

Visions of nature, and their significance for ethical and philosophical questions generally

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Ladies and gentlemen,

There is an old division of philosophy into 3 main branches, viz. physics, logic, and ethics. This division dates back to classical philosophy, more precisely: to the school of Plato. Physics bears upon our view of the physics, reality or nature, its constitution and structure. Logic is the theory concerning the logos about valid knowledge and right reasoning. And ethics is that part of philosophy that deals with the ethos, right action and the good life. Or in other words, that branch of philosophy that is engaged with the study of normative questions. Still today, many philosophical faculties are organised according to this scheme.

In classical and medieval and often still in early modern philosophy this division into 3 main branches did not mean a separation, quite to the contrary. Philosophers had come to realise that in the three domains questions of a different kind were at stake which required a specific approach. But they had no doubt whatever that the tree branches were closely linked together and presupposed each other reciprocally. To give an example: the Aristotelian ethics presupposes a philosophical anthropology that divides the psyche into a rational, a semi-rational and an irrational part. The rational part has to live up to the intellectual virtues, which are concerned with wisdom or pure knowledge (so they are outside the scope of ethics). The irrational part is impervious to virtues, it can only be controlled from the outside. The semi-rational part is the sphere of the emotions which have to be ordered by means of the moral virtues, that is good habits which have to be acquired by education and habituation. So an image of human reality is one of the pillars of Aristotelian ethics. Analogous stories could be told about Epicurean and Stoic philosophy. Stoic philosophers developed a highly specific view of nature ('physics') and made valuable contributions to logic. But both were in the service of their theory of wisdom, i.e. their ethics (for that reason they are referred to as an ethical school). Consequently they compare philosophy to an orchard, of which logic is the enclosure, physics the fruit trees and ethics the fruits. And of course, in their outlook it is the fruits what it is all about. But the orchard of philosophy cannot do without the hedge and the trees. So, once again, although philosophy is divided into 3 clearly differing parts, nevertheless it forms a unity and the analyses in the different domains mutually refer to one another.

In modern post-medieval philosophy the picture changes drastically, to be sure not immediately in factual respect, but positively in principle. Now, we see a separation of the 3 sub-disciplines taking place, and the gaps between them are deepening ever more. A disconnection occurs, of logic from ontology and ethics, of ontology from logic and ethics, etc. So ethics (or axiology) can no longer rest on a view of reality, norms and values cannot be deduced from facts (already Hume and Kant hold that impossible and illegitimate, and Moore will coin the expression 'naturalistic fallacy' for that). And

neither can norms be obtained by way of logical reasoning.

But whoever looks on attentively, sees that still there exists a connection between ontology and ethics, not so much a direct but rather an indirect one. The image of reality that is characteristic for mainstream modern philosophy (often rather implicitly) is the Newtonian or Cartesian view of nature. That is to say, the image of a nature as an ensemble of dead, mute and inert things or particles, that must be set in motion by external forces (in this universe the order and activity come from the outside). As dead, blind and deaf objects, all natural entities do not possess an inside, neither consciousness or a striving of their own. Nature, in short, is stripped of a teleological dimension altogether (as Kant says: purpose is a stranger in natural science), it is a place where only blind causality reigns. And ,after all, it is a vision of nature that has no place for so-called secondary and tertiary qualities, i.e. colours, sounds etc. and values which also do not belong to the fabric of things. Nature, in short, in this outlook consists exclusively of anonymous external physical things and processes.

Because man experiences him- or herself as an active, willing and striving being, he is forced to place himself outside nature, to subjectivity qualitative experience and the phenomenon of normativity, All of this is only occurring in his mind, so he is the producer of qualitative experience (colours, sounds, etc.) and the author, source and locus of values.

But if the material world, in which also our physical bodily movements are occurring, is a closed, causally determined world (according to Newton, Laplace, etc.), what about the freedom of the will, or more generally the possibility of morality or a legal order? And if mind and body belong to two totally different types of order, how can they affect one another? And if norms and values do not have an objective status, aren't we left with an inevitable subjectivism and relativism? These 3 problems, to leave it at that for the moment, that of the freedom of the will we are not able to place in this outlook (Schopenhauer even called it the world knot), of the insoluble mind-body problem (or the 'mystery of consciousness', as Searle terms it) and of ethical relativism are the inescapable consequences of the Cartesian/Newtonian view of nature that for a couple of centuries was taken for granted in modern mainstream philosophy.

However, just in the natural sciences a series of fascinating developments has taken place in the last 4 or 5 decades, developments pointing in the direction of a new image of nature, and to my mind offering opportunities for a breakthrough of the philosophical deadlocks I mentioned just a minute ago. (For this reason, but anyhow, it is a pity that that the great majority of philosophers already for some 1½ century do not pay much attention to the developments in the natural sciences – this in contrast to many great philosophers as Descartes, Spinoza, Leibniz, Kant to Plessner, Cassirer, Popper and others in the last century. It is highly regrettable and even harmful to philosophy that it retreated ever more to the humanities and the social sciences, in short, that in philosophy man is predominantly occupied with himself, perhaps one should say: obsessed with himself.)

Of course it is impossible to try in a few minutes to give a sketch of the new vision of nature that is taking shape and of the philosophical consequences thereof. Yet something of an attempt. Here are some of the main characteristics of this view of nature (I only mention those that are of interest to my subject):

1)

First, in contrast to the Newtonian image of nature, it does not so much consist of things (elementary particles) as of structures or configurations. In this manner thinking in terms of substances is replaced by thinking in terms of relations or fields. Or, still otherwise, the central, pivotal notion is that of a system as a body of interdependent components which are characterised by a common form of organisation and a common way of functioning. A system, in this way, is by definition more than an addition of parts (an aggregate). For the way of being and behaving of the parts is determined by their place and function in the system as a whole. Exemplary case in this respect, of course, is the organism. Properties in this outlook are connected to configurations, that is the way in which the components are organised. So they are primarily systemic properties. The implication of this is that different kinds of organisation bring along with them different properties.

2)

Systems exhibit diverse levels of complexity with corresponding qualities and ways of behaving. And so they exhibit also different forms of order and causality. (there are therefore various kinds of regularities and causality.) That means that an increase in complexity beyond a certain threshold leads to new types of phenomena with corresponding new properties. These emergent phenomena and properties as they are called are not explainable and predictable in terms of the regularities at the lower levels. So this outlook on nature is anti-reductionist.

Once more the organism is exemplary: it has a way of being and functioning of its own which are not explicable (not sufficiently at any rate) in terms of physics and chemistry: physical and chemical theories are not able to explain the very special way in which the physical and chemical processes cooperate in the living organism. That means that the lower-order processes are directed from or 'overformed' by the processes at the higher-order level. Beside bottom-up causality there are all kinds of so-called 'downward causation' at work.

3)

Nature, in the perspective that is taking shape, possesses the potential of self-organisation, that is of ordering itself from within in connection with its measure of complexity – once again contrary to the Newtonian image where in a dead and passive universe all of order comes from without.

So, this is the picture of an active, dynamic universe, already on the level of matter (which is, already there, an affair of form and configuration and even of spontaneity, to a low degree, but nevertheless). And this feature of active self-ordering comes to the fore increasingly when we ascend the ladder of ever more complexly organised entities.

The phenomenon of time affords an interesting example in this respect. Already on the chemical level quite a series of reactions exhibit their patterns of oscillating and pulsing

in a special rhythm of their own, the so-called chemical clock. And still better known are the biological, the psychical etc. clock. That is to say that many different types of entities develop from within their specific kinds of time.

Now, life, consciousness and mind are emergent phenomena appearing at certain levels of highly complex self-organising systems. They are in other words perfectly natural phenomena, and in no way exceptions or strangers in the natural world, as for instance Kant thought and in his manner Monod, when he called human beings gypsies at the edge of the universe.

Consciousness, to confine myself to that, is an emergent feature of organisms with a high level of organisation and centralisation. Well, here in principle lies the solution to the mind-body problem and also to the problem of the freedom of the will. Consciousness is not an epiphenomenon of brain processes, unilaterally dependent on lower-order (neurological and physiological) phenomena. It has its own way of being and of activity, its own potential of influencing and guiding the bodily processes. For instance are we not simply the direct object of bodily functions, but are we capable of directing and training them willingly in a certain way (by way of downward causation, therefore). People are in a certain measure even capable of delaying the moment of dying till a family member from a far-away country, say Australia, has arrived.

An important characteristic of consciousness is intentionality, that among other things has to do with meanings, e.g. of a social and cultural kind. So, for example, in certain cultures people get sick already at the thought of eating the meat of holy cows or of pigs, or get angry when their gods are insulted. Those things simply cannot be explained in neurological or physiological terms.

So, with that in a sense self-reliant level of consciousness (better: of a certain type of consciousness), a platform for the freedom of the will and with that of the possibility of morality, law etc. has been created., a solution for an insoluble problem in the exclusively bottom-up thinking, reductionist Newtonian universe. That does not mean that with this the mystery of the freedom of action and will, and more generally the mystery of consciousness, has been cleared up. How external phenomena such as brain processes which are accessible in the third-person spectator attitude have an inner side that is only perceivable in a first-person subjective way, will probably for ever remain a mystery, whatever will be elucidated about it. But that mystery is in principle not greater than the miracle that amino acids in certain complex configurations develop the properties of life. Or, more generally, that with the crossing of thresholds of complexity as it were out of the blue new types of phenomena with wholly new properties appear. From this viewpoint nature is full of mysteries. It might, therefore, be illuminating to call to mind a statement of nuclear physicist and philosopher Carl Friedrich von Weizsäcker, viz. that physics (and one can add, the natural sciences more generally, or even every way of looking for understanding) does not explain the mysteries of nature, but reduces them to deeper lying mysteries.

The same is true then, once again, for the mystery of the freedom of the will and of action. But what has been gained by a train of thought I have developed in this contribution is that the phenomenon of the freedom of will and action has been released

from its position of an exceptional fact in a one-dimensional causal and closed nature and can be considered as a natural given of reality with a standing of its own. Thereby it would also be rescued from the pressure to secure its right to exist again and again against reductionist views of nature.