

THE THIRD HUMAN NATURE¹

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The first human nature is the raw biological simian stuff with which men are, as men, equipped. The second human nature arose when the raw stuff of the first human nature underwent cultural transformation. Inevitably a crystallization process, a process of living within cultural requirements resulted. But a new thing happened: Culture led to the discovery and development of intellectual tools, power-driven by curiosity, which gave man a world capable in some ways of transcending culture, a world of new ways of observing, new contact with reality. In spite of the obvious pressures towards standardization and rigidity, there is a huge counterthrust based on *curiosity* about the world, embodied especially in science. We are changing by virtue of what we discover and by virtue of the fact that we are engaged in a voyage of discovery.

SENSORY EXTENSION

We are living in a new world and we are becoming different people. In addition to this incredibly rich world of new products with which technology surrounds us, goes the almost unlimited extension of human sense organs through the invention of *accessory sense organs*.

The world that the science of Aristotle's day comprised was the world of the naked eye. The simple hand lens of Archimedes later magnified this world, and in time broke it into tiny particles, each of which had new meaning. With Leeuwenhoek's microscope in the seventeenth century one could see what we now know as bacteria; the eighteenth century could see crystalline structures of a new world order. The compound microscope, the oil immersion microscope, the electronic microscope, have diversified the world, have shown an unknown, and in the profoundest sense, inhuman realm, a realm in which some of the basic structural laws, the basic temporal sequences, are different from those of the naked-eye happenings. They have given us a world at least as strange as the underwater world of a Jules Verne or a William Beebe. Man makes for himself a new world to live in, a world in which no longer the eye, but the compound eye of which the microscope is a part, is the primary tool.

¹Adapted from the chapter by the same title of the author's forthcoming book, *Human potentialities*, New York: Basic Books, 1958.

In the same fashion the telescope and, more particularly, the spectroscope, extend the eye, not down and into the structure of matter, but out and beyond the world upon which the naked eye makes it report.

And man has appropriately begun to modify his philosophies to take account of these new worlds in which he has begun to live. Eddington has suggested that on a geometric scale man's body is midway between the electron and the knowable universe, for his body contains ten to the 29th power electrical particles, and the number within his body multiplied by ten to the 29th power would comprise the number of particles in the knowable universe. He remains the measure of all things, as he was for Heraclitus. All things, however, have taken their measure of him as well; and he no longer sees as man; he sees as a bit of cosmic stuff. Man has thus learned to accept both the brevity, the relativity and the dependency of his own existence upon a peculiar set of segmental laws of time and space, which are only special cases of those more general laws, which are other time-space laws which he attempts to apprehend. As apprehendor, he has tried with desperate intensity to transcend his humanness.

Man's conception of man is still indeed a conception based upon seeing, and hearing, touching, smelling and tasting—a world of warms and colds, pains and aches, and the despairs and ecstasies which come from the reverberations of his physical being. But instead of being limited to those characteristic human ways of observing which come with the bodily package which we call his anatomy, it is the world as known by his *extended* sense organs, the world of spectroscopes and radar, of chemical atmospheres and radioactivity, that constitute the structures into whose crannies his fingers grope.

EXTENSION OF INTERESTS

Some have assumed that life is organized solely around the gratification of instinctual drives. Yet every event that happens in a test tube, or machine shop, or a musician's studio, or a beauty shop, or a classroom, or an athletic field, or a salesroom, can have enormous meaning, excitement, sense of tingling reality for someone, may bring a new feeling, elicit a new and moving sense of relationships; mankind's interests are not anchored in any simple and clear way to his few instinctual needs, in contrast to his animal brethren. He is in love or potentially in love with the whole of the sky, the earth and the sea, and all that flies, runs or crawls upon or within them. He

loves to dissect, to analyze, to reconstruct, to create, to fathom, to understand, to grasp sensory values and abstract relationships in practically everything that exists or can be imagined to exist. Man is capable of becoming interested in everything.

The instinctual satisfactions certainly play an enormous role in much of our intellectual and aesthetic life. Objects which delight the eye or the mind or the heart are, in part, instinctual satisfiers, or precursors, reminders, or symbols of instinctual satisfactions; finding the breast, for example, suggested in every mountain range. But they are more. For there is a place for simple sensory gratifications as such; and there is a place for the platonic view that we find universal, or abstract, or general law or order in all that our senses apprehend.

There is, we shall try to show, a place for a non-specific definition of human interests which makes the human constitution capable of almost unlimited resonance, beating in tune with everything which acts upon it.

This will give us a threefold basis for human curiosity, human craving to know and understand: (1) the instinctual drive; (2) the love of order or form; (3) resonance to the nature and structure of all that surrounds us.

Pointing to the instinctual components is the fact that clinical data, notably the data of psychoanalysis and of ethnology, underscore the reality of veiled instinctual satisfactions derived from the order, the rhythm, the natural symphonies of line, surface and color, which appear in the homeliest handicrafts or physical manipulations of household or cottage industry, and indeed in the motions of clouds and of water. Man finds in the things about him apt reminders of his own constitutional needs and action tendencies.

The second view, which emphasizes man's quest of order and form, finds no great quarrel with this first view, but instead of emphasizing those instinctual tendencies which are rooted in the viscera of the body, emphasizes especially the goodness of form which arises from the rhythms of the human muscular system. It finds in the order, balance, symmetry and rhythm of the human muscular activity a primary cue to the goodness and order to which all the arts aspire.

The third view, the *non-specific* doctrine, points empirically to the fact that the more complex the central nervous system, as we go from simpler to higher animals, the more there is of the response to anything and everything as exciting and interesting, the more sharply the world of spatial and temporal relationships stands out, as constricted

with simple physical satisfactions, and the greater the fascination with movement and order, whether they seek perfection or continue to be simply the earthly things which act upon the body. As Walt Whitman had it, poetry belongs to real things, and to real things only. One wants more and more of the world itself, not because it is the best of all possible worlds, but because it is there; not because it is ideal, but because it is real; not because it contains unlimited hidden meanings—though, indeed, it does contain unlimited hidden meanings—but because in its own right it is exciting, moving, satisfying, yet always prompting to new modes of contact, always giving birth to new hungers. There is just about nothing at all that does not appeal to eye, or ear, or nose, or sense of balance, or need to understand, or an impulse to get more of it.

From the position on the road to which we have now come, there is no avoiding the fact that all three of the doctrines just stated, so familiar to the philosophers in one form or another, are relevant and useful. It may turn out that there are contradictions between them, and therefore that refinements and choices must be made. It may also turn out that the three doctrines are all directly to be derived from the evolutionary view of human beings and from empirical materials on the development of infants and children, and that the problem is one of integration of empirical findings in such a way as to give full scope to the reasonable applications of all three conceptions.

We could very easily put together the three conceptions that we have tried to define, and say that mankind very naturally and primitively finds everywhere in nature that which is relevant to his instinctual needs; that which is relevant to the order, rhythm and motion potential of his own body, as the Platonists made long ago so clear; and that finally in the interstices between these two great realms of activity, there is a ceaseless flow of sheer outward response to, and joy in, the world of things and the world of relationships between things. Since this last world is not anchored to the body in any narrow and specific way, it offers almost unlimited potentials.

REBUFFS TO THE EXTENSION OF INTERESTS

Some of the early modern observers of babies were impressed with the fact that the babies were interested in practically everything, and only by burns, bumps, or dire consequences, learned to give up some of their imperious demands upon the world. To those who stop and reflect it has been a commonplace in observation of our edu-

cational system that whereas almost everything is interesting in infancy, more and more loses its interest in childhood until finally by regimentation and the removal of primary satisfactions in favor of so-called extrinsic rewards, one can make the world of school as boring as one pleases; and ultimately the world of industry, a world of incredibly efficient sub-human mechanization of activity.

To the argument that most of the interests to which we have pointed are acquired by being associated with some intrinsic reward, the very simple answer can be made that in point of fact most of the things in the world around us patently *lose* their interest, year by year. There have to be more and more sauces and spices added to our everyday foods to make us interested in them as we grow older, and in the same way, there must be a liberal dose of excitement or slapstick, or the bizarre, or the savagely sadistic, to give interest to a jaded taste.

Most human beings have settled down to a rather narrowed area of satisfactions, a rather crude and obvious area in which instinctual gratifications with a very prominent representation of narcissistic or self-love activities, keeping up with the Joneses, and primitive vanity and power satisfactions, embellish the competitive industrial scene, and in which vague apprehensions regarding the encroachments of others upon our privileged position keep pace with the normal fears of illness and accident, losing a job, growing old, and of course always destruction through war.

We will conclude by saying that as far as the evidence goes, the interests of mankind flow ever outward into everything that exists or could exist, unless and until a rebuff of some sort is encountered. It may be rebuff through anguish arising from specific discoveries, or through social disapproval, or through the fact that the social situation is rigged in such fashion that preoccupation with this area leads to poor results; or the individual may discover that he has found all there is to be discovered *at his level of operation* and with the opportunities for study available to him, and he simply settles down to boredom. The limit is set then, not by the subject matter, nor by his mind, but by a complex socio-cultural totality which says, for example, that he must simply accept the English language as it is, and work within it.

In poetry or music, for example, he may go on until, in comparison with others, some teacher tells him he has no talent, and again the intrinsic satisfactions of the materials of this world are bypassed in favor of the secondary rewards of any social approbation which can

be found. Human potentialities can only be released within a specific life space which expresses the world of a given individual at a given time, and the world can be and usually is rigged against the individual in such fashion that negative feelings are powerfully aligned against the positive feelings which most simple things at first arouse. There is also the universal phenomenon of satiation. The rhythm of life depends partly on the gratification in the new; and after a time, return to the old, as is evident in poetical and musical form.

MOTOR EXTENSIONS

From all this it follows that *extrapolation of human interests* goes hand in hand with *sensory extrapolation* in the form of extending and complicating the human sense organs. Indeed, it is to a large degree because of man's unlimited sensory hungers, his potential for unlimited sensory experience, that he has always craved the sensory extensions. Economic gain can always help the process along, but it was not the economic factor that led to the sensory extensions, and it is not the economic factor that makes modern men, and in particular children hungry for literally all that there is. But, side by side with all the *sensory* extensions there are likewise *motor* extensions. Tools are the first such extensions. In our manner of defining paleolithic, neolithic, Bronze Age, Iron Age men, we recognize that it was not only men that made the tools, but tools that made the men. Our own tools are remaking us. Ordinarily, however, we limit our attention to the things that we make, rather than to the thought forms that the new objects impose upon us, and in particular the *retroflex effect of the sheer making process upon the maker*.

We assume now that almost anything can be made. It is a maker's world. We no longer find blasphemy, but simple realism in the comment of the little Dutch boy who, very skeptical about God, was asked to look through the microscope and see what wonderfully delicate snowflakes God had made. His comment was, "That's not so hard in the winter." Men and children, too, learn constantly how things are made, and they make things with less and less primeval wonder, until the very making process itself is no longer wonderful, but built into their souls. The aboriginal population which, as Margaret Mead tells us, a few decades ago found ghosts and spirits inside the machines which the white man brought, today repair and build the machines with the same gusto as that of the white man himself. And the making process can become either boring when simplified to

the point where it is too fully understood, as in the assembly line, or it can, through a sense of progressive mastery, as in the workshop of da Vinci or Rembrandt, give an ever more enraptured ecstasy of newness in each day's discoveries.

Man does queer things with the sensory and motor extensions which he has constructed. He can already fly through the sound barrier, fly faster than the speed of sound, so that a sound pursuing him could never catch him. He can, if he likes, invert the sound, hearing last that which came first, just as for decades he has been able, through motion picture techniques, to reverse the temporal flight of visual experience, so that death comes before birth, recovery before the disease, and the new social order before the economic, political, military changes which engendered it.

To all this he has begun to give such meaning as he can, both through science and, more particularly, through science fiction—that strange art of carrying wild phantasy into the most sober reflections. Often he fails through assuming simply *more and more of whatever we already know*, failing to make the great leap into that which new senses, new modes of experiences, new ways of feeling, might bring mankind. Science fiction, extrapolating always from the wars of tomorrow, and from the halting diagnostic skills of today to the unerring medical omniscience of a few decades hence, leaps from the faint and fitful paranormal phenomena of today to the world of infallible mind-reading or the unlimited control of another's thoughts—or the unlimited skill of the duelers who, while trying to read another's thoughts, set up effective shields and barriers to the thought-reading activities of others.

Actually what a dull world this whole world of extrapolation is! How poor a substitute for the actual re-creation of human nature, which the last few centuries and in particular the last few decades, have actually given mankind! Emerson remarked that if the brilliance of the starry heavens were to be seen just once, man would forever talk of the incredible magnificence of such a spectacle. If there were but one new scientific revelation of man and his relation to the world, rather than a continuing succession of revelations, it might jolt us into some semblance of the appreciation of the vast change which comes over us as we see ourselves through the new instruments.

NEW SOCIETIES

The cultural anthropologists, the historians, the historical sociologists have given us wonderful ideas to work and play with, as they

have taught us the endless variety of human institutions and the almost limitless malleability, flexibility, adaptability of the human young when encountering the footbinding or mind-binding, the skill-inspiring or philosophy-inculcating habits of varied human groups or of classes and guilds within the groups.

They have, however, made the moulding of the mind somewhat too easy. They have often suggested that there is no special bent in one way or another; that mankind is equally ready for almost *any* kind of contortionist adaptation. This has, of course, gone too far; has denied the instinctual readiesses and what we have called the platonic dispositions to move more massively in some directions than in others. It has, however, been valuable in reminding us that there is much to be discovered in *any* social order, that there is much which, just because it is a real thing somewhere to be encountered, can have its human appeal.

We might well push beyond this point and ask ourselves the question: What are the human potentialities for imagining *new societies*? Working against such capacities to conceive the new, what are the old thought forms; what are the special conditions governing the "sociology of knowledge" which guide mankind into the presumption that societies *must* take certain forms rather than others? What, if any, are the kinds of societies that men *might* discover; what the sensory and conceptual, or indeed, instinctual satisfactions in inventing (as in the game of chess) new rules, new orders, new potential deployments of men with reference to one another, with reference to their physical and cultural environment, with reference to the cosmic totality which they face? Certainly, we shall recognize the deeply ingrained cultural assumptions, indeed, the unconscious and axiomatic assumptions which make men, even the most radical of men, assume the unlimited longevity of the existing kinds of human societies, which lead even a Buddha to assume that there will always be unsatisfiable wants, that there will always be in society temptations which must be renounced, that there will always be a way of light to be followed in contrast to a way of darkness. So, too, there will always be a Marx or a Lenin who will assume that no matter how changed a society may be, there will be certain invariant attributes of hand, brain or heart which will constitute the raw human nature made in a new image, and a social order recognizably and fundamentally human in the sense in which we know the term, with the relations of man and woman, the relations of adult and child, the relations of brothers in blood and brothers in

function, essentially the familiar relations which prehistoric men knew, which Chinese, Indian, Inca and Mediterranean men have always known. After all, the time perspectives have been such that it would have been preposterous to expect otherwise. The science fiction which looks ahead fifty million years still represents the relations of human beings as essentially the same as they are today, in that kind of unconscious extrapolation of the self-evident which it is our task everywhere to challenge.

From the present point of view, man, who extends his sensory equipment to see the infinitely small or the infinitely great and who extends his motor equipment to manipulate through shafts of light or guided missiles that which moves far beyond his grasp, is only in limited degree the same mankind that will cast the social orders of the future and extend his control techniques to mold them more and more to the heart's desire; the desire, that is, of any given period as it projects itself into an imagined future. If man can invent in the manner of Luther Burbank new citrus fruits and leafy greens for the table of tomorrow, he can likewise invent social orders which presuppose *not* the human nature which we know, but the human nature which both biological and social evolution may *create*; can lay down, as it were, in the manner of the mathematician, the poet, or the prophet, potential relationships which realize the latent potentials that never have been realized and never could be realized within the thought forms of the past or the present. He can literally imagine into existence unknown relations of man and men.

It is indeed true that these schemata can depart in no detail from what is fixed as human nature, but the theme of our story has been the *meagerness* of what is known to be intrinsically and necessarily fixed. We deal always with a world of intangibles and shadows which mold themselves strangely somehow into solid realities and pass away into shadows again. There is no fixed human nature, no fixed social order, except within the short time span and the local conditions of the neolithic and postneolithic societies that we happen to know, superimposed upon which is the martial technique of the West, followed by the commercial, industrial and technological skills which this martial society hit upon in the Mediterranean era. And the danger that we shall stick too closely to the pattern that we happen to know, in our attempt to extrapolate into the future, is far greater than the risk that we shall wildly imagine impossible human beings and impossible relations between them.