the material particle. Electric motors, radios,

and electronic devices work on this principle. Around thirty years ago, Dr. H. S. Burr, then professor of neuro-physiology at Yale Medical School, demonstrated that living things also have immaterial fields that are part of life processes. He came to the conclusion that biological fields extend beyond the limits of the body to the point that such fields may interpenetrate each other.[21]

Recently, Cleve Backster, a leading lie detector expert, has used a polygraph to demonstrate that plants and animals are sensitive to disturbances in each other, even when shielded and a considerable distance apart.[22] Thus, we may not limit our consideration to modes of interaction of large densities of animals or men through immediate physical and social contact. We need also to consider how neural sensitivity to overlapping fields could be harmful to man.

Clyde Allee found that animals need the right amount of stimulus from numbers—too much or too little stimulus impaired well-being. There is a suggestion as to how this stimulus might operate in studies by a neurosurgeon who has been working on stimulating nerves by a very slight electric current of the same wave form as the brain wave shown on an electroencephalogram. Dr. M. J. Edwards[23] found that while a very slight and brief period of electrical stimulation would foster nerve development, too long and great a stimulus would exhaust and ultimately destroy a nerve. Since nerve impulses slightly activate radio waves of a wide range of radio-frequencies, and since the nervous system is a sensitive receptor of radio waves, we can conceive that excessive density of the electrodynamic fields of life could cause over-stimulation, and hence, over a long period of time, exhaustion of the neuro-endocrine system. High-density living of animals and man does cause exhaustion of the adrenal cortex and harm to the neuro-endocrine system.

We cannot say positively why harm is associated with high densities of animals and man, but the evidence of such association is very strong. Good social policy should work toward smaller, less dense cities until we know if, or how, the large and dense city can be made more healthy for mind and body and society. Instead of depopulating rural areas and strip-mining beautiful land to support half of America's population in one per cent of its area, good social policy would develop a stable and wide distribution of population in smaller cities widely distributed over the land.

(*To be concluded*)

NOTES

1 bn Khaldun, *The Muqaddimah.*
2 Aristotle, *Politics.*
3 Warren Thompson, *Plenty of People* (Jacques Cattell Press, 1944), p. 130,
4 Sapur Desai, *A Community at the Crossroads* (Bombay: New Book Company, 1948).
5 Sylvia Porter, "Profile of the Affluent Family," syndicated column appearing Nov. 27, 1972.
6 Arthur E. Morgan, "The Surashtras of Madura, A Self-Sustaining Population," *Community Service News*, September-October, 1949.
7 John B. Calhoun, "Population Density and Social Pathology," *Scientific American*, February, 1964.
8 Hudson Hoagland, "Cybernetics of Population Control," *Bulletin of Atomic Scientists*, February, 1964.
9 Charles H. Southwick, "The Biology and Psychology of Crowding," *Ohio Journal of Science*, March, 1971.
10 Kim Keeley, "Prenatal Influence on Behavior of Offspring of Crowded Mice," *Science*, Jan. 5, 1962.
11 Paul Erlich and Jonathan L. Freedman, *New York Times*, Sept. 11, 1971, p. 27
12 C. Schmitt, "Density, Health and Social Disorganization," *Journal of the American Planners*, XXXII, pp. 38-40.
13 Hidetoshi Kato, "A View of Densely Populated Societies," *Chuo Koron*, November, 1971. (Translated in "The Wheel Extended," *Toyota Quarterly Review*, I, 4, 1972.)
14 HEW *Digest of Educational Statistics 1970* (Washington, D.C.: National Center for Educational Statistics, 1970), Table 16, p. 13.
15 Griscom Morgan, "The Future of Cities and the Future of Man," *Community Comments*, December, 1971.
16 Associated Press Report, *Christian Science Monitor*, Aug. 7, 1972.
17 Statistical Abstract.
18 Cited by Charles Southwick, op. cit.
19 Aristide H. Esser, Editor, *Behavior and Environment* (Plenum Press 1971). Proceedings of an International Symposium, 1968 meeting of the American Association for the Advancement of Science.
20 Clyde Allee, *Principles of Animal Ecology* (Saunders Company, 1949) .
21 H.S. Burr, "Field Theory in Biology," *Scientific Monthly*, Volume 64, No. 3, 1947; interview with H. S. Burr in *Pageant* (V1, 5, p. 4).
22 Thorn Bacon, "The Man Who Reads Nature's Secret Signals," *National Wildlife*, February-March, 1969. Cleve Backster, "Evidence of a Primary Perception in Plant Life," *International Journal of Parapsychology*, January, 1969. Richard Martin, "Be Kind to Plants," *Wall Street Journal*, Feb. 2, 1972.
23 M.J. Edwards, "The Edwards Myoflex" (Shreveport, La.: M. J. Edwards)

REVIEW
NOTES ON CARPENTER AND THOREAU

A BOOK a reader has suggested for attention here is Edward Carpenter's *Towards Democracy*. If you've done much reading, Carpenter's name is probably familiar. But the recollection of what he actually wrote is likely to be vague. One may think of him as a lesser Whitman, which is accurate enough, but we could do with a lot more "lesser Whitmans." Without intermediate stages between the great and the ordinary we would be impoverished indeed.

Edward Carpenter was born at Brighton, England, in 1844. He went to Cambridge and was ordained as a minister, but found this an unsatisfactory career. He left the clergy, becoming a lecturer in the University Extension Movement in northern towns, and eventually settled on a small farm where he worked as a gardener, sandal-maker, and writer. In 1884 he visited the United States, and met Walt Whitman. But he had already found his calling, since he had been reading *Leaves of Grass* continuously since his Cambridge days. Later he wrote of Whitman's work:

> I find it difficult to imagine what my life would have been without it. *Leaves of Grass* "filtered and fibred" my blood; but I do not think I ever tried to imitate it or its style. Against the inevitable drift out of the more classic forms of verse into a looser and freer rhythm I fairly fought, contesting the ground inch by inch during a period of seven years in numerous abortive and mongrel creations—till in 1881 I was finally compelled into the form (if such it can be called) of "Towards Democracy." I did not adopt it because it was an approximation to the form of *Leaves of Grass.* Whatever resemblance there may be between the rhythm, style, thoughts, construction, etc., of the two books, must I think be set down to a deeper similarity of emotional atmosphere and intention in the two authors—even though that similarity may have sprung and no doubt largely did spring out of the personal influence of one upon the other.

Comparing his own work with *Leaves of Grass*, he thought of it as having a "milder radiance, as of the moon compared with the sun—allowing you to glimpse the stars behind." Carpenter called *Towards Democracy* an "open-air book,"—it could not be enclosed in metrical forms. In an introductory note he discusses at some length his use of the personal pronoun. Who, he asks, is the "I" of the book?

> I can give no answer. I do not know. That the word is not used in the dramatic sense is all I can say. The "I" is myself—as well as I could find words to express myself: but what that Self is, and what its limits may be; and therefore what the self of any other person is and what *its* limits may be—I cannot tell. I have sometimes thought that perhaps the best work one could do—if one felt at any time enlargements and extensions of one's *ego*—was simply to record these, as faithfully as might be; leaving others, the science-man and the philosopher, to explain—and feeling confident that what really existed in oneself would be found to exist either consciously or in a latent form in other people. . . .
>
> It seems to me more and more clear that the word "I" has a practically infinite range of meaning—that the *ego* covers far more ground than we usually suppose. At some points we are intensely individual, at others intensely sympathetic; some of our impressions (as the tickling of a hair) are of the most local and momentary character, others (as the sense of identity) involve long periods of time. Sometimes we are aware of almost a fusion between our own identity and that of another person. What does all this mean? Are we really separate individuals, or is individuality an illusion, or again is it only a part of the *ego* or soul that is individual, and not the whole? Is the *ego* absolutely one with the body, or is it only a small part of the body, or again is the body part of the self—one of its organs, so to speak, and not the whole man? Or lastly is it perhaps not possible to express the truth by any direct use of these or other ordinary terms of language? Anyhow, what am I?

When we begin to get texts on psychology which start out this way, it may become worth while for the young to start going to school again.

Towards Democracy is filled with splendors of tenderness, but it has a prophetic strength as well. This was published in 1883:

> Do you suppose it is all for nothing that disbelief has gone out over the world; that weariness has taken possession of the souls of the rich, and that fatal darkness enfolds the heads of wealth and education;
>
> That men disbelieve in the human heart and think that the source of power is set otherwhere than in its burning glowing depths; that the powers which they worship are but so many withered emblems of power—dead scoriae nodding and jostling over the living lava-stream? . . .
>
> Do you suppose it means nothing that that which satisfied once satisfies now no more . . . but unrest and hunger are eating through men's souls. . . .

> Do you suppose it means nothing. . . .
>
> When wealth is slowly and visibly putrefying and putrefying the old order of things;
>
> When the surface test is final—the rainbow-colored scum—as society is rotting down beneath it; a trick of clothing or speech, metallic chink in the pocket, white skin, soft hands, fawning and lying looks—everywhere the thrust of rejection, the bond of redemption nowhere; the sacred gifts all violated stale and profaned—men and women falling off from them listless, like satiated leeches;
>
> When Labor is not loyal and true, nor the Laborers loyal and true to each other; when a man has no pride in the creation of his hands, nor rejoices to make it perfect; when machinery is perfectly organized and human souls are hopelessly disorganised;
>
> Do you think all these things mean nothing?

Here was a man able to look into the principles of things. Why should we keep on talking about the need for "research" when it is so plainly possible to see the future without the blinding effect of statistical devices? Carpenter's mind was not "hopelessly disorganized" by reliance on mechanical substitutes for thinking.

This is too simple a complaint, of course. We need more properly justified self-confidence before we can take men like Carpenter seriously. But too many poets have read the future accurately for us to suppose this cannot be done. Still, it is not a matter of beating what they say into people's heads. Most of all we need to understand how they are able to see.

Thoreau was another seer filled with these mysterious capacities. How did he know so much? What fired the intensities of his alliances, making his "deprivations" into highways of freedom? A little book issued last year by the Hummingbird Press, Albuquerque, New Mexico—*The Indians of Thoreau*, edited by Richard F. Fleck (cloth $10, paper $4)—selects sample entries from Thoreau's Indian Notebooks—eleven hand-written volumes in which he set down half a million words! Thoreau even studied the Indian languages, sometimes copying page after page of dictionaries giving Indian vocabularies. Of the speech of the Indians, he said:

> The eloquent savage indulges in tropes & metaphors—he uses nature as a symbol . . . metaphors are not far fetched—they are not concealed in the origin of language—but he translates entire phenomena into his speech. He looks around him in the woods . . . to aid his expression. His language though more flowery is less artificial.

Apparently the Indians anticipated Ezra Pound: "What they have a word for, they have a thing for." Of his own language, Thoreau wrote: "My thought is a part of the meaning of the world, and hence I use a part of the world as a symbol to express my thought."

Thoreau read a great deal in books about the Indians, filling his notebooks with extracts from them, which he often used later. But the book he planned to write about the Indians never got beyond the raw materials stage. Of his reading in histories such as Hutchinson's account of the Massachusetts Bay Colony, in which there was much about Indians, he said:

> I think myself in a wilder country, and a little nearer to primitive times, when I read in old books which spell the word savages with an I (salvages), like John Smith's "General Historie of Virginia, etc." reminding me of the derivation of the word from *sylva*. There is some of the wild wood and its bristling branches still left in their language. The savages they described are really *salvages*, men of the woods.

These men of the forest with their natural understanding became for Thoreau a symbol of the kind of knowledge he sought. "With all the helps of machinery and the arts," he said, "the most scientific will still be the healthiest and friendliest man, and possess a more perfect Indian wisdom.

Where do men like Thoreau, like Carpenter, get their consistent insight, which gives their writing its leverage and power to move? They are always hard workers, of course, and skilled in the art of expression, but the strength of what they say comes from its directness and independent vision. They live by what they find out, and this makes what they set down seem indisputable.

COMMENTARY
MORE OF DAVID HAWKINS

THE concluding portion of this week's "Children" article, which was crowded off page 8 by other material, seemed too good to omit. It appears below:

Going through these papers by Mr. Hawkins gave the reviewer the same feeling he had when, years ago, he first came across Whitehead's *Introduction to Mathematics.* The first response was delight; the second, wrath. Why didn't my algebra teacher *start out this way?* He could have made the subject fascinating!

Well, as Hawkins says, he was a victim of "a tradition which does not value and even does not understand its own spontaneous sources within experience."

In the first paper on teaching mathematics, the author puts the matter in the terms of ideal pedagogy, speaking of successful teachers:

> If such teachers are rare they are all the more worthy of support and study if we hope to make them less rare. . . .
>
> There are two aspects of this art which are inseparably connected, and this connection leads me from the consideration of teaching to the nature of mathematics as a teacher must grasp it. It commits me, I find, to the view that such a rare teacher has within his grasp a privileged source of information concerning the nature of mathematics. . . . The working perspective of a teacher allows him—unfortunately it does not always compel him—to make many observations of those acquisitions and transitions in intellectual development upon which the growth of mathematical knowledge depends. . . . As a diagnostician the teacher is trying to map into his own the momentary state and trajectory of another mind and then, as provisioner, to enhance (not to replace) the resources of that mind from his own store of knowledge and skill.
>
> For such a teacher a limiting condition in mapping a child's thought into his own is, of course, the amplitude of his *own* grasp of those relationships in which the child is involved. His mathematical domain must be ample enough or amplifiable enough, to match the range of a child's wonder and curiosity, his operational skills. David Page once remarked that when children are seriously attentive they seldom give wrong answers, but they often answer a question different from the one we think we are asking. A teacher-diagnostician must map a child's question as much as his answer, neither alone will define the trajectory; and he must be prepared to anticipate something of what the child may encounter farther along that path.

We should add, finally, that Mr. Hawkins gives many illustrations of what he means; we had to leave them out to have room for telling only a little about his book.

CHILDREN
. . . and Ourselves

A USEFUL, DEMANDING BOOK

THE jacket flap of *The Informed Vision* (Agathon, $8.95) tells who David Hawkins is, and what else he has done, but it doesn't warn you of the demands he makes on his readers. Picking up his book is like starting a book on mathematics—right from page one you have to *think.* This can be hard on a would-be conscientious reviewer. You keep wondering, moreover, who this book was written for. Some notion of its intellectual level is obtained from the publisher's flyer which quotes a physics professor at MIT as saying: "David Hawkins is my father confessor for my philosophical problems and unfinished thoughts."

The foregoing discloses our initial shock of unrecognition on turning the pages of *The Informed Vision.* We first encountered David Hawkins in an Occasional Paper issued by the Education Development Center (Newton, Mass.), "Messing About in Science," which we quoted with delight back in 1971. It had to do with the need of small children to exhaust their playful curiosity and their own way of making discoveries before any attempt is made to "instruct" them in the use of tools or materials. They need to "mess about"—like the Water Rat in *The Wind in the Willows*—for as long as they want to, before you invade them with the systems-minded and goal-oriented learning of adults. What Hawkins said in that paper seemed so valuable that we couldn't forget it; so naturally, when we saw the announcement of his book we sent for a copy.

The book is "good," of course. That is to say, you know it's good even if a lot seems over your head. Mr. Hawkins writes in a style of sophisticated learning—probably acquired from people like Bertrand Russell. Yet his work has a saving grace for the ordinary reader—he is always reaching beyond the limits of scholarly conventions. You can't help but feel this independence of mind, even while struggling to grasp his meaning. The underlying subject seems to be the obscure relations between the theoretical and the practical: their opposition, their collaboration, and their total interdependence. A teacher, Hawkins is continuously saying, ought to understand these relations if he is to be conscious in what he does with the young. Teachers can, of course, intuit these things. But the full harvest of an intuition comes when you are able to see all its corollaries; this is one meaning of constructive rationalization.

In the first essay, on science education, John Dewey is central to the discussion. Mr. Hawkins thinks highly of Dewey, having learned much from him, yet believes Dewey erred in one respect. Looking back at the progressive movement, he says:

> At their best, the progressive schools were excellent, but the best was rare. At their worst, they may have justified the abuse heaped on them by scornful critics. There are, I believe, two conclusions which can be extracted from the history of this institutional movement. One is a conclusion of theory, one of practice.
>
> The theoretical conclusion I would urge is that the key conception of scientific method, of what Dewey called "the supremacy of method," is subtly wrong. Those who have read Dewey's more philosophical and less propagandistic writings will know that he is not always guilty of any real separation of "method" from "content." But there are some truths that require at least *two* sentences for their utterance, and slogans are generally expressed in one. The first truth may well be that the art of scientific inquiry is educationally more fundamental than the facts and principles established by that practice. But the second truth, no less important, is that the art cannot grow except by what it feeds on; and what method feeds on, the whole source of its power and authority, is the very order and organization of the world it investigates. The mind equipped with method and no content is not more than the grin of a Cheshire Cat, an absurdity of misplaced abstractions. Dewey knew this but he did not relish and emphasize it. So now we are in danger of new slogans, which in the re-emphasis on content will assume that method grows spontaneously out of improved "subject matter."

> Try as I may, I cannot put it all in one single sentence. "Method is the *use* of knowledge to *extend* knowledge." But then I must add, with the John Dewey of *Art as Experience*, ". . . through complete absorption in subject matter that is fresh."

He means that if you don't apply theory for making new discoveries, it isn't much good. Theory alone isolates you in an ivory tower, or gives you solipsistic delusions. The engagement of theory in rich content is the saving secret.

In the two chapters on mathematics—on teaching mathematics—the point is essentially the same. Here the going is more difficult, since Mr. Hawkins is himself a mathematician so much at home in its conceptual structures that he hardly realizes his audience may not feel comfortable with phrases which for him have obvious meaning. Yet, as we said, you always have the feeling that his meaning is worth fighting for. His central contention is that since mathematics gets into everything, that's the way it ought to be taught. He starts off:

> A major problem lies in the fact that teachers of the young have typically been handicapped in their own mathematical education and this creates a vicious circle which many acknowledge but feel powerless to break out of. A second handicap is that many teachers of mathematics are victims of a tradition which does not value and even does not understand its own spontaneous sources within experience.

This last is a way of saying that while numbers are not the things they enumerate or define, they give what we see in the world a recognizable identity. The world out there is very much a vast and complex arithmetic. This is one way of thinking about the world, and the teaching of mathematics should help people to see and use it. Another side of the question is the wonder of enumeration. What is counting? What makes counting possible? How high can we count? Are there really large and small numbers? Is the answer, Practically, yes, but theoretically, no?

Mr. Hawkins is a disciplined and orderly thinker, yet an imaginative one. He always pulls in the other side of the paradox for examination, after looking carefully at the first side. He is seeking balances, not final answers, so that you develop confidence in him.

FRONTIERS

Toward Social Self-understanding

A PLATEAU of accumulating social self-knowledge is described by David Rothman, a teacher of history at Columbia University, in the *Nation* for Dec. 21, 1974. Summarizing informed opinion concerning the prison systems of the United States, he reports general agreement that they do not work, that we should stop trying to "improve" prisons, and look, instead, for other ways of dealing with the problem of crime. Intelligent prison officials, government advisory commissions, critics such as Jessica Mitford, and commentators of every political coloring all share "a startlingly unanimous view: incarceration has failed. Institutions cannot rehabilitate. We had better devote unprecedented energy and attention to alternatives."

This realization began, Prof. Rothman says, in the 1960s and has been widely declared in the early 70s. No one recommends continuing with the familiar patchwork remedies. Why? Because we haven't just been running our prisons badly: the idea of prisons is wrong. Prof. Rothman says:

> Given the long tradition of reform without change, and the broad consensus that we do not know how to rehabilitate offenders, we now find ourselves in a unique position. We should, therefore, take advantage of this special moment to impose a different model on the incarceration system. Heretofore at the heart of penal systems, or of parole and probation programs, was a "success" model: we could reform the deviant. As an alternative, I believe we may accomplish more by frankly adopting a "failure model," by recognizing our inability to achieve such heady and grandiose goals as eliminating crime and remaking the offender. Let us accept failure, and pursue its implications.

Well, this proposal has one major virtue but also a major defect. The virtue is honesty. It tells the truth about large-scale institutional remedies for moral disorder. They don't work. To pretend that they do is corrupting to everyone connected with their processes and continuously unjust to their victims. Such corruption and injustice lead quite naturally to nihilist self-justifications on the part of offenders. Nothing could be more destructive of those fragile bonds of mutual trust on which the order of organized societies must depend.

The defect is the confession of failure involved, which is likely to be felt intolerable by most people. To overcome this defect, we need to develop some positive approach to "rehabilitation," even if this means starting all over again and redefining what we mean by "crime."

This is not to make light of Prof. Rothman's recommendation of honesty in admitting failure. The admission is basic to getting any sort of workable alternative, and it would also enable us to stop making things worse by applying pretended remedies.

> Enough energy has already been spent on tinkering with institutional programs, not because we see the prospect of ultimate cure but because we acknowledge our ignorance and think we may be able to devise better strategies for coping with it. . . . The very premise of failure would protect us against launching programs that merely promise to do good rather than marshaling data that show that they *can* do good.

Another article in the same issue (Dec. 21) of the *Nation* illustrates Prof. Rothman's point in a related area. "The Fraudulent War on Crime" is the title of a report by Hannah Shields and Mae Churchill on the National Crime Information Center, conducted by the FBI since 1967. This computerized record of "criminal histories" was once touted as a major step toward fighting crime, because of its speedy conveyance of information to local law enforcement agencies. Critics now point out that speed in supplying either incomplete, misleading, or sometimes quite false information only assures the rapid multiplication of injustice. A federal judge has warned that linking centralized state information centers with the FBI computerized records increases the opportunities for improper use of information; and in January, 1974, FBI Director Clarence M. Kelley stated publicly that "there is no evidence

available at NCIC by which to measure improved prosecution of criminal suspects through state access to CCH (Computerized Criminal History)." The *Nation* writers comment:

> So much for the FBI's "powerful weapon against crime," a popgun that fails to touch serious lawbreakers but scatters buckshot over ordinary citizens, who are often permanently scarred by a "criminal record." . . . The simple truth is that nearly all computer data systems would have to be scrapped in order to guarantee security and confidentiality. Because maximum speed rather than security and privacy was the rationale of computer design, it may be years before integrity can be built into the system, a development that will reduce efficiency and increase costs.

For their conclusion these writers quote from Frank T. Cary, chairman of the board of IBM, who recently declared that now there can be a dossier on anyone. "The result," he said, "is that we now retain too much information. The ambiguous and unverified are retained along with legitimate data." The best prevention of the misuse of personal information, he added, would be "to discourage its collection in the first place."

Here the value of Prof. Rothman's principle of admitting failure is more than obvious.

Central to demonstration of the failure of the prison system is the inability of any known program to reduce recidivism (repeater crime). Prof. Rothman says that "every study on the effects of reform programs, whether they be lower case loads for parole officers or more social casework for inmates, or improved vocational training, demonstrates that such programs simply do not accomplish their purposes." This brings us back to the question of positive steps. What can be done to change the pattern of the lives of repeater criminals? Actually, the question calls first for another kind of admission—a more comprehensive confession of failure. Years ago, Dr. Charles B. Thompson, a psychiatrist who studied more than a thousand repeater criminals who came before New York's Court of General Sessions, said that the behavior pattern of the recidivist "is apparently not altered by imprisonment or punishment, no matter how often imposed or how long, nor do our present methods of re-education influence it." His research convinced him that these offenders had been conditioned throughout their lives "to a self-preoccupation—egocentricity—and to self-acquisitiveness." We quote from Dr. Thompson's paper, which appeared in the *American Journal of Psychiatry* for November, 1937:

> . . . when we are confronted with a prisoner in our examining room, we are studying an individual who, like ourselves, is the resultant of this same continual conditioning process, for the criminal and the neurotic and the law-abiding citizen are all members of the same social structure or society, which . . . automatically conditions all of its members to react affectively and disproportionately to this "I" image. . . .
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> That which is "good" is to the advantage of this "I" image and is to be sought, and that which is "bad" is to the disadvantage of the "I" and is to be avoided. . . .
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> However prevalent throughout society, man's affective response to this image or stimulus word "I" does not represent health or wholeness, for this "I" is a secondarily acquired image which has been inculcated in the individual. . . . It is the basis of the personality traits which in their extreme form characterize the recidivist. . . . this conditioned, separative "I" image represents a common denominator for the compulsive, egocentric acquisitiveness of man throughout the species, including the reaction of the non-criminals as well as the criminals. Civilization's outstanding characteristic as well as its fundamental anomaly is its systematic training of each individual to get for himself at the expense of others. . . .
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> In our superficial angers and hatreds, or in our agreements, in our wars and in our equally superficial and evanescent arrangements called peace, "normal" man, like the criminal, is himself a repeater of pathological reactions. Naturally, then, if we are all involved automatically in repeated reflex actions that have to do with oppositeness, self-acquisitiveness and competition, the nature and behavior of the recidivist is not far to seek, for the problem of the recidivist is but the problem of man's behavior generally.

> We might as well keep in mind that society has its own crimes which, however, are not recognized as such because they are committed on so large a scale. Society has its mass-homicides called wars, its mass-robberies called invasions, its wholesale larcenies called empire-building. As long as the individual's behavior fits in with the mass-reaction it is considered "good" behavior. As long as he does not question by word or deed the validity of the mass behavior he may be called a "good citizen."

This, too, is self-knowledge—the kind needed to start with as foundation when we set out to deal with the problem of "crime" and to find alternatives to imprisonment. Putting this social self-understanding in the place of the pretentious self-righteousness of present-day law enforcement might of itself vastly reduce the criminal tendencies of the time. Who knows how much of crime is angry revolt against stereotyped hypocrisy?

Meanwhile, a long-term program of correction would involve the slow but determined development of civilized conceptions of the self, since the idea of the self is the origin of both crime and human excellence.