

Truth, Good and Justice in Scientific Activities

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The problem I would like to present is whether it is possible to provide a contemporary version of the “philosophy of the ancients” on the mutual conversion of the transcendentals: *quodlibet ens est unum, verum, bonum* (Kant, *Critique of Pure Reason*, § 12)

I was encouraged in this endeavour by the extraordinary declaration of a thinker who, nonetheless, is regarded as diffident towards philosophy, the political theorist John Rawls. At the beginning of *A Theory of Justice* he wrote: “Justice is the first virtue of social institutions, as truth is of systems of thought”. Seeing justice, and not good, at the top of the hierarchy of the transcendentals should not unsettle us. We shall not waste time in proving that justice too is a development of the idea of man, insofar as good, besides a personal appraisal of what is valuable to me, postulates a reference to the other and also to the person of the other in his or her farthest representation, that is his or her ability to appear as my peer in just institutions. More clearly than Rawls, I shall consider the idea of justice as extension of the idea of human good, since it circulates from me to my neighbour and from my neighbour to other more distant people. I will thus consider the notions of good and justice partly equivalent in the human social order.

I argue that the mutual convertibility of the transcendentals good and truth first of all presupposes their distinction, that is to say the possibility of thinking of one without the other. Only subsequently will it be possible to establish their reference to each other or the implication of the one through the other. This level is exactly where good and human justice are involved in the activity of scientific reason recognised as the vocation, task and mission of the scientist.

I – FROM TRUTH TO JUSTICE

I will begin by examining the truth/good-justice relationship and end with the justice-good/truth relationship, where my contribution should be more original – or at least more personal.

Thus I will speak firstly of the self-sufficiency of the notion of truth in relation to the other transcendentals, before trying to situate the point of intersection, if there is one, of the idea of justice along the journey of thought towards the truth. In short, first of all it is necessary

to think of the theoretical according to its own need and immanent dynamics, before resuming what Plato would have called a “second sailing”. This means that this need and this dynamics under the sign of practice leads us to think of the theoretical as an activity or *theoretical practice*, which should also be situated in the field of practices. Just like practice of this kind, the search for the truth can be placed under the aegis of justice. But first of all it is necessary to reflect on the theoretical inasmuch as it is theoretical.

In my opinion, theoretical truth – in its historic journey towards the recognition of its autonomy – can be encountered not only in theoretical philosophy but also and increasingly in the sciences of nature, considered in their full range of topics. It is what Claude Allègre has pointed out in an excellent book in which he draws the balance of the discoveries of this century starting with the computer, and going on to biology (DNA’s double helix), information technology, quantum mechanics, the chemical explosion (this is his wording), astrophysics, the order of chaos and, last but not least, the neurosciences. The common denominator is the idea of *discovery* and discovery is an organised form of the *observation of nature*. I would like to insist on the term *nature*. Indeed, it has enabled us to put mathematics back in its slot as a discipline of forms, numbers and relations as rational constructs pursued for themselves and not as constituting *the* science of reference. As Claude Allègre writes, “contrary to the sciences of nature, mathematics does not develop by virtue of an oscillation between observation and theoretical model” (p. 429). This is probably the reason for the perhaps excessive and certainly controversial title – *La défaite de Platon* – he has given to this extraordinary overview of science in the 20th century.¹ With the sciences of nature what is at stake is the knowledge of what is real and it is truth that qualifies the relation of theory to what is real in the sciences of nature.

The second reason for concentrating on the sciences of nature to make the demand for truth arise in its theoretical purity is provided by Jean Ladrière throughout all of his epistemological works and, more in particular, in an essay entitled *Herméneutique et épistémologie*²

1 Claude Allègre, *La défaite de Platon, ou la science du XXe siècle*, Fayard, Paris 1995.

2 Jean Ladrière, *Herméneutique et épistémologie*, in P. Ricœur, *Les métamorphoses de la raison herméneutique*, éd. du Cerf, Paris 1991.

published by Paul Ricoeur in the book *Les métamorphoses de la raison herméneutique*. He does not try to distinguish the project of the sciences of nature from that of the mathematical subjects, but from that of the human sciences that can rightly demand to derive an explanation from comprehension. Thus it would be a serious mistake – and this mistake might be the temptation of a sketchy and nebulous hermeneutical thought – to believe that the whole problem of the status of science can be rebuilt on the model of the de-subjectivation of the products of action. Precisely because of the fact that we cannot understand the production of nature as an action similar to those that initiate from us – something that could be believed until Galilei and Newton – we have to observe and explain it.

At this stage of the reflection we find the role of models and the general process of modellisation. It occupies the place left empty by the comprehension of the action for which we take the initiative. Once again we find mathematics, discarded as a paradigm of truth, as a means to build *models*, which are not mathematical objects but figurative representations of the legality of what is real.

I think that to draw at least a general outline of scientific truth, its fate is essentially linked to the *representation of the model*, an issue which has become central in epistemology. To this end, during the course of the development of sciences in the prodigious 20th century, nothing will come to deny the formal definition of the truth of science as the adaptation of the mind to the reality of the phenomenon of nature. Truth as *sôdzein ta phainomena*. And no idea of justice (or good) is necessarily implied by this idea of adaptation in oscillation, which Claude Allègre mentioned above, between theory and observation. Nothing, unless we do not consider exclusively the *propositional* form of the observation protocols, of the construction of the model, of the verification and denial procedures applied to the alleged theoretical enunciations.

Things change – and the idea of justice stands out at the end of the journey we are about to undertake – if we consider *episteme* no longer just a network of propositions, which Frege said we should be able to write on a wall, but as a *project*. The idea of project is already situated at the border between the theoretical and the practical. Well, this is precisely where truth and justice intersect. And truth is intended in a broader sense with respect to the propositional truth deriving from verification operations or to the representative models by

which theories become accessible to the human being. This is truth as the common horizon to the comprehension of the operations that lead to the action and to the explanation of natural facts and, moreover, to the comprehension of the fact of being in the world, against the backdrop of which are outlined the comprehension of action and nature. But why justice? Because along all of this scale that goes from the project to the task, passing through the unpredictable, a community of research is implied.

This is well known at the level of the science of nature, in which the scientific community is the collective subject of research, with its teams, its rivalry, its power struggles, but also its vocational unity before the other powers, its exercise of professional responsibility before technical applications, in short the search for its place in the triangle of *episteme*, of technique and politics.

This is precisely the level in which justice is involved in this enterprise of reason recognised as a task. And it is implied at the same time as the intersubjective structure of practical reason is implied, which is common to the scientific community, to technique and to politics. Justice, in all of these cases, consists essentially in the equal access to speech, in the duty of sharing the best arguments, in the obligation of listening to the other side in all conflictual situations. In short, the conflictual-consensual statute of *research* – at all levels – indicates the space of justice.

II – FROM JUSTICE TO TRUTH

I shall continue with the dialectic current, which, starting from the self-sufficiency of the idea of goodness developed in the notion of justice, continues by a further reference to the idea of truth.

In order to find the truth in the notion of good and justice it is necessary to look to the anthropological presuppositions or fundamental anthropology, which determine entry of the human being into ethics. These fundamental presuppositions are those by virtue of which man is considered existentially *capable* of receiving the injunction of good and justice. The originality of the existential sphere in which this capacity moves is a completely original situation that we may call the emergence of freedom. Christian thought – well before the moderns and with the same, or more awareness than them, regarding the independence of the human subject – had called freedom the *motor omnium* of a person's capacities and the principle of that person's independence (therefore *capax* as *causa sui*) both before nature and society, and before God. Speaking of capacity and freedom, assertions

are made that refer to what man is in his way of being, therefore if it is true that he is made to be accessible to a moral, legal or political problem, be it merit – or demerit – worthy, or broadly speaking, to a problem of value.

The idea of capacity and freedom traverses the entire field of philosophical anthropology: one cannot compile a complete philosophy of language, action, poetics or narrative (as P. Ricoeur demonstrates), without recurring to the idea of “I can”. I can speak, act, tell a story. I can act or not act: I am free. Now, this range of capacities is prolonged at the level of morality by the notion of *imputability*.

Thus, our relation with the obligation of acting according to a rule – of repairing the damage – of suffering a punishment, presupposes this capacity of entering into the circle of obligation, that is, the capacity of an agent to submit his action to the needs of a spiritual order or, more simply, the capacity of entering into a symbolic order. The strength of the idea of symbolic order consists in encompassing in a single emblematic notion the many presentations of the moral injunction: imperative, advice, opinion, stories of exemplary lives, praise for moral sentiments, of which respect would be one next to others such as admiration, veneration, guilt, shame, mercy, solicitude, compassion and so on. The symbolic term, moreover, calls to mind, because of its very etymology, the fact that those figures, which together constitute the schematism of the injunction, work as signs of recognition among members of a community.

Finally, other developments are at hand, such as the capacity for impartiality, examined by Thomas Nagel, that is the capacity of each to adopt a loftier point of view compared to one's own self-interested point of view, in order to be able to affirm that every other life is worth as much as one's own. Contractualist theories, including Rawls' theory with the hypothesis of the original position and the fable of the veil of ignorance, rest on this capacity to be impartial. In short, this capacity constitutes the capacity of adopting a *just* point of view, that is to say one that is distant from the passion of conflict and from a vindictive spirit that still dozes in the heart of indignation.

I will not continue along this path. I just wanted to suggest that the *phenomenology of imputability* is not a blank page or an empty file. It offers a sufficient basis for the interrogation that is the stake of our inquest, the question of knowing what is the true standard of the propositions that focus on capacities, the range of which we have presented, from the “I can speak”, the “I can be fair”, to “I am free”. However, what do I want to mean when I say, it is true that I can, it is

true that I am a capable being. The truth admits in itself a polysemy correlative to the framework considered. The significant fracture, according to an analysis that I share with Jean Ladrière, passes between action and the natural phenomena placed under the so-called mechanisms of nature, according to rules of subsumption corresponding to the different types of explanation.

Action, on the contrary, is understood as the theme that in the final analysis refers back to the Greek mandate 'know yourself', to the 'Neumatology' referred to by Hegel:³ knowledge of myself that can even take the form of a tale, of an autobiography and through an autobiography. The same is true for the range of the fundamental capacities of human action. Thus we are dealing with what in the praxes that are different from this scientific theory and technologies can be deemed the genetics of action that belong to fundamental anthropology. Reflection on praxes expresses the point of convergence because it indicates the path that leads to the end, i.e. perfect human work as fullness of the act. The success of work (*ergón*) can only be observed in the perfection of praxis itself (*energeia*) in relation to its end.

Thus the action shows that man proceeds for an end and thus that he himself is the principle of action. In the vast field of activity, the human being considers himself responsible for his own action. This means that he can go back from the observable effects of his actions to the intention that gives them meaning and even to the mental acts which create finalities that generate the intentions and the observable results. Thus the action not only exists to be viewed from the outside, like all the natural phenomena of which it is part: it exists to be understood beginning with expressions that are at one and the same time the effects and signs of the intentions that give meaning to it and with the acts that create meaning that at times sometimes produce such intentions. It follows from this that man's knowledge is not a matter of a single plane or level – that of external observation, explanation, and experimentation (as a reproduction of phenomena): this knowledge develops in the interface between the observation of nature and reflective understanding. The human being is contemporaneously an observable being, like all the beings of nature in which he participates, and a being who interprets himself, (a 'self-interpreting being' to employ the phrase of Charles Taylor).

This is where the true function of attestation intervenes. It

³ *Enz.* § 378.

operates with the first natural principles of reason but it moves them within the transcendent truth that is the soul as a spiritual free subject. Thus even the soul lies hidden in the bosom of each of us, but it makes its presence felt with the action of which the 'I' or the self is the beginning and end. We can say that this knowledge is a form of belief, a *Glauben*, in the non doxic sense of the term, if we reserve the term *doxa* for a degree lower than *episteme* and in the order of the phenomena of nature and also in that of human phenomena liable to being treated they themselves as observable. To this meaning of truth, which is the one contained in the first part of this paper, corresponds the need for verifiability and proof of 'non-falsification', according to Popper's conception. The belief proper of attestation is of another order; it is of the order of conviction and confidence; its opposite is suspicion, not doubt, or doubt as suspicion (P. Ricœur); it cannot be denied, but refused; it cannot be re-established and strengthened if not through resorting again to attestation, and is rescued by the approval of the other, indeed thanks to some kind of gracious divine support. In this context to which fundamental anthropology refers, one can observe that one is dealing with a truth that is closely connected with the fundamental conviction that the human being has of himself and which is not developed by a syllogism as is the case with the acquisitions of the arts and sciences and philosophy itself with which, however, it has a close relationship, and thus one speaks of 'philosophical anthropology' to refer to its specific genre of knowledge through reflection that takes place by stages.

This statement on the various objective levels of knowledge and self-awareness of the human being, can provide an answer of reconciliation and pacification to the question raised by the status of the human being in the age of science's predominance, as long as, that is, positivist ideology does not claim the right to abolish the border between the sciences of nature and the sciences of man and to annex the latter to the former.

[Three conflicting loci should be considered in order to achieve a real comparison between the objective or naturalistic approach of science and the approach of philosophical anthropology that we can term 'ontological'. These three controversial loci are the framework of biology concerning states at the beginning and end of human life, the field of the neurosciences, and, finally, the fields of genetic mutations and the sciences of heredity whose point of arrival are the theories of evolution. Of course of these three fields, I will only outline here the conditions for a reasonable expression of the two analyses of man, that

of the sciences and that of anthropological and ethical philosophy, in biology.

In terms of the biological sciences, the scientist is expected to seek at the cellular level the correlation between the observable cell and the beginning of actual human life. The biologist affirms that the first embryonic stem cell, which is made up of a male and female genetic heritage, already has DNA (deoxyribonucleic acid), i.e. the macromolecule which contains and transfers genetic characteristics in all living organisms beginning with a genetic code that is the same genetic code that the individual will have throughout his or her life. Indeed, as N. Le Douarin has observed, the point of departure of embryology is the following: 'each one of us began our lives as a cell, an ovum...a tiny corpuscle of living matter'. From this comes the fundamental question of embryology: 'how can it be that from this single *isolated* cell come the parts of the body of an adult, made up of various billions of harmoniously ordered cells to form various and complex organs such as the brain, the limbs, the eyes and the face?'⁴ A biologist observes a living cell that is all potential and then begins to have quantitative and qualitative changes directed by that specific genetic code. This cellular behaviour of the human being, which for that matter is matched by the cellular behaviour of higher animals, is inscribed, so to speak, and reference is no longer made to the genetic code or to DNA but to the same subject who has an internal principle of development or self-genesis beginning with an active potentiality that reaches a mature reality that is also the same physical and biological subject with the same genetic code during the whole time of his or her existence from the beginning until death. With respect to humans, it is not the case that the embryonic cell is a kind of mini-man. Instead, the genetic code is a project of development, a 'programme', that contains a collection of information which means that the same subject progressively organises himself so as to form, one after the other, the various organs that make him up, to the point of arriving at the complete individual who emerges at the moment of birth.

It is important to remark that an American biologist of German origin, Max Delbrück, winner of the 1969 Nobel prize for medicine, had already observed that Aristotle, in his biological works, appears to have anticipated the discovery of DNA by admitting that the development of the embryo is directed by a form (*eidos* or *morphé*) that transmits to

⁴ N. Le Douarin, *Des chimères, des clones et des gènes* (Editions Odile Jacob, Paris, 2000), p. 15.

matter a series of movements thanks to which matter organises itself in such a way as to form the various organs. According to Delbrück this form acted as a “development plan” or as a “programme”, exactly as DNA does.⁵

We find here a dualism of language that should not compromise the unity of the reality in question. The biologist speaks of a cell or group of cells with a great potential that has or have a dynamic development; the philosopher and the expert in theology can speak of a single subject who, from the start, is what he or she is and becomes what he or she is. Therefore when a subject is a genetic stem cell we refer to a non-developed human being. Therefore the corollary of an interdisciplinary anthropological vision, that is to say that which takes into account both languages and approaches which explain the same reality, is that such a stem cell cannot be seen as a pure genetic material, which can be used or exploited even for good purposes, to cure another human being, because every human person from the beginning until the end of his or her life is an end in him or herself and cannot be a means or an instrument for another person, according to the various ethics that the West has produced from Aristotle to Kant, passing by way of the golden rule of the Gospel: ‘do not do unto others what you would not have them do unto you’.]

As you can see, the correlation between good or justice and truth is very special. The capacity precedes attestation and in this sense it is of an ontological level; it is the one which is precisely postulated by the attestation as its referent. We could speak of existential possibilities, which arise from a practical injunction. To adopt Paul Ricœur's expression, this is what the “conversion” of the transcendentals of the good and truth appears to be in a hermeneutical vision of reason.

⁵ M. Delbrück, 'Aristotle-totle-totle', in J. Monod and E. Borek, *Of Microbes and Life*, New York-London, Columbia University, 1971, pp. 50-55. Delbrück quoted Aristotle, *De Gen. Anim.*, l. I, ch. 22-23, et II, ch. 1.