

IN the *juridically* social form in which we habitually consider it, the responsibility of a being may be defined, in rough and ready terms, as the moral compulsion that makes it impossible for the being to develop without having to some extent to make allowance for the development of the other beings around him.

A *moral* compulsion, I say advisedly: by that I mean that if we are prepared fully to analyse its nature and value, it raises the problem, to which philosophers have always devoted so much discussion, of the objective foundation of *obligation*.

Speaking here as a biologist, I would like briefly to make one point clear – that, if we leave aside any metaphysical considerations and if we accept at the outset a certain concept (every day more surely attested) of the experiential structure of the universe, then we must realize the presence, deep within us, of a ‘sense of responsibility’; not only is its existence immediately vindicated but the forms it takes can readily be determined with accuracy, and this inasmuch as this ‘sense’ does no more than express in each one of us, at the reflective state, a primary and therefore ‘categorical’ property of the universal datum.

I. THE CONVERGENCE OF THE UNIVERSE AND THE RISE OF COSMIC SOLIDARITY

Physicists and astronomers are gradually making us familiar with the notion of modalities (dynamic or tensorial) that structurally affect the totality of space and time. There is much talk nowadays of a curved universe, or of an explosive universe. But why not rather of a *self-arranging* universe – and one that arranges itself, I mean, not simply in the geometric and

indefinite way in which a crystal does so, but in the organic and centred ('synergic') way proper to the chemical, cellular and zoological particles of which we ourselves form a part? As yet, it is true, there is only one point in the universe – our earth – at which we can appreciate such a drift of the stuff of the cosmos towards states that are continually more complicated physically and more interiorized psychically. Nevertheless, however restricted that field may be, how can we fail to recognize that the phenomenon is developing within it with a deep-rootedness, a regularity, and a power which is evidence of a general – not to say a *dominating* – propensity of the universe around us? If matter is left to itself, in a sufficient mass and for a sufficient length of time, and in suitable conditions of temperature and pressure, it always in the end, through the effect of chance and large numbers, becomes vitalized: as though by statistical necessity it found in this supremely improbable direction the only higher form of equilibrium that could satisfy it. This can only mean that, to judge by our own planetary mesh, the universe may legitimately be regarded, in its totality, as an immense system which is organico-psychically converging upon itself.

Let us accept that proposition; and with it we find, for a start, all around us a tri-zonal structure that since all time has been noted by the wise men of all nations, but one whose genetical significance and operational value emerge only as a function of a very well-defined and advanced theory of evolution.

At the very bottom, we find the region (which is by far the largest) in which the cosmic elements, still insufficiently concentrated together, show us no trace of spontaneity or sensibility. Higher, there is the more effectively grouped domain (already very restricted) of substances that are not yet reflective but are already 'living'. Finally, higher still and clearly as yet incomplete, we have the thinking peak of the human: a peak that is still rising, I must emphasize, because it is still in process of ultra-hominization.

There are, then, three major zones in the arrangement of the elements of the world, and therefore in their degree of consciousness. But there are in consequence three zones, too, in the possible non-arrangement or derangement of the same elements, that is to say in the individuation and aggravation of cosmic evil: the zone of purely material disintegration – the zone of suffering – the zone of wrong-doing. And, most important of all, there are, finally, three zones in the solidarity produced by the stream of universal convergence: the lower zone of physico-chemical interdependence between inanimate bodies; the zones of 'symbiotic' relationships between living beings; and finally the higher zone of the reflective interaction of free agents.

This simultaneously takes us to the heart of our problem and provides us with a general solution.

This is because it is immediately apparent – and this calls for no subtlety of discursive reasoning but comes simply through intuition and logical coherence – that the altruism of the moralists is no more than the form assumed, as it becomes hominized, by the fundamental inter-connexion of the particles which at all levels make up the stuff of a world which, as time moves on, not only condenses but *concentrates*. This amounts to saying that if responsibility is considered in conjunction with its roots it is found to have a common origin with, and to be co-extensive in its genesis with, the totality of time and space.

From this point of view, and as a rough initial description, we may say that the evolution of responsibility is simply one particular aspect of cosmogenesis. Or to put it more exactly, it is cosmogenesis *itself* observed and measured not (as we customarily do) by the degree of organic complexity or psychic charge, but by the degree of constantly increasing inter-influence within a multitude which is progressively concentrated upon itself in a convergent medium.

Now that we have seen and accepted that this is so, let us analyse rather more closely the present state of the phenomenon

and its probable future. By that I mean, instead of following it through the main, rather indistinct, lines of the universe, let us do so within the well-defined field constituted by the human group; and there let us try to discover under the influence of what mechanisms and at what speed there continues to increase (as we had to anticipate), in step with the advance of anthropogenesis, the solidarity of a reflective mass that is seized and sucked up ever more tightly, as though in a whirlwind, by the forces of socialization.

II. PLANETARY COMPRESSION AND THE RISE OF HUMAN RESPONSIBILITY

To an attentive observer, the most remarkable aspect to be found at the moment in the thinking layer of the earth (the noosphere) is its state of extreme and continually rising compression – deriving, without doubt, and in the first place, from an almost vertical rise in the population of the globe – but also, and even more, from the rapidly increasing influence of a more specifically human factor, and one that must be sharply realized if we wish to understand what is going on: by that I mean the variation in *the radius of individual action*.

It calls for no great learning to appreciate that, in nature, the more a being becomes 'living', the more it enlarges its living space. The process is already evident throughout the history of the vertebrates. The scale is fantastically enlarged with the human threshold of reflection; but we may say that it is only now, with the entry of civilization into its modern phase not only of differentiation and expansion, but also of concentration and totalization, that it is developing its full vigour, whether in extension, in depth or (if one may put it so) in volume.

First, *in extension*. Formerly, countless bulkheads (slowness and difficulties of communication, racial, political and economic barriers) divided the human mass into compartments, to the point of almost immediately damping down the waves

that appeared at any place on its surface. This produced a lifeless, sealed, environment, in which the average radius of each man's influence did not normally exceed a few kilometres; but today, with the astonishing increase in the speed of transport (particularly in the air), with radio and television, each one of us can already be physically present, in practically a few hours, to any person whatsoever, anywhere at all on the surface of the earth, and enjoy verbal or visual contact with him in a few fractions of a second.

Secondly, *in depth*: and here I am thinking primarily of the latest advances achieved by science, in all its forms, in the direction of a general control (atomic, chemical, biological and psychic) of the actual driving forces behind our organic and mental structure. Man is no longer at the elementary stage where all he could do was to persuade his adversary by reason, or win him by charm, or conquer him by force. Nowadays, there are surgical processes, narcotics or hormones can be given as injections, individual or collective psychoses can be systematically induced; and so by one means or another man finds that he possesses nothing less than the staggering power artificially to break himself down and reassemble himself from within. It is a possibility that may well make us shudder, but it would be puerile to imagine that if it can in fact be realized we shall ever be able to escape it.

Finally, *in volume*: in that phrase I am trying to express the situation towards which each one of us is rapidly being drawn (as a result of the progressive totalization of the noosphere), of being able, by *one single act*, to carry with us – to salvation or to ruin – progressively larger 'batches' of other human beings. We have only to call to mind (not to mention the thinker who uses the press to launch inflammatory ideas) the captain of a big modern vessel or the pilot of a huge aircraft – or the act of dropping an atomic bomb.

The truth, I repeat, is that the principal and specific event of our biological era is, initially, nothing more nor less than the compression, compenetration and consolidation upon itself of

the human mass, reaching a paroxysmal climax in the vice-like grip of the planet.

It is, without doubt, a dangerous and distressing situation, inasmuch as it presents us with a whole world of vital problems: food supplies, health, the easing of the nervous strain suffered by a vast number of human beings brought into such close proximity and so involved with one another as hardly to have room to breathe.

On the other hand, however, there is also something else that is too often forgotten: an impressive dynamic power which can produce, together with a great deal of suffering and many mistakes, an intense spiritual energy, the first symptoms of which can already be seen.

It is in any case (and this brings us back to the particular subject of this article) the obvious source of an increasing responsibility; since, as we said, besides consciousness and evil, there is also *solidarity*, and these are the three magnitudes that cannot escape the necessity of increasing (in intensity even if not, in the case of evil, in quantity) simultaneously with an increase in the organic arrangement, both particulate and global, of a convergent system.

We cannot, therefore, fail to recognize that this one fact can by itself serve as the basis for a new ethics of the earth.

There was, perhaps, a time before our own when individuals could still try to better themselves and fulfil themselves, each on his own, in isolation. That time has gone for ever. We now have to make up our minds to recognize that at no moment of history has man been so completely involved (both actively and passively), through the very foundations of his being, in the value and betterment of all those around him, as he is today. And all the evidence indicates that this regime of interdependence can only become more pronounced in the course of the coming centuries.

A sort of generalized ultra-responsibility, affecting and heightening the whole range of virtues and vices – such, then, to conclude, would appear to be the most pronounced moral

characteristic of the ultra-human towards which, by cosmic necessity, we are, even now, willy-nilly, drifting.

CONCLUSION. JURIDICAL RESPONSIBILITY AND BIOLOGICAL RESPONSIBILITY

If the foregoing considerations have some weight, we can see that when responsibility is restored to the setting of a world that is recognized and accepted once and for all as being by nature convergent, then it is automatically and immediately *universalized* and *intensified*, to the very dimensions of cosmic evolution and in exact step with it. And I need hardly point out that by that very fact it becomes *organic*.

Within the static Nature of Aristotle or Plato, a certain ontological exclusiveness which was inevitably retained between matter and spirit, had the continual effect of encouraging the use of abstract or juridical terms to express the relations between beings that existed in the field of the psyche. One world for bodies, and another world for souls. There are still any number of people to whom it comes as a shock if we speak of the physical reality of a mental phenomenon, or of the essentially biological nature of social or moral laws. It is precisely here that the newly opened up vision of a world in a state of evolution intervenes irresistibly, to release us from this sort of flat, hard and fast, dividing of things intellectually into compartments. Within what is now seen to be not merely a cosmos, but a cosmogenesis – crossing the successive thresholds of materialization, vitalization, and reflection – one and the same energy circulates, one and the same solidarity is built up. Without becoming materialized (in the pejorative and philosophical meaning of the world), but by following the opposite road of spiritualization, everything throughout the entire universe passes into the ultra-physical. Everything, mark you – and, in consequence, this applies as much to the effects of solidarity as it does to all the rest.

Here, indeed, if I am not mistaken, lies the radical trans-

formation (not an objective but a subjective transformation) which is at this moment being effected in the way in which we have hitherto been able to become conscious of our responsibilities as men. It is not simply that the radius of our influence over others is suddenly increasing so rapidly that even the most superficial and self-centred of us are beginning to have to take it really seriously; what is more, mankind's social ordering of itself has acquired an evolutionary value, and in consequence the very stuff of this peripheral activity exercised by our being – to judge from the inexorably determined character of the effects it produces – is assuming for us an impressive consistence.

So long as we thought that all we were confronted with was a set of rules (to be respected or disregarded) more or less arbitrarily decreed by man for the use of other men, we could believe that some escape from them or some violation of them was still possible. As soon, however, as we realize with excitement that socialization is gradually enclosing us in a network not of conventions but of organic bonds, we begin mentally to appreciate the true greatness and gravity of man's condition.

One can always, you see, reach a compromise with the juridical and so rub along together; but thwart the organic, and there can be no pardon.

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A Clarification: Reflections on Two Converse Forms of Spirit