Jour.Soc.Sci. & Humn. 1996-2000
pp.23-32

THE SCIENCE OF HUMAN NATURE

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ABSTRACT

The controversial idea of a 'science of human nature' raises serious issues in philosophy and philosophical psychology. The questions arising in this respect involve the gradual and ordinarily unnoticed transformations of our beliefs about the reality of human beings among the educated people. The employment of scientific technique in almost every phase of human life has somehow given rise to a dehumanisation of the human. In so far as we are impressed by the successful scientific experiments, we ignore this dehumanism. Consequently, we are willing to allow science to reduce our own human status to that of a biological organism with a complex nervous system and brain. Now it is no more simply a theoretical question about our own reality because there are cases of actual manipulation of human body on behalf of the unquestioned assumptions about the organismic nature of human beings. Genetic engineering and neurophysiology are two fields of inquiry mostly active in this direction. This article is an attempt to point out a most serious philosophical issue arising out of this. This issue is that the scientist takes human thought and consciousness, which are the most valuable, unique and distinctive human characterisation, as secondary and insignificant aspect compared with the biological and physiological processes. Thought is considered as an after effect of neurophysiological processes of brain. Now this is an unjustifiable assumption which cannot in any way be verified. The reasons for the impossibility of reduction of thought and consciousness to neurological level are offered by many quarters. Some of the most important reasons are discussed in this paper.

The possibility of a science of human nature rests on the possibility of a complete scientific explanation of human brain and its multifarious functions. The science of neuro-physiology is usually considered to be advancing in that direction. Those who believe in the possibility of a science of human nature claim that it is possible to discover the causes of every kind of mental phenomenon within the neuro-physiological processes of the brain. The causes of these brain processes themselves are discoverable in the environment and heredity. Thus within this causal nexus of nature, there is no place for any kind of non-scientific explanation of the reality of human beings. In other words, human consciousness and thought has no independent reality. What

we usually believe to be our own mind is an effect of physico-chemical reactions. Whatever changes we experience in our mental life, whatever ideas and emotions we believe to be our own, are actually the result of the firing of neurones in the brain which discharge electricity.

This oversimplified, but basically confirmed picture of human nature, as propagated by science, is being displayed as an answer to many puzzles about human reality. In this paper I wish to argue that this project of a science of human nature is not only impossible but also misconceived at the very beginning. My basic contention is, that a scientist is unable to explain how a purely physiological process in the brain or an electrical discharge of neurones is converted into a thought. Thoughts cannot be reduced to brain processes because there is nothing common between a thought and a brain process. Any kind of reducibility of something to something else, necessarily requires a common element constituting both of them. Thought is essentially an activity of a knowing mind which has a non-observational reality. The questions and methods applicable to observable realities cannot be applied to that which is not observable, and to reject every thing unobservable as unreal, would not be science but scientism. There are many questions to which science, neither has nor can have any answers. The question about the reality of the human mind is one of them. And the answer, if not available, does not lie very far from us. It lies within us in terms of our own self-consciousness and direct involvement in our reflection about every thing.

The essence of the human mind lies in its power of understanding, in being self-conscious and in its struggle to make life more meaningful. The activities of the mind and thereby, the activities of intelligent human beings are essentially directed towards meaningfulness. Neuro-physiology cannot provide those meanings; rather it reduces these activities to knowledge less, non-conscious and blind process of transformation of energy of one kind into another. However, all such reductionist claims are self-contradictory because in claiming something, the reductionist is himself involved in a meaningful activity of mind. Certainly, no reductionist would accept that his claims are nothing but electrical impulses caused by physico-chemical processes in the brain and which are themselves caused by environmental and hereditary factors beyond his control. If he does so, then his claims would not be determined by meanings but by brain processes. In this case the claim would not really be intelligible. Intelligibility presupposes the existence of intelligence that cannot be derived from something having no intelligence in itself.

It is generally believed that an advance or improvement in scientific technique would enable the scientist to explain the presently unexplainable phenomena. Scientific explanation means that the object of observation has been brought under some law-like formulations, such that the scientist is now capable of claiming that under similar antecedent conditions in the future, the same phenomenon would take place. It is generally acknowledged that any exception from this regularity renders a thing simply unexplainable. Thus, a further probe is required for discovering some kind of regularity wherever there appears any irregularity or randomness. For example, the randomness of electrons at the sub-

atomic level is unintelligible and therefore unexplainable for the quantum physicist. Even characterising this phenomenon as the indeterminacy principle does not really explicate it because indeterminacy itself is not a principle. In so far as observable entities are concerned, it is required that these must exhibit some kind of pattern involving spatio-temporal relations. Only then can any phenomenon be brought under some kind of law-like formulations that might be given the status of natural laws.

Nevertheless, it is wrong to believe that this pattern of scientific inquiry can proceed in the direction of a satisfactory explanation of the nature of human beings. The reasons for this misdirected inquiry are that, "During the last hundred years or so, the rival theory of psycho-physical monism has become the dominant theory in Western science and philosophy. In this theory, man consists solely of a physical organism and it holds that every aspect of his experience, life and behaviour can be explained and accounted for fully on the supposition that the brain operates solely as a physical mechanism. All thoughts, all feelings, all perception and the control of behaviour are mediated by the complex electro-chemical events in the brain and the... "mind" simply does not exist."[1] It is believed that a complete neurophysiological account of the human brain would eliminate the need to look for any other sort of explanation about ourselves. Now obviously, this elimination or metaphysics from our mind and the elimination of our mind from our consciousness and finally the elimination of consciousness from our theories, leaves us at the mercy of blind natural forces, because all that in which we have been believing does not exist, or is not real.

If thoughts are nothing but highly complex effects of a highly complex and integrated network of neurons discharging electricity, then our purposive ends, intentionally and the deliberations involved in our mental life, become superfluous phenomena bearing no independent relation with human behaviour. Since the brain and the nervous system are connected with the external physical environment, the mental phenomena and consciousness become the after-effects of an all-prevailing, physical environment. B.F. Skinner has remarked,

> "Eventually a science of the nervous system based upon direct observation rather than inference will describe the neural states of events which immediately precede, say, the response, "No, thank you". Those events in turn will be found to be preceded by other neurological events and these in turn by others. This series will lead us back to events outside the nervous system and eventually outside the organism." [2]

If this is accepted then it means that all rational discourse is a product of neural events connected with the external physical environment. This means that every thought or meaning is not only determined by environment factors, but also predictable by the knowledge of these factors. In such a case, environmental factors would cause people to utter certain statements at certain times and not at any other time. Given the same factors again, the same utterances would follow and not any other. Any change in thoughts and feelings would indicate some

change in the environmental factors as causes of the mental changes. Under this assumption, there is no essential difference left between the noise coming out of an engine and the words uttered by people. Thus our thoughts must be as ineffective in bringing any change in our life as the noise of the engine is in increasing or decreasing its speed. This would be so, because the real push and pull would in both cases be something external to both, over which an engine or a person has no control, in the sense that the external factors are not caused by them. Rather, the noise or the thoughts themselves are caused by those external factors.

The confusion surrounding the claim that thoughts are determined by brain processes is the result of believing that all explanations are causal explanations, therefore, deterministic in essence. Donald Davidson argues that rational explanations are causal explanations, in so far as these employ the word 'because', which is a way of indicating a causal connection between reason and actions [3]. All causal explanations involve some law-like formulations such that certain observable antecedent conditions are claimed to be correlated with certain observable consequent conditions exhibiting regularity in following each other successively under similar circumstances. But this scheme of correlation is mistakenly believed to exist in the case of the relation of thoughts and brain processes. The mistake lies in overlooking the fact that thoughts are non-observational in character. This non-observational aspect of thoughts entails the impossibility of establishing any law-like correlation between thoughts and brain processes. If this distinction between the observable and the non-observable is kept in mind, the claims of discovering causal connections between thoughts and brain process becomes unjustifiable.

Moreover, any causal explanation of thoughts does not take into its account the relation of thoughts with persons, the subjects or the selves whose thoughts these are. In trying to individuate particular thoughts as particular states of mind, for explaining them as effects of certain particular brain processes, it is ignored that the individuation is being carried out at the cost of eliminating personhood. A neurophysiologist must not forget that, " a particular belief-state, a particular memory state, a particular sensory experience, a particular sequence of thoughts constituting a particular process of reasoning... are necessarily states of *persons*, they are necessarily 'owned' – necessarily have a *subject*. The necessity in question arises from the metaphysical-cum-logical truth, that such individual mental states cannot, even in principle, be individuated and identified without reference to the subject of which they are states." [4] This necessity reaffirms the non-observational character of thoughts in so far as a person does not *observe* his particular state of mind but possesses them. Neither can an observer, other than the person, observe the states of mind called beliefs or desires or reasoning of a person. This is because the observer, a neurophysiologist, is searching for observable process which he cannot find since what is actually present, is a relation of ideas undetachably comprehended by a knowing subject.

Even the characterisation of beliefs as states of mind seems to be misleading. The word 'state', is usually understood to be some kind of condition of an object. For

example, an object might be hot or cold at different times and this is the state of the object at those times. However, we cannot assign states to the mind of a person in a similar fashion. States of physical objects are occurrences, which are datable, but states of mind are not occurrences, which occur as a result of other prior occurrences. Rather, the beliefs are consciously held, as well as consciously formed by a believer, by thinking and reflection on certain problems. The interconnection of thoughts with other thoughts leading to the formation of rational beliefs and further reflections on those beliefs by the individual person, are activities of a self conscious mind having an intrinsic involvement with thinking and believing in something. There is no question of there being datable occurrences in this activity of the mind. In case of a mechanical process, it is in principle possible to point our just *when* and *where* certain *inputs* gave rise to certain *outputs*. Nevertheless, human *self-consciousness* and *reflexiveness* of thoughts eludes such spatio-temporal localisations. It would be absurd to imagine that a particular thought called a belief, is either on the right or left side, above or below, in the centre or around the periphery of consciousness. Similarly, it is impossible to tell at *what instant* of time someone believed in something. And it is also impossible to know *when* a person will think something in the future. Besides this, it cannot even be known by others as to *what* a person will think at a certain time in future.

This elusiveness of thoughts is somehow due to the nature of thoughts themselves. In other words, the reflexiveness of our thoughts makes them elusive in the sense that no thought process remains unaffected by other thoughts. Thus, for example, rational beliefs are not only formed by reflections, they are also affected and often change by one's own reflections. Therefore, if a rational being sets out to examine the causes of his own beliefs, he would necessarily reflect upon his beliefs. Nevertheless, in such a case, the person would face the difficulty that his inquiry into the causes of his own beliefs itself, becomes one of the causal factors affecting the nature of his beliefs. As a result of his inquiry into their causes, his beliefs will either be strengthened, weakened, verified, falsified or modified according to the reasons which he finds unavoidable if he is rational. Thus, the explanation of one's own beliefs itself determines to a great extent the very beliefs being explained[5].

In one way, this difficulty is analogous to the difficulty involved in the explanation of the behaviour of micro-particles at the sub-atomic level. Here the objects of observation are affected by the instruments of observation themselves. Consequently, it becomes impossible to explain their behaviour since exact calculations abut their position and motion at a single instant is not possible. However, this is as far as the analogy works, because the problem of overcoming the difficulty in explaining in both cases leads to opposite directions. In the case of micro-particles, the improvement in knowledge and technique might render the particles measurable and predictable in behaviour. However, in the case of the knowledge or awareness of the causes of one's beliefs, or other particular thoughts, the possibility of freedom from the determination of those causes increases for the person himself. This is so, because the nature of knowledge in both cases issues different. In the former case, the knowledge is observational

knowledge. Here the observer *is observing* something other than himself. Whereas, in the later case, the person's knowledge about himself or his own *particular* thoughts is non-observational. He does not observe his own thoughts as discrete mental occurrances quite detached from his self, and occurring in his consciousness without his consent. Rather, he is tries to know why *he* believes or thinks what *he* believes or thinks. He *searches* for the reasons for his beliefs and those reasons again would be *his* earlier reasons that he might reconsider in the light of his present knowledge about himself and his surroundings. This is what is meant by saying that reflecting on one's own beliefs or thoughts, affects those beliefs or thoughts. This then determines their influence on one's present beliefs and thoughts.

A scientific explanations of any phenomenon involves a language based on physical vocabulary. The concepts or statements are all based on quantitative, spatio-temporal references. Therefore, if a scientist sets out to explain the nature of thought, he would face the impossible task of converting the language of beliefs and desires into a language involving only quantitative references, by employing physical terminology. This would be done by pointing out discrete brain states at specific moments of time connected causatively with other discrete brain states at other moments of time. It is obvious that such an explanation is of an entirely different kind, and in no way can it be regarded as a description of the beliefs and desires themselves. It may be a description of those brain states, which are *supposed to* be associated with the beliefs. In addition, here, an uneducable duality of the two phenomena comes into focus. A particular belief or desire or any other particular thought involves a propositional meaning in which the *subject thinks* that something is true or something is the case. This in no way can be shown to be identical with some brain state or brain process where one could separate discrete constituent parts at various instants of time. Belief is not describable in any language involving physical vocabulary alone. Even if it were argued that a belief is *caused by* a physical brain process, still it would not inform us as to why in this case the subject believes that his belief *is true*. A belief, as far as the believer is involved in it directly, is necessarily a true belief in that no one can believe in something that he knows to be definitely *false*.

Thus, the question of the truth or falsity of a belief as a form of propositional knowledge cannot be settled independently of the believer. There is no belief, which is not the belief of a believer, just as there is no brain process, which is not the process of the brain. But where as in the later case the process could be reproduced in a laboratory because being a physical process it is a phenomenon of transformation of energy of one kind into another, in the former case, it is impossible to actually reproduce a believer who may start believing in the same thing under similar circumstances again. This shows that the question of truth or falsity of a particular thought called belief cannot be settled on physiological ground alone. Because in so far as the physiology of a particular brain state or process is concerned, the question of a true or false brain state in non-sensical. A brain state is neither true nor false rather it either exists or it does not exist at a particular time. While in the case of a belief we have seen that it is necessarily associated with the conscious apprehension of a proposition considered as a true

proposition by a conscious person. In philosophical language we might characterise this whole issue by saying that the scientist is trying to confuse the *phenomenology* of belief and desires or other thoughts with the *ontology* of the brain states.

One may object that there are *perceptual beliefs* about the nature based on perceiving the world in one way which might turn out to be false with the possibility of perceiving the world in another way. Thus, it may be claimed that the question of truth of falsity of such beliefs can be settled on physical grounds. But this again involves the same confusion as stated earlier. Perception itself is neither true nor false. Only the *description* of the perception may be true or false in so far as the description may or may not correspond to actual reality. The description of one natural fact may be logically contradictory to the description in opposite terms of the same natural fact. Moreover, these logical contradictories may be said to be the outcome of different ways of perceiving the same phenomenon. However, different ways of perception are only different and not contradictory. This is so because perception itself, either one way or the other, is a sensuous experience which is neither right nor wrong, neither true nor false. The vocabulary of truth does not apply here. Just as we cannot meaningfully say that a particular fragrance is square or triangular; or red or blue in the same way, we cannot meaningfully say that a perception is true or false. This is so because perceptions cannot be logically contradictory to each other. Only their description could be so. Nevertheless, the descriptions are not strictly identical with the perceptions. Both are different qualitatively, in that the former is a mental state involving a proposition as a form of thought, whereas the latter is a physical experience and the experience it is neither true nor false.

Therefore, it is only when thoughts are compared with other thoughts that the question of truth or falsity arises because of contradiction. Thus, the scientific explanation of a thought or a belief as an effect of a brain process cannot settle the question of truth or falsity of a belief in purely physiological or physical terms. Moreover, mere recording of an impression of an object perceived at different moments, though done in a language, is not subject to validity or truth unless the statements of the recorded impressions are compared or contrasted with other statements present as a form of background knowledge. The form of this background knowledge involves descriptions that are pre-established and there are beliefs about these descriptions. Any new experience of perception must be given a different description that must be compared with or contrasted with those pre-established descriptions. In this way the consistency or contradiction emerging from this comparison may lead to our decision in the form of belief as to which description is to be considered as a true description. Still this procedure sometimes does not work and the question of truth hangs in the air. This is obvious for example in case of the description of the macro-world in terms of Newtonian physic and deterministic laws, and on the other hand, the description of the micro-world in terms of the opposite and contradictory or non-deterministic principles of quantum physics. Although both kinds of descriptions are descriptions of the same world.

Now it is obvious that a deterministic language which recorded only the inputs and outputs of a neural process would be neural in so far as the recorded information is concerned. And the question of truth or falsity of a particular thought such as a belief cannot be answered in a deterministic language. Ordinarily this aspect of the problem escapees our attention. We do not usually concentrate on the prepositional nature of our knowledge because we need not do so as the structure of our language is something we accept as given and thus presupposed most of the time. However, it is a matter of philosophical importance that any perceptual experience necessarily involves a description in order to be intelligible to us. Other wise it remains an experience without thought and therefore there is no question of it being true or false. In addition, whenever any experience is recorded or described then the question of a correct or a true description necessarily involves reference to previous records or descriptions with which it might not be compatible. This reference to other thoughts for comparison involves a non-deterministic method. The method of determining the truth or falsity of a belief or a description of a perceptual experience necessarily involves comparison with other statements and beliefs forming an immense background knowledge[6]. This background knowledge, serving as a basis of establishing consistency in our theories about reality, remains or persists as a meaningful part of the human mind, which transcends deterministic formulations itself. There is no way in which it could in principles, be possible to layout in a neat diagram the whole thought structure constituting the immense background knowledge involved indirectly in the formation and reformation of meanings in human life.

Even if it is objected that the *physical event* of perception is the *cause* of the *mental event* as a belief, still it is true that the so-called mental event is in the form of a proposition describing the experience; and this necessarily involves a language constituted by certain meaningful symbols. The meaning of these symbols is apprehended by a conscious subject who establishes its link with the prior understanding of the same symbols. This relation leads us back to the history of the development of human consciousness using language and thought. Moreover, it is obvious that this development of the history of human consciousness is incomparable with any mechanical process in any way. Impressed by this fact, some philosophers have even defined the human mind as ability or a power to create and utilise symbols. Anthony Kenny contends that, "To have a mind is to have the capacity to acquire the ability to operate with symbols in such a way that it is one's own activity that makes them symbols and confers meaning on them" [7].

Thus, we have seen that there is a fundamental absurdity in the idea of isolating a belief from a subject's consciousness and examining it independently as a physical state of the brain. The explanation of a belief is possible in terms or other beliefs and thoughts which are in turn connected with still other beliefs and thoughts and so on. But this connection is logical and not physical. Moreover if a belief is casually explained as an effect of a brain process then we would have to take the belief itself as a brain process. Otherwise, we would have to explain as to how a purely physical process gives rise to a non-physical process. However, we have seen that the belief, or for that matter, any particular thought, cannot be

identical with the brain process. The mind-brain identity thesis in the philosophy of mind involves the fallacious reduction of a *power*, which is a unique power, to something which might in some way be called the *vehicle* of that power [8]. Even this characterisation of mind as a power residing somehow in a vehicle called the brain is not satisfactory. But whatever be the case, reductionism as a scientific thesis cannot solve the problem as to how the transformation of a purely physical process into a meaningful proposition in the subject's consciousness takes place. Moreover, the causal explanation of the human mind in terms of brain processes theoretically deprives the mind of its meaningfulness. If thoughts are nothing but the physico-chemical or electrical processes inside the brain, then we are all helpless victims of a blind, irrational, and purposeless mechanism accidentally manifested by randomly swerving electrons.

Some alternative views in the philosophy of mind are designed to avoid the basic difficulty of a dualistic approach as outlined above. These alternative views allow for the possibility that mental events are different from purely physical events in the brain. But at the same time, they reject the possibility of a disembodied mind. This rejection is based on the conviction that there cannot be a thought without a brain or there cannot be a mental event without a physical event. This is one of the theses offered by philosophers who believe that the mind and the brain or the mental events and the physical events cannot be correlated in terms of any deterministic laws. Donald Davidson calls this thesis "anomalous monism" [9]. However, this view again suffers from the defect that it cannot explain how the transition from the physical to mental takes place. For surely if it is accepted that there are mental events, then it must be accepted that the mental events are not physical events. Other wise there would be no point in using two incompatible concepts for the same entity. This shows that anomalous monism acknowledges a qualitative distinction between the mental and the physical. In addition, this qualitative different is something unexplainable under the monistic account of the mind.

Thus, in so far as the quality of being conscious about the world and about one's own self exists, and in so far as the question of meaning of life arises in the mind of individuals, it is clear that our mere quantitative analysis does not work. Therefore, scientists concerned with the possibility of a science of human nature might as well question their own presuppositions about such a science. For, if the presupposition about human nature turns out to be based on some *misconception* about man, then obviously the whole programme would, if carried on such lines, result in a false view. And if questions about human nature are always farmed in merely physiological or biological terms and the answers are also given in the same terms, then the scientific knowledge of human nature is going to be a dehumanising adventure ending in meaninglessness. This is so because the propagation of "...a reductionist concept of man and a reductionist view of life" creates in us what the psychologists call today an "existentialist vacuum" whence meaninglessness gapes at us.

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