

The Inhuman

Reflections on Time

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Matter and Time

One of the questions posed is that of the use of the concept of matter in contemporary philosophy. What does the question mean? What is 'use of a concept'? Is a concept a tool? And then use to what purpose?

I see in the question the predominance of a technologicistic thinking of thinking, i.e. a thinking of thinking as work. A mechanical energy, potential and/or kinetic, is applied to an object so as to transform it (movement in space; qualitative modification: *alloiōis*): 'productive' use.

Now such an object is called in dynamics a material point or system.

With matter come force, and the different sorts of energy, and work.

Are these metaphors? Or else is it thus that what we still call thought operates? An energy applied to a material point so as to transform it? With in that case the 'concept' playing the role of transformer?

There are several families of transformers because there are several forms taken by energy: mechanical, calorific, electrical, chemical, rays, nuclear. Should we add thinking or spiritual energy, as Bergson used to put it?

The 'material points' to which each of these forms of energy is applied are all different. Cartesian mechanics studies 'bodies' which are perceptible to human observation and transformations analogical to human experience.

The transformation of elements, such as the transformation of uranium 238 into neptunium, by bombarding the nuclei with neutrons, are not only not on our scale, but require an idea of matter of which the philosopher, ignorant and timid as he is, notes at least this – that it seems no longer to give any credence to the substance model.

I

Cartesian mechanics, and metaphysics, need no more than a naked substance. 'The nature of matter or of the body taken in general does not consist in its being a hard, or heavy, or coloured thing, or which touches our senses in some other way, but only in that it is a substance extended in length, breadth and depth' (*Principles of Philosophy*, II, 4). Such is the body, 'substance of material things'. Extension is infinitely divisible (§20), and thus is not constituted of simple elements (atoms), contains no void (§16–18), is homogeneous and continuous; it is indefinite (§21).

A body in the narrow sense is a part of extension. Movement is the changing of place of this body, from one bodily neighbourhood to another. The movement is only relative to an observer judged to be immobile. So that there is no substantial difference between rest and movement. Movement does not demand any particular form, it is a property of the mobile, and rest is another property of it. Mechanics is a part of geometry, study and production of figures in movement. The only relevant transformers are the axioms of classic geometry. Cartesian matter is a concept – extension – which is perfectly transparent to geometrico-algebraic thought. Everything that comes to us from it via the senses is removed from it as appearance. As my body is a part of extension, it cannot inform me about extension in general and its mathematical logic. Physiology, to the contrary, attempts to explain appearances (hardness, weight, colour, etc.) by the mechanism of figures and movements alone. The machine has to be rediscovered under the sensibility which is no more than a theatrical effect of it.

We would say today that there is no matter in Cartesian thought. The foreclosure of the 'material other' inspires the decision to deny the 'knowledges' of the body proper. The union of soul and body remains an intractable enigma. The soul unites only with itself, via its own transformers, innate ideas, the categories.

The soul has at its disposal the only language. The body is a confused speaker: it says 'soft', 'warm', 'blue', 'heavy', instead of talking straight lines, curves, collisions and relations.

Matter thus denied, foreclosed, remains present in this violently modern thinking: it is the enigmatic confusion of the past, the confusion of the badly built city, of childhood, ignorant and blind, of the cross-eyed look of the little girl loved by René Descartes as a child. Of everything that comes to us from behind, 'before'. Confusion, prejudice, is matter in thought, the disorder of the past which takes place before having been wanted and conceived, which does not know what it is saying, which must be endlessly translated and corrected, currently and actively, into distinct intuitions. Childhood, the unconscious, time, because 'then' is 'now', the old, are the matter that the understanding claims to resolve in the act and actuality of the instantaneous *intuitus*.

All energy belongs to the thinking that says what it says, wants what it wants. Matter is the failure of thought, its inert mass, stupidity.

We say: what impatience, what anguish in Cartesian modernism!

II

Nuclear transformations such as those which affect certain material elements known as radioactive, or those which take place in those transmutation-crucibles we call stars, or those which we provoke by bombarding and fission of the nucleus of plutonium or uranium 235 – such transformations not only required the long history of physics research from Descartes to Heisenberg, they also presuppose a complete overturning of the image of matter. And it is against this

overturned image, however confused it may be for a mind as ill-informed as mine, that contemporary thought is inevitably measured, closely or at a distance.

One essential feature of this overturning of the image of matter consists in the preeminence of time in the analysis of the relation of body to mind. 'The questions relative to subject and object, their distinction and their union must be posed in terms of time rather than space', writes Bergson (*Matière et mémoire*, §4). The author of *L'énergie spirituelle* recalls this sentence of Leibniz's: 'One can consider every body as a mind that is instantaneous but deprived of memory' (Letter to Arnauld, November 1671).

The instant which in Descartes marked the spiritual act, which was the timeless time of the understanding, here swings over to the side of material actuality. The bare monad forgets itself from one moment to the next. True mind is memory and anamnesis, continuous time. None the less, this memory remains local, limited to a 'point to view'. God alone has or is the memory of the whole, and of its programme. He alone has at his disposal all the 'notions' of the monads, of all the properties they develop, have developed, and will develop. Absolute memory, which is at the same time timeless act. The localization of the created monads is the spatial version of their temporality. They have a 'point of view' immanent to space because they are immanent to time, because they do not have enough memory, because they do not gather themselves sufficiently together.

Considered spatially, every monad is a material point in interaction (direct interaction in Bergson, in Leibniz mediated by divine wisdom, which ensures the harmony of all the interactions) with all the other material points. This is why Bergson can call this material point an 'image' (in *Matière et mémoire*), and why Leibniz endows it with a 'perception'. The whole world is reflected in each material point, but what is the furthest from it, which thus takes the longest time to be made distinct (as one counts distances in temporal terms in mountain walks or interstellar expeditions), can only be inscribed on the 'mirror' if the material point has the capacity to assemble and conserve a lot of information at once, as we would say. Otherwise, the

recording can certainly take place but remains unknown. So we must imagine that from matter to mind there is but a differences of degree, which depends on the capacity to gather and conserve. Mind is matter which remembers its interactions, its immanence. But there is a continuum from the instantaneous mind of matter to the very gathered matter of minds.

If there is such a continuity between the states of matter, this is because all material unities, even the 'barest', as is said in the *Monadology*, can only consist in their form, as Aristotle had understood it. For matter considered as 'mass' is infinitely divisible, and the unity it can produce is only phenomenal. This is the case with each human body, which doesn't stop changing in its mass, and has real and exact unity only through its difference, its 'point of view', itself determined by its 'form', i.e. its ability to gather up the actions exerted upon it (what we're calling interactions). If there are 'atoms of substance', these are therefore 'metaphysical points'; 'they have something vital and a sort of perception, and mathematical points are their point of view, to express the universe', in the words of the *Système nouveau de la nature*.

This quasi-perception – which makes me think so strongly of the 'pre-reflexive cogito' that Merleau-Ponty tried to isolate, or of the 'pure perception', perfect coextension of perceived and perceiver hypothesized by Bergson at the beginning of *Matière et mémoire* (I'll come back to this) – is none other than the 'expression in a single indivisible being of divisible phenomena or of several beings', writes Leibniz to Arnauld (about 1688–90). No need, he adds, 'to attach thought or reflection to this representation': the perception can remain unperceived. And it must be shown that there are these 'material expressions which are without thought' not only in animals, but in living creatures such as vegetables, and even in 'bodily substances', writes Leibniz.

So I imagine this formal atom as the point at which all the images the monad has of the universe come to be projected. None of them has the whole of the universe in its mirror (*Monadology*, §56), otherwise it would be indiscernible from another monad. Now a *being* is a being. In matter, it is not

the 'mass' which obeys the principle of the identity of indiscernibles – on the contrary, it is a crowd – but rather the form, which is the projection onto a mathematical point of a texture of relations. And if the images change on the mirror of each formal atom, then all the other mirrors must reflect, each according to its point of view, the complementary changes of the first. This harmony is ensured by divine wisdom, alone in representing everything, whilst the differentiation of the 'points of view', the multiplication of the monads, which causes the diversity of the world and the complexity of bodies, is a result of the principle that the all-powerful must deploy all its possibilities.

Our laicized science calls that 'all-power' energy, and it refers the responsibility for the convergence between the points of matter, their compossibility, not to a wisdom, but to chance and to selection, which 'fix' (for immensely differing 'lifetimes') material organizations, 'formal atoms', always precarious.

III

I return for a moment to the 'pure perception' imagined by Bergson in *Matière et mémoire*, to bring out how Leibnizian in principle is his problematic of the relation between matter and mind. Of course, the working hypothesis is entirely different – pragmatic, if you like: the living body is an agent of the transformation of things, all perception induces an action. But what is not pragmatist is that this term 'perception' is applied by Bergson to every material point: 'The more the reaction must be immediate, the more the perception must resemble a simple contact, and the complete process of perception and reaction must be scarcely distinct from a mechanical impulse followed by a necessary movement' (*Matière et mémoire*, p. 28).

The further one climbs the ladder of organized beings, the more one observes that the immediate reaction is delayed, 'prevented', and that this inhibition explains the indeterminacy, unpredictability and growing freedom of the actions these beings can perform.

Bergson sees the reason for this inhibition in the extension and complexity of the nervous relays interposed between the afferent or sensitive fibres and the efferent or motor fibres. The 'mirror' gets more complicated, and the influx on its way out can be filtered down many paths.

It will only go down one of them – and this will be that of the real action performed. But many other actions were possible and will remain inscribed in a virtual state. This is how perception stops being 'pure', i.e. instantaneous, and how representational consciousness can be born of this reflection (in the optical sense), of this 'echo', of the influx on the set of other possible – but currently ignored – paths which form memory. (And even then we are only talking about immediate memory or habit. Recollection [*souvenir*] will be the memory of that memory.) This is how what is given one by one, blow by blow, or, as Bergson puts it, 'shock' [*ébranlement*] by shock, in the amnesiac material point, is 'retracted', condensed as though into a single high-frequency vibration, in perception aided by memory. The relevant different between mind and matter is one of rhythm. In an 'instant' of conscious perception, which is in fact an indivisible block of duration made of vibration, 'memory condenses an enormous multiplicity of shocks, which appear simultaneously to us although they are successive' (*Matière et mémoire*, p. 73). In order to get back to matter from a consciousness, it would suffice to 'divide ideally this undivided thickness of time, and distinguish in it the desired multiplicity of movements' (*ibid.*).

Let us take as an example one of the those 'secondary qualities' abandoned by the mechanistic explanation, the colour red. Science which takes this as real matter sees in red light a vibration of the electro-magnetic field at a frequency, according to Bergson, of 400 trillion vibrations per second. The human eye needs two thousandths of a second to make a temporal dissociation between two pieces of information. If it had to dissociate the vibrations condensed in the perception of red, it would take 25,000 years. But if it synchronized itself to that rhythm, it would no longer perceive red at all, and would, says Bergson, register only 'pure shocks', since it would be coextensive with them. It would be, instant by

instant, each of those shocks itself. It would be a 'pure' or 'bare' material point.

IV

The continuity between mind and matter thus appears as a particular case of the transformation of frequencies into other frequencies, and this is what the transformation of energy consists in. Contemporary science, I believe, shows us that energy, in all its forms, is distributed in waves, and that, to quote Jean Perrin, 'all matter is in the end a particular and very condensed form of energy.' The reality to be accorded to such-and-such a form of energy, and therefore of matter, clearly depends on the transformers we have at our disposal. Even the transformer that our central nervous system is, highly sophisticated in the order of living creatures, can only transcribe and inscribe according to its own rhythm the excitations which come to it from the milieu in which it lives.

If we have at our disposal interfaces capable of memorizing, in a fashion accessible to us, vibrations naturally beyond our ken, i.e. that determine us as no more than 'material points' (as is the case with many forms of radiation), then we are extending our power of differentiation and our memories, we are delaying reactions which are as yet not under control, we are increasing our material liberty. This complex of transformers, still seen from the pragmatist point of view, well deserves the name it bears, that of techno-science.

The new technologies, built on electronics and data processing, must be considered – still from the same angle – as material extensions of our capacity to memorize, more in Leibniz's sense than Bergson's, given the role played in them by symbolic language as supreme 'condenser' of all information. These technologies show in their own way that there is no break between matter and mind, at least in its reactive functions, which we call performance-functions. They have a cortex, or a cortex-element, which has the property of being collective, precisely because it is physical and not biological. Which cannot but raise some questions which I shall not address here.

I should like instead to end by trying to respond to our initial question: what impact can the idea of matter I've just broadly summarized have on philosophy?

It is possible to give a pragmatic turn to a philosophy of matter, as does Bergson in *Matière et mémoire*, which then – whatever Bergson may have thought about it – can easily be linked with the ambient technologism or techno-scientism. The link of the one philosophy with the other does, however, demand a correction, which on reflection is no mere detail, and of which Bergson was perfectly aware. Pragmatism, as its name suggests, is one of the many versions of humanism. The human subject it presupposes is, to be sure, material, involved in a *milieu*, and turned towards action. The fact remains that this action is given a finality by an interest, which is represented as a sort of optimum adjustment of subject to environment. But if one looks at the history of the sciences and techniques (and of the arts, of which I have said nothing, even though the question of matter, of material especially, is decisive for them), one notices that this was not, and is not – especially today – in fact their finality.

The complexification of the transformers, theoretical and practical, has always had as its effect the destabilization of the fit between the human subject and its environment. And it always modifies this fit in the same direction – it delays reaction, it increases possible responses, increases material liberty and, in this sense, can only disappoint the demand for security which is inscribed in the human being as in every living organism. In other words, it does not seem that the desire – let's call it that – to complexify memory can come under the demand for equilibrium in the relation of man with his milieu. Pragmatically, this desire operates in the opposite direction, at least at first, and we know that scientific or technical (or artistic) discoveries or inventions are rarely motivated by a demand for security and equilibrium.

That demand wants rest, security and identity; the desire has no use for them, no success satisfies or stops it.

In order to reduce this objection, Bergson introduces the notion of an *élan vital*, a creative invention. This is where he leaves pragmatism behind, and exchanges a metaphysics of well-being for a teleology of life. This teleology is not new, it

is romantic or pre-romantic, and has given up its all in the speculative dialectic.

But in the current state of science and techniques, resort to the entity 'Life' to cover what I call, for want of a better term, desire [*conatus, appetitio* for others], i.e. the complexification which disavows – de-authorizes, so to speak – all objects of demand in turn: resort to this term seems still far too derivative of human experience, too anthropomorphic. To say that a Life is responsible for the formation of systems such as the atom or the star or the cell or the human cortex or finally the collective cortex constituted by machine memories is contrary, as are all teleologies, to the materialist spirit, in the noble sense, Diderot's sense, which is the spirit of knowledge. It can only invoke chance and necessity, like Democritus and Lucretius. Matter does not go in for dialectic.

Obviously I do not intend to solve the problem. But if I invoke Democritus and Lucretius, this is because it seems to me that micro-physics and cosmology inspire in today's philosopher more a materialism than any teleology.

An immaterialist materialism, if it is true that matter is energy and mind is contained vibration.

One of the implications of this current of thinking is that it ought to deal another blow to what I shall call human narcissism. Freud already listed three famous ones: man is not the centre of the cosmos (Copernicus), is not the first living creature (Darwin), is not the master of meaning (Freud himself). Through contemporary techno-science, s/he learns that s/he does not have the monopoly of mind, that is of complexification, but that complexification is not inscribed as a destiny in matter, but as possible, and that it takes place, at random, but intelligibly, well before him/herself. S/he learns in particular that his/her own science is in its turn a complexification of matter, in which, so to speak, energy itself comes to be reflected, without humans necessarily getting any benefit from this. And that thus s/he must not consider him/herself as an origin or as a result, but as a transformer ensuring, through techno-science, arts, economic development, cultures and the new memorization they involve, a supplement of complexity in the universe.

MATTER AND TIME

This view can cause joy or despair. I should have liked to have had the time to show, through *Le rêve de d'Alembert*, for example, but many other texts too, that it was in its essentials the view of Diderot. It was also that of Marcel Duchamp and Stéphane Mallarmé. Perhaps it is enough, in all sobriety, to give us a reason for thinking and writing, and a love of matter. Matter in our effort performs its anamnesis.