THE SCIENCE OF MAN.

By ALFRED KORZYBSKI.

The book of Dr. Alexis Carrel, Man the Unknown, has created a world-wide sensation, and in the opinion of this reviewer it is justified and a hopeful sign.

The unique importance of this book is due to four unique factors: (1) The author is a world famous surgeon of great knowledge and achievements, a Nobel Prize winner, a member of the Rockefeller Institute, and he has the medical authority to speak of the tragic shortcomings of medicine, physicians, scientists, educators; (2) he observed life in a great many aspects from a scientific, mostly medical, point of view, and he makes very clear that we are facing the problem of a sick society, sick civilization, including sick attitudes of scientists, physicians and educators; (3) he points out the shortcomings of university presidents and heads of great institutions, who either through ignorance or lack of vision cannot encompass the seriousness of the situation and waste enormous sums of money on trifling pseudo-researches, neglecting the really important medico-educational issues of sanity and progress (p. 48, 49); and (4) he has the courage to speak honestly and boldly.

Dr. Carrel's language is simple and direct. All the following italics are mine. The book is " dedicated to all whose *everyday task* is the rearing of children, the formation or the guidance of the individual. To school teachers, hygienists, physicians, clergymen, social workers, professors, judges, army officers, engineers, economists, politicians, industrial leaders, etc." (XV).

Carrel's main thesis is: " Men cannot follow modern civilization along its present course, because they are degenerating. . . . . They have not understood that their body and consciousness are subjected to *natural laws* . . . . as inexorable as the laws of the sidereal world. . . . . That they cannot transgress these laws without being punished " (p. XIII, XIV). The issues then crystallize into the problem of " knowledge " of the " natural laws " of " human nature," " because mental deterioration is more dangerous

to civilization than the infectious diseases to which hygienists and physicians have so far exclusively devoted their attention" (p. 20).

"Men of science do not know where they are going" (p. 23), and "modern civilization finds itself in a difficult position because it does not suit us. It has been erected without any knowledge of our *real natures.*"

What is the science then to study and evaluate the "natural laws" of "human nature"? It would seem that "psychology" should be this "science." But is "psychology" developed enough to undertake this task? Carrel gives the proper answer: "The supreme science, psychology, needs the methods and the concepts of physiology, anatomy, mechanics, chemistry, physical chemistry, physics and mathematics—that is, of *all* sciences occupying a lower rank in the hierarchy of knowledge" (p. 290). Did any "psychologist" ever attempt to be *scientifically honest* in this sense? If so, then we have no record of such an achievement, simply because we do not "free ourselves from the mass of illusions, errors and badly observed facts, from the false problems investigated by the weak-minded of the realm of science, and from the pseudo-discoveries of charlatans and scientists extolled by the daily press" (p. 35, 36).

"But physiology is a science, while psychology is not. Psychology awaits its Claude Bernard or its Pasteur. It is in the state of surgery when surgeons were barbers; of chemistry before Lavoisier at the epoch of the alchemists" (p. 156).

What is then the way out? Carrel suggests a solution: "We now possess such a large amount of information on human beings that its very immensity prevents us from using it properly. In order to be of service, our knowledge must be synthetic and concise" (XII). "Man, as known to the specialists, is far from being the concrete man, the real man. He is nothing but a schema, consisting of other schemata built up by the technique of each science" (p. 3). "Although physicians, educators and hygienists most generously lavish their efforts for the benefit of mankind, they do not attain their goal. For they deal with schemata containing only a part of the reality" (p. 26). "Many physicians still persist in pursuing abstractions exclusively. . . . . Scientific Medicine, installed in its palaces, defends, as did the church of the Middle Ages the reality of the Universals. . . . . The distrust

which the public feels toward medicine, the inefficiency, and sometimes the ridicule of therapeutics, are, perhaps, due to the confusion of the symbols . . . . with the concrete patient who has to be treated and relieved. The physician's lack of success comes from his living in an imaginary world. Instead of his patients, he sees the diseases described in the treatises of medicine. He is a victim of the belief in the reality of Universals. He does not realize sufficiently that the individual is a whole . . . . and that anatomical divisions are artificial. The separation of the body into parts has so far been to his advantage. But it is dangerous and costly for the patient and ultimately for the physician" (p. 248, 249), and the public should "refuse to be attended by physicians knowing nothing but a small part of the body" (p. 281).

The difficulties ahead are very serious because: "The majority of men of science believe in the reality of the Universals, the exclusive right to existences of the quantitative, the supremacy of matter, the separation of the mind from the body, and the subordinate position of the mind. They will not easily give up this faith, for such a change would shake pedagogy, medicine, hygiene, psychology and sociology to their foundations. . . . . Hygienists would be asked why they concern themselves exclusively with the prevention of organic diseases, and not with the mental and nervous disturbances. . . . . Why they segregate people ill with infections, and not those who propagate intellectual and moral maladies. Why the habits responsible for organic diseases are considered dangerous, and not those which bring on corruption, criminality and insanity. . . . . Pathologists would be induced . . . . to take into account the influence of the mental upon the tissues and vice versa. Economists [and other specialists—A. K.] would realize that human beings think, feel and suffer, that they should be given other things than work, food and leisure . . . . and also that the causes of economic and financial crises may be moral and intellectual" (p. 280, 281). Indeed it is evident that specialists "before limiting themselves entirely to their particular domain, have not taken the trouble to acquire a general knowledge of man. The more eminent the specialist, the more dangerous he is" (p. 46).

Education of course depends on the advance of science and medicine, and in spite of the above shortcomings, educators have not acquired even this limited "knowledge of physiology and psy-

chology, which modern educators have not been given the opportunity of acquiring" (p. 85, 186), and from a *scientific* point of view: "*the present methods of education would seem absurd,*" and "schools and universities would be obliged to modify their programs" (p. 280).

Carrel, being a "specialist," realizes that: "It is impossible for a specialist, actively engaged in the pursuit of his own task, to understand the human being as a whole" (p. 45), yet such understanding is necessary to be able to "rescue the individual from the state of intellectual, moral and physiological atrophy brought about by modern conditions of life" (p. 293). And that: "the enterprise of our restoration must start immediately (p. 293) . . . . to prevent the organic and mental deterioration of civilized nations" (p. 292).

As a student of the history of civilization Carrel realizes that we need new methods of approach and that: "The future discoverer of a method for inducing tissues and organs to develop harmoniously will be a greater benefactor of humanity than Pasteur himself. For he will present man with the most precious of all gifts, with an almost divine offering, the aptitude for happiness" (p. 111), because "mental and nervous strength is infinitely more important than muscular strength. The descendant of a great race, if he has not degenerated, is endowed with natural immunity to fatigue and to fear" (p. 110). Carrel realizes that: "modern civilization absolutely needs specialists. Without them science could not progress. But before the results of their researches are applied to man, the scattered data of their analyses must be integrated in an intelligible synthesis. Such a synthesis cannot be obtained by a simple round-table conference of the specialists. It requires the efforts of one man, not merely those of a group. A work of art has never been produced by a committee of artists, nor a great discovery made by a committee of scholars. The syntheses needed for the progress of our knowledge of man should be elaborated in a single brain" (p. 47).

Carrel emphasizes that the supreme aim of different institutions should be to find out brains capable of such work, and give them a possibility for constructive work on such a synthesis. "The science of the human being does not need costly and numerous organizations in order to start its constructive work. It can utilize

those already existent, provided they are rejuvenated" (p. 286). He states and justly: "of course, the science of man has to use the concepts of all other sciences. But it must also develop its own. . . . . We must realize clearly that the science of man is the most difficult of all sciences," yet it must be produced if civilization is to be preserved (p. 9, 10).

"This superscience will be utilizable only if, instead of being buried in libraries, it animates our intelligence. But is it possible for a single brain to assimilate such a gigantic amount of knowledge? . . . . It seems that such an accomplishment is not impossible. In about *25 years of uninterrupted study* one could learn these sciences. At the age of 50, those who have submitted themselves to this discipline could effectively direct the construction of the human and of a civilization based on his true nature" (p. 285). The stakes are high, degeneration and nervous disintegration are progressing rapidly and something constructive must be done; "but is it indispensable to suffer the agony of chaos before reaching order and peace? Can we not rise again, without undergoing the bloody regeneration of total overthrow? Are we capable of renovating ourselves, of avoiding the cataclysms which are imminent, and of continuing our ascension?" (p. 277, 278).

All through the book Carrel emphasizes the influence of the environment, because: "Permanent modifications of body and consciousness may be produced by adaptation. In this manner, environment stamps human beings with its marks" (p. 215). "Man is the result of heredity and environment, of the habits of life and thought imposed upon him by modern society" (p. 273). "Should we not also incriminate the corruption and the stupidity of the politicians and the financiers, the ignorance and the illusions of the economists? Has not modern life decreased the intelligence and the morality of the whole nation?" (p. 275), as a factor of environment?

"We live in two different worlds, the world of fact and that of their symbols. . . . . But the abstract may be mistaken for the concrete. . . . . Most of the errors made by educators, physicians and sociologists come from such confusion. . . . . Education, medicine and sociology are concerned with the individual. They are guilty of a disastrous error when they look upon him only as a symbol" (p. 237).

Carrel, however, disregards other factors of the environment, as for instance, the fact that *with humans* the " second world " of symbols is as real and vital as the world of facts. No one can doubt that our orientations, " thoughts," " morals," plannings and so ultimately our actions depend on *symbolism* and *language* in connection with meanings, evaluation, etc., which cover all human psychological reactions. In other words, Carrel disregards an all-pervading factor of the human environment; namely, the linguistic and semantic environment, with definite and most important neurophysiological representatives in the human brain, without consideration of which a science of man, a science of adjustment and sanity are *impossible*.

In fact, this disregard of such an important and all-pervading factor of human environment has historically prevented a science of man. Mankind at present does not need to wait for Carrel's 25 years for a future science of man, because an individual has already spent 30 years of uninterrupted study and the science of man was founded in 1921 and formulated in the book Manhood of Humanity, The Science and Art of Human Engineering, later expanded in Science and Sanity, An Introduction to General Semantics. The science of man was originated and is progressing with *empirical results,* following a study of all sciences, mathematics included and their *languages* analyzed as forms of specifically human functioning. The neglect or disregard of neuro-linguistic and neuro-semantic mechanisms is as disastrous an error as to disregard the function of the heart or any other vital organ, or to disregard the dangers of infection.

General Semantics turns out to be a new empirical natural science and its effectiveness depends on direct stimulation of the human cerebral cortex, bringing about a strengthened dominance of the cortex over the lower nervous centers, evidenced by better adjustment and the automatic development of higher " mentality," better " morals, etc.," of 99 per cent of the students, as reported by the coworkers and verified in the seminars of the author.

At present General Semantics, which is the *modus operandi* of the science of man, is being applied in at least three " mental " hospitals, several educational institutions, private practice of several psychiatrists and by lay students. The new methods, because directly neurological, bring about standard, general and automatic

results. Some of these results were reported before the First American Congress of General Semantics, held at the State Normal School, Ellensburg, Washington, March 1 and 2, 1935. The proceedings unfortunately have not been printed for lack of funds. Other scientific papers also await publication. The work is carried on at present out of the meager salaries of the pioneers, and also is greatly handicapped by "our inertia. And not by the incapacity of our race to rise again" (p. 276), and also the metaphysical creeds which pervade the orientations of scientists, physicians and educators of which Carrel speaks on p. 280 ff. of his book.

It is not realized that physicians are mostly ignorant of neuropsychiatry, and so medicine as practiced represents nothing but glorified veterinary science, and psychiatry without the science of man and General Semantics must remain metaphysical.

I cannot close this review with any better words than Carrel closes his most significant book: "For the first time in the history of humanity, a crumbling civilization is capable of discerning the causes of its decay. For the first time, it has at its disposal the gigantic strength of science. Will we utilize this knowledge and this power? It is our only hope of escaping the fate common to all civilizations of the past. Our destiny is in our hands. On the new road, we must now go forward" (pp. 321, 322).

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