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Language and Action

Artificial Intelligence and the Nature of Man

The possibility of computerizing some of the abilities which human beings have has led to a renewed interest in the traditional topic of the nature of man and, in particular, to a renewed interest in the nature of our cognitive abilities. Are there any limits to the transfer of human capabilities to these new machines? What are the crucial differences, if there are any, between natural brains and minds and the more and more sophisticated dataprocessing machines which are now changing our work and leisure in generations which tend to be more like the life-span of dogs and squirrels than such relatively long-lived creatures as parrots and human beings? For the time being, there is no consensus on such matters, which seems to me to be a very good reason for reflecting on some of the fundamental features of our species, in particular the abilities we have to speak, to reflect and to act.

The topic of the nature of man is indeed an old one. In the Western philosophical tradition, this has been a discussion field for more than 2000 years (and even longer in some other cultures). The outcome has been a proliferation of views rather than unanimity on central points. The philosophical conceptions of the nature of man are legion, from Plato's and Aristotle's picture of human life as action guided by reflection and experience, reason and emotion forming a harmonious whole, through Christian notions of man as a sinful creature partaking in the salvation plan of the Almighty God, to Hobbes' view of man as an egoistic and rational creature obliged to form coalitions with other egoists in order to safeguard his basic needs, and so forth.

Against the background of the manifold of views concerning the nature of man, Sartre's stance in *L'existentialisme est un humanisme* is very understandable: there is no nature of man which is given once and for all; as far as man is concerned, his existence comes before his essence; man is thrown into the world and free to form his own nature. Man is only what he makes himself into, proclaimed Sartre; he continued to state that man is responsible not only for his own isolated individuality but for all mankind. And so he became the spokesman for a secularized view of the nature of man, in which a Kantian ethics of responsibility played a prominent part.

Sartre's modernized version of Kant deserves sympathy and respect, but the quick leaps to the conclusions stand in need of scrutiny. One way in which philosophers can contribute to clarification of the problems of the nature of man is by reflection on the kinds of arguments which can be adduced for and against various concepts of man. How can we argue for and against propositions concerning the nature of man? I can think of at least two different ways here. Many statements concerning human nature which are claimed to be universally true have a more local validity than they pretend to have. The starting point for reflection on human nature has traditionally not included the predicaments of women, to take one example. If one talks to a person who thinks (like Frederick Taylor, the father of modern production technology) that men and women are lazy by nature and that it is necessary, therefore, to have both economic incentives and

close supervision to safeguard productivity, it may turn out that he/she is thinking of our kind of society only, and that he/she is uninterested in the kinds of arrangement which would perhaps be viable under different circumstances.

More or less local statements concerning human nature have a strong normative element in them. They form part of the perspective in which the world is regarded and are therefore not open to empirical falsification in a simple, straightforward way. But it would be unsafe to conclude from this that statements of this kind have no empirical elements in them. Sometimes statements of this kind are open to revision in the light of experience, though not in an immediate, straightforward way. It may take a long time to undermine a segregationist's view of man with arguments, but it is not a priori impossible.

The other group of statements on the nature of man which I have in mind consists of statements which are necessarily true. Man is sometimes said to be a rational creature. This can be interpreted as a statement to the effect that man is essentially rational, so that it is impossible to conceive of a creature lacking rationality without at the same time dispensing with the specifically human. It is a peculiarly philosophical task to try to establish statements of this kind with the help of thought experiments, reflection on the necessary conditions of human practices, and a critique of alternative views which are untenable for a priori reasons.

Language and Self-Reflection

Consider again Sartre stating that man is free and responsible both for himself and for everybody else. In order for Sartre to be able to state this he must be able to reflect on the predicament of human beings. A necessary condition for the possibility of commenting on the nature of man is having the ability to reflect upon the nature of man. One of the characteristics of human nature is, indeed, the ability to reflect upon what it is to be human. Self-reflection belongs to the specifically human, and this is a proposition which has more than local validity. It is an a priori truth which can only be seen to be true through reflection, for instance in the form of thought experiments to the contrary.

Are there any further conditions which must be fulfilled in order for us to be able to reflect upon our own situation? Descartes is one of those who have emphasized that self-reflection belongs to that which is characteristically human. "Cogito, ergo sum" expresses an insight into the fact that self-reflection is a necessary component in the existence of man. Descartes supposed that an isolated, bodiless consciousness could be able to reflect upon itself and the world. This is a presupposition which seems untenable.

Why is it impossible for a completely isolated mind to reflect upon itself and its world? One of the answers is: because a completely isolated mind cannot have a language. Descartes presupposed that the isolated mind is fully able to think, that it masters a good number of concepts and that it can use the concepts to make statements and perhaps other types of utterances as well. But is it possible for a completely isolated mind which has had no contact with other minds, not to speak of bodies, to learn to use concepts at all?

The notion of the isolated mind without body and yet in direct contact with the world presupposes that it is possible to have a language which is completely private and both practically and theoretically out of reach for all others. To see why this is impossible one can reflect upon what Ludwig Wittgenstein said in § 258 of *Philosophical investigations*:

Let us imagine the following case. I want to keep a diary about the recurrence of a certain sensation. To this end I associate it with the sign "E" and write this sign in a calendar for every day on which I have the sensation. - I will remark first of all that a definition of the sign cannot be formulated. - but still I can give myself a kind of ostensive definition. - How? Can I point to the sensation? Not in the ordinary sense. But I speak, or write the sign down, and at the same time I concentrate on the sensation - and so, as it were, point to it inwardly. - but what is this ceremony for? for that is all it seems to be. A definition surely serves to establish the meaning of a sign. - Well, that is done precisely by the concentration of my attention; for in this way I impress on myself the connection between the sign and the sensation. - But "I impress it on myself" can only mean: this process brings it about that I remember the connection right in the future. But in the present case I have no criterion of correctness. One would like to say: whatever is going to seem right to me is right. And that only means that here we can't talk about "right".

In order for the diarist to be able to decide whether or not E occurs he must have some method or technique for deciding whether or not E occurs. He must have a criterion which enables him to distinguish between correct and incorrect uses of the expression "E". The point can be generalized: all normal uses of language presuppose that there are ways of distinguishing between right and wrong uses. We have to have criteria for the correct use of our expressions, and the criteria cannot be absolutely private, for then the possibility of distinguishing between correct and incorrect uses evaporates. If there is a key to the code, there is no reason why just one individual and no one else should be able to use it.

If one reflects upon cases such as this, one can begin to see why the completely isolated mind could never acquire a language in the first place. All use of language builds upon the public use of language. (In this sense, private codes are parasitic upon some public language or other.) All meaningful use of language presupposes methods of correction. In this sense, all meaningful use of language can be said to be rule-governed. Such rules are usually not explicitly formulated, and sometimes they cannot be explicitly formulated; more on this later. Methods of correction in their turn presuppose an intersubjective space. Robinson Crusoe correcting himself in splendid isolation on his newfound island draws upon all the cultural resources he has acquired earlier in life, including his linguistic and conceptual resources. Linguistic activities are basically public activities in a common social space (which does not hinder isolated individuals from withdrawing from the rest once they have become members of the community). When we have learned a language through acting in social space, we can withdraw to solitude and reflect in private; but it cannot be done the other way round. Descartes assumed, however, that the process can be reversed. Wittgenstein's dialogue gives us some very good reasons for thinking that this cannot possibly be so.

The insight that language is essential for our being conscious, rational beings and the insight that language is essentially a social phenomenon are examples of non-trivial insights into necessary

circumstances. They are non-trivial insights against the background of Cartesian ideas about the possibility of isolated minds, which along with Platonic and Christian ideas about the separateness of mind and body have become part and parcel of the common-sense view of the world. The statement that man is a language-using, social and self-reflecting creature is not thrown out by me in an attempt to spread an alternative ideology concerning the nature of man. What I want to remind you is that there are circumstances which are basic to all ideologies of human nature. These are necessary conditions for the possibility of human thought and action and can only be uncovered by reflection. I regard uncovering of "transcendental conditions" of this kind (to use an expression which goes back to Kant) as a specifically philosophical contribution towards understanding human nature.

Conceptual Competence and Action

There are things which are so close to us that it is difficult for us to see them, like our languages and our bodies. The discovery of the central roles of our language and bodies in human existence is a late one. It belongs to our own century. Descartes, for instance, started from the assumption that man is a combination of mind and body, the problem being to account for their unity. The traditional ways of tackling the problems of human nature build upon the same kind of assumption: psycho-physical parallelism, for example, or various versions of "materialism" ("only the body exists really") and "idealism" ("only the mind exists really"). A more rewarding way of tackling the problems is to scrutinize the starting point which gives rise to the problems of body and mind: Is it possible to conceive of a bodiless, isolated mind having the properties which are usually ascribed to minds?

The assumption that a pure mind can have access to the world in a direct, speechless fashion lies at the bottom of traditional conceptions of knowledge and man ("rationalism" as well as "empiricism"). The pure mind confronting the world is somehow supposed to be able to label the things in the world, which, as it were, structures itself for the observing mind. At the end of the 18th century, even Kant, who emphasized the structuring role of the mind in the production of knowledge, did not discover the fundamental role of language.

To gain a perspective on the traditional labelling view of language one can reflect upon the conditions which must be fulfilled in order for us to be able to use simple everyday expressions. "Give me an apple", I said to my daughter when she was 19 months old, and she gave me an apple. How is it possible that my uttering those words could have that result? In order for my daughter to be able to do what she actually did she must have acquired a number of abilities and skills. She must have learned what it means to give someone something. She must have learned to distinguish between apples and other things such as pears and bananas and toys. She must have learned to grasp things with her hands. She must have learned to see in certain ways, e.g. to organize her surroundings as consisting of a certain thing (an apple) against a certain background. She must have learned the role of certain words in all this. An 18-month-old child has a more or less clear understanding of all those things. She might have had rather vague notions of what giving is, but she was well under way as far as elementary conceptual competence was concerned.

Conceptual competence is thus a complex, consisting of visual, cognitive, linguistic and motor abilities; the list could be added to. And those abilities are acquired more or less at the same time. It is not the case that the child first learns to see, to hear and to move, and only afterwards learns to use the culturally conventional labels for the things and processes and institutions it has already come to know. To learn a language is to learn ways of handling reality. To master a concept means to be able to do things. Conceptual competence is, then, internally related to action competence. Therefore it remains a mystery how a bodiless Cartesian mind could acquire even simple concepts such as "apple" and "toy". For normally the conceptual competence which is required to be able to think about oneself and the world is built-up conjointly with the corporeal competence which, by definition, no Cartesian mind can have.

Open and Closed Rules

All linguistic behaviour presupposes familiarity with rules in the sense that there must be ways of distinguishing between correct and incorrect uses of the expressions in point. This is the lesson one can learn from Wittgenstein's reflections on the solitary diary keeper. Let us distinguish between formulated rules and tacit rules. Legal rules are examples of explicitly formulated rules, at least to a large extent and in our form of culture. The rules of moving the pieces when playing chess is another illustration of rules which have been formulated and which can be reiterated verbally whenever the need for doing so arises, for instance in learning situations. But most of our actions are guided by rules which have not been formulated explicitly.

When I greet my colleagues, I usually go through some standard motions. If my colleagues actually take my motions to be greetings, then we might be said to take part in the same practice, being familiar with the same rules. The rules for greeting people in different kinds of situations are normally learned with the help of examples. One might be corrected, more or less clearly, if one does it in the wrong way. On the other hand one might not be understood at all, and have to make a new attempt. Similarly, there are hosts of rules embedded in more complex activities such as playing the soprano, dancing classical Russian ballet or acting as an executive in the financial world. And again those are rules which are normally not formulated to a great extent. Such activities have to be learned under the guidance of an experienced master. The musician, the dancer or the economist shows and explains; the learner listens and makes his own attempts. Through training (Wittgenstein even spoke of "drilling"), the student will gradually acquire the experience, the skills and the knowledge required for independent activity in the field in question.

In such learning processes, a number of rules are learned with the help of a number of examples. Sometimes, the rules are simple and can easily be formulated, if one wishes to do so. If somebody says "3, 6, 9, 12 - please continue", I would have no difficulties, and the rule embedded in the relevant actions can easily be formulated. I shall refer to rules of this kind, which even a computer can "learn", as closed rules.

But our rules of action are often more complex and demand more than computers can accomplish. Normally, our rules of action and thinking are firmly anchored in a number of paradigms or clear cases. The acting person must have a certain amount of experience and good judgement in order to be able to decide how one should best proceed from previous cases to new ones. When it comes to

such rules which demand both experience and good judgement on the side of the actor, I shall talk of open rules.

Clear examples of open rules demanding experience and good judgement from those who want to use them can be found in virtually any field of human action. For paedagogical purposes, it may be a good idea to turn to fields such as art, ethics and the law, where we find constant disputes about the correct application of a number of expressions. Should we, for instance, extend the use of the expression "work of art" to anything that an artist chooses to present as a work of art in a gallery or elsewhere? is digging a hole in the desert a work of art, at least when it is done by an artist or under the supervision of an established artist? Was it right or was it wrong for the judge to extend the use of the expression "negligence" from the set of precedents in the legal system in question to this particular case, with all its differences as well as its similarities to those preceding cases? And exactly when can an action be rightly referred to as an act of generosity, bravery, honesty, contempt, or disrespect? The only general answer would seem to be: when the action is sufficiently similar to the musters in the field; that is, the paradigms which make up the core of the meaning of the concept in question. And the decision about what is sufficient similarity requires experience, practical wisdom, and connoisseurship, which means mastering the open rules and paradigms so well that one can proceed with good results on one's own.

A one-sided emphasis on closed rules to the neglect of open rules is undoubtedly one of the main props of technocratic attitudes in our days. The contrast between technocratic practices and humanistic practices consists above all in the different emphasis which is put on those aspects of development processes, which can be dealt with in technical, logical and mathematical terms. This usually means that only those aspects which can be grasped with the help of closed rules come into focus.

Concepts are Embedded in Practices

If we learn about reality through language, it would be plausible to expect that different languages lead to different conceptions of reality. In the philosophy of language, the standard example is the different colour terminologies one finds in different natural languages. Where one language uses one word for "brown", another language might use, say, 600 different words, making it necessary for the language users to observe in different ways. Different colour terminologies demand different visual competencies from the users. And, in general, different concepts demand different competencies from the concept users, which implies that in some sense the users of different languages do not experience quite the same reality. It is, for instance, impossible to date the discovery of oxygen exactly, for the reason that our concept of oxygen has developed gradually. In 1774-1775, Joseph Priestley produced something which he referred to as "dephlogisticated air", but what he produced was not pure oxygen. At the same time, Lavoisier by heating the red oxide of mercury produced something which he called "air itself entire without alteration except that it comes out more pure, more respirable". But oxygen is neither dephlogisticated air nor pure air. Until his death, Lavoisier had a misconceived idea of the nature of the gas which he had managed to produce. The observations of Priestley and Lavoisier (and Scheele) must be considered as so many steps on the way to the emergence of the full-fledged concept of oxygen. In order to

apprehend the aspect of reality which we refer to as "oxygen", a conceptual competence is required which existed only in a rudimentary form at the end of the 18th century.

That there are internal (conceptual) relations between our concepts and the ways in which we act and comprehend reality is, I suggest, a necessary feature of all human practices. An illustration from the field of ethics will fit nicely at this juncture. Our views on what is right and wrong, good and bad, are closely tied to our views on human nature. That this is so is perhaps easier to see in others than in ourselves. When I taught philosophy at the University of Khartoum in the early sixties, virtually all the students came from the Northern Sudan. They were Muslims, with Arabic as their mother tongue or school language. The categories they used to grasp human relationships were the traditional Arab ones (as I gradually discovered). These were honour and dignity, decency and self-respect, courage and generosity (in certain senses of those words or, rather, the equivalents of those words in Arabic), and so on.

The view on the nature of man which my Sudanese informants communicated to me was that all human beings are naturally endowed with characteristics which can be referred to as "dignity", "honour", "self-respect" and "decency". Women and children are, however, weak and stand in the need of the protection of adult men (the father or guardian, the husband, the oldest son). Women are above all carriers of virtues such as decency or modesty and honour. If a woman loses her honour in this sense, this will also affect the honour, in a wider sense, of her family and relatives. The dignity and self-respect of an individual depend upon the family's honour. This makes them vulnerable to "insults". Therefore it becomes extremely important to behave in such a way that it becomes perfectly clear that insults are not "accepted". What this means can only be clarified through examples. It is because women and children do not react with sufficient emphasis when insulted that it is difficult to say that they have dignity. The same applies to the "slaves" who are the descendants of the captives taken in the south in the last century, and of course to foreigners.

The concepts of honour and dignity, decency and self-respect play a fundamental role in the Northern Sudanese view of the world, and not only there. These conceptions also belong to the cultural heritage of the Arab world, including both Muslims and, for instance, Egyptian Copts. (In Islam, the already existing moral notions were modified, but they build upon already existing concepts and practices.) The concepts of honour and dignity etc. help to structure the world in ways which are not totally unlike the role which Kant ascribed to the categories (causality, unity and manifold, etc.). When Napoleon arrived in Egypt in 1798, he wanted to impress the natives by launching a "montgolfiere", a newly invented large balloon filled with hot air. An Arab chronicler described the event in the following way: "The French fabricated a monster which rose up into the sky with the intention of reaching and insulting God. But it rose only to a feeble height, then fell back, ridiculously impotent" (quoted from Patai R (1973) *The Arab Mind*, Charles Scribner's Sons, New York, p. 270). The French engineers witnessed a process which they could describe in physical and technical terms. The Arab onlookers saw something rather different in terms of their categories of dignity and respect, insults and ridicule: an impious attempt to affect the dignity of God, which naturally did not succeed and fell back on the dignity of the perpetrators themselves, who suffered a great loss of face.

Universal Conditions and Local Variations

The examples which I have given in the last few paragraphs illustrate, like the Taylor example in the beginning, views on the nature of man which have no more than local validity. The Northern Sudanese views on human nature and dignity apply strictly only to that part of the world and only to those who happen to speak Arabic or who are affected by these aspects of Arab culture. It seems reasonable to expect local variations also within this subculture. Similar notions can be found in the rest of the Arab world. The common Arab notions resemble a number of other notions which are to be found around the Mediterranean, in Spain, on Sicily, in Greece, and so forth. But even this multitude of concepts does not lead in a straightforward way to a version of the doctrine of ethical relativism.

To see why this is so it will be useful to introduce a generalized version of Kuhn's notion of paradigm. In the same way as the doings of chemists are determined by their paradigms, including their general views on the nature of the territory they are investigating, one could say that the doings of anybody engaged in a practice of a certain kind are conditioned by his paradigm, including his views on the aspect of reality in question. The core of a paradigm, in the sense intended here, consists of a number of key concepts, the paradigm cases which fix the meaning of the concepts, and a number of views on how to proceed with the activity in question, the nature of the territory one operates upon, and so on. Human practices can then be seen to be tied to paradigms by necessity, and this might help us to grasp the status of the first type of statement upon human nature (those which are not unconditionally true a priori but have a more local validity). precisely which statements of this kind there are in different paradigms and practices is a contingent matter, but that there are statements of this kind, in some empirical concretization or another, is not a contingent matter but an a priori truth. If we reflect upon the nature of man, we shall, I think, discover that there are a number of universal conditions for humanhood, which function as limits upon the range of what is possible in the field of culture in general and in the field of ethics in particular. It would seem safe to predict, for instance, that in any human society with a minimum amount of stability over time there must exist some notions of self-respect and respect for other human beings, at least within one's own society. The constraints imposed upon us by our biology and geography together with the constraints which are contained in the very notion of a viable society certainly open up a wide range of solutions to the given problems. But the range is not totally open. In this way, further work on the nature of human nature would seem to be able to shed some light on the age-old controversy over ethical relativism and universalism.

Notes and Further Reading

This paper brings together a number of themes which I have dealt with in a number of publications over the last few years. An early version of the paper was published (in Swedish) in Göranson, Bo (1978) (ed.) *Ideologi och systemutveckling*, 2nd ed., Studentlitteratur, Lund; as well as in Skirbekk G. (1983) (ed.) *Praexology*, Universitetsforlaget, Bergen.

The distinction between open and closed rules was presented in my contributions to Göranson, Bo (1984) (ed.) *Datautvecklingens filosofi* [The Philosophy of computer development], Carlsson &

Jönsson; and again in 1987 in my paper Moral rules and paradigms, *Archivo di filosofia* LV(1-3) (1987).

Jean-Paul Sartre's *L'existentialisme est un humanisme* (Nagel, Paris) was first published in 1946 and has been widely translated into other languages.

Wittgenstein's *Philosophical investigations* (Blackwell, Oxford, 1953) is the first in a long series of publications based upon the manuscripts that he left to his literary executors when he died in 1951. Unfortunately no critical editions have been published so far of any of Wittgenstein's writings.

Familiarity with rules and other aspects of tacit knowledge is a main theme in the writings of Kjell S. Johannessen. See, for example, his paper Rule-Following and Intransitive Understanding, in *Artificial Intelligence, Culture and Language: On Education and Work*. It is a pleasure for me to acknowledge Johannessen's influence on my philosophical work.

The distinction between technocratic and humanistic practices forced itself upon me when I took part in a number of related projects at the Swedish Centre for Working Life in Stockholm in the late seventies and early eighties. See further: Nordenstam T. (1985) *Technocratic and humanistic conceptions of development*, Research report no. 51, Swedish Centre for Working Life, Stockholm; and Nordenstam T. (1985) (ed.) *Research and development in the Sudan*, Khartoum University Press, Khartoum.

Thomas S. Kuhn presented his concept of the paradigm in *The structure of scientific revolutions* (University of Chicago Press, Chicago; 1st ed., 1962; 2nd ed. 1970). The oxygen example stems from Kuhn's book.

On open concepts in art, ethics and the law, see for example: Weitz, Morris (1956) The role of theory in aesthetics, *Journal of Aesthetics and Art Criticism* XV, reprinted i.a. in Margolis J. (1978) (ed.) *Philosophy looks at the arts. Contemporary readings in aesthetics*, revised ed., Temple University Press, Philadelphia; Tilghman B. R. (1984) *But is it art? The value of art and the temptation of theory*, Basil Blackwell, Oxford; Nordenstam T. (1968) *Sudanese ethics*, The Scandinavian Institute of African Studies/Almqvist & Wiksell, Boktryckeri Aktiebolag, Uppsala; and E.H. Levi's brilliant little book, *An Introduction to legal reasoning* (University of Chicago Press, Chicago, 1961).

The generalized notion of paradigm goes back to Håkan Törnebohm. See, for example, Nordenstam (1985) *Research and development in the Sudan*, and a number of research reports by Törnebohm in the report series from the Department of Theory of Science, University of Göteborg. Universal conditions and local variations is the red thread in my current work on ethics (the project "Culture, Ethics and Development").

