Hans Jonas

The Phenomenon of Life

Toward a Philosophical Biology

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TOWARD A PHILOSOPHICAL BIOLOGY

Hans Jonas

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Foreword

Put at its briefest, this volume offers an "existential" interpretation of biological facts. Contemporary existentialism, obsessed with man alone, is in the habit of claiming as his unique privilege and predicament much of what is rooted in organic existence as such: in so doing, it withholds from the organic world the insights to be learned from awareness of self. On its part, scientific biology, by its rules confined to the physical, outward facts, must ignore the dimension of inwardness that belongs to life: in so doing, it submerges the distinction of "animate" and "inanimate." A new reading of the biological record may recover the inner dimension—that which we know best—for the understanding of things organic and so reclaim for the psychophysical unity of life that place in the theoretical scheme which it had lost through the divorce of the material and mental since Descartes.

Accordingly, the following investigations seek to break through the anthropocentric confines of idealist and existentialist philosophy as well as through the materialist confines of natural science. In the mystery of the living body both poles are in fact integrated. The great contradictions which man discovers in himself—freedom and necessity, autonomy and dependence, self and world, relation and isolation, creativity and mortality—have their rudimentary traces in even the most primitive forms of life, each precariously balanced between being and not-being, and each already endowed with an internal horizon of "transcendence." We shall pursue this underlying theme of all life in its development through the ascending order of organic powers and functions: metabolism, moving and desiring, sensing and perceiving, imagination, art, and mind—a progressive scale of freedom and peril, culminating in man, who may understand his uniqueness anew when he no longer sees himself in metaphysical isolation.

The reader will, however, find nothing here of the evolutionary optimism of a Teilhard de Chardin, with life's sure and majestic march toward a sublime consummation. He will find life viewed as an experiment with mounting stakes and risks which in the fateful freedom of man may end in disaster as well as in success. And the difference from de Chardin's as also from other, and better conceived, metaphysical success stories will, I hope, be recognized as one not merely of temperament but of philosophical justness.

Although my tools are, for the most part, critical analysis and phenomenological description, I have not shied away, toward the end, from metaphysical speculation where conjecture on ultimate and undemonstrable (but by no means, therefore, meaningless) matters seemed called for. The departure is clearly marked, and the more positivistically inclined reader is free to draw the line which he will not wish to cross with me. It is not, however, arbitrary choice, but intrinsic in the subject, that its discussion should involve me in theories of being from Plato to Heidegger, and in matters stretching from physics and biology to theology and ethics. The phenomenon of life itself negates the boundaries that customarily divide our disciplines and fields.

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INTRODUCTION

On the Subjects of a Philosophy of Life

A philosophy of life comprises the philosophy of the organism and the philosophy of mind. This is itself a first proposition of the philosophy of life, in fact its hypothesis, which it must make good in the course of its execution. For the statement of scope expresses no less than the contention that the organic even in its lowest forms prefigures mind, and that mind even on its highest reaches remains part of the organic. The latter half of the contention, but not the former, is in tune with modern belief; the former, but not the latter, was in tune with ancient belief: that *both* are valid and inseparable is the hypothesis of a philosophy which tries for a stand beyond the quarrel of the ancients and the moderns.

Surveying the vast landscape of life on our planet, the philosopher will not be content with the assumption (fitting as it is as a tool for the scientist) that this sustained and far-flung process, moving through aeons with circuitous consistency, always trying itself in subtler and bolder creations, should have been "blind" in the sense that its dynamics consist in nothing but the mechanical permutation of indifferent elements, depositing its chance results along the way and with them accidentally giving rise to the subjective phenomena that inexplicably adhere to them as a redundant byplay. Rather, since matter gave such account of itself, namely, did in fact organize itself in this manner and with these results, it ought to be given its due, and

the possibility for doing what it did should be attributed to it as residing in its primary nature: this genuine potency must then be included in the very concept of physical "substance," just as the purposive dynamics seen at work in its actualizations must be included in the concept of physical causality. The nondogmatic thinker will not suppress the testimony of life; he will accept it today as a call to a revision of the conventional model of reality inherited from a natural science which may well itself be passing beyond it. (That such a revision need not mean a return to Aristotle can be seen in Whitehead's example.)

Independently of the story of its genesis, the manifold of existing life presents itself as an ascending scale in which are placed the sophistications of form, the lure of sense and the spur of desire, the command of limb and powers to act, the reflection of consciousness and the reach for truth. Artistotle read this hierarchy in the given record of the organic realm with no resort to evolution, and his *De anima* is the first treatise in philosophical biology. The terms on which his august example may be resumed in our time will be different from his, but the idea of stratification, of the progressive superposition of levels, with the dependence of each higher on the lower, the retention of all the lower in the higher, will still be found indispensable. One way of interpreting this scale is in terms of scope and distinctness of experience, of rising degrees of world perception which move toward the widest and freest objectification of the sum of being in individual percipients. Another way, concurrent with the grades of perception, is in terms of progressive freedom of action. The correlation and interpenetration of these two aspects—of perceiving and acting, of the variety and adequacy of the one, the range and power of the other—is a constant theme for the empathic study of the many forms of life.

Both scales culminate in the thinking of man and there come under the question: which is for the sake of which? Contemplation for action, or action for contemplation? With this challenge to choice, biology turns into ethics. Whatever the answer, one aspect of the ascending scale is that in its stages the "mirroring" of the world becomes ever more distinct and self-rewarding, beginning with the most obscure sensation somewhere on the lowest rungs of animality, even with the most elementary stimulation of organic irritability as

such, in which somehow already otherness, world, and object are germinally "experienced," that is, made subjective, and responded to.

Twice in the preceding statements did we speak of "freedom": in the scale of perception and in that of action. One expects to encounter the term in the area of mind and will, and not before: but if mind is prefigured in the organic from the beginning, then freedom is. And indeed our contention is that even metabolism, the basic level of all organic existence, exhibits it: that it is itself the first form of freedom. These must sound strange words to most readers, and I do not expect it otherwise. For what could be further from freedom, further from will and choice which are required for it by any normal understanding of the word, than the blind automatism of the chemistry carried on in the depths of our bodies? Yet it will be the burden of one part of our discourse to show that it is in the dark stirrings of primeval organic substance that a principle of freedom shines forth for the first time within the vast necessity of the physical universe—a principle foreign to suns, planets, and atoms. Obviously, all consciously "mental" connotations must at first be kept away from the concept when used for so comprehensive a principle: "Freedom" must denote an objectively discernible mode of being, i.e., a manner of executing existence, distinctive of the organic *per se* and thus shared by all members but by no nonmembers of the class: an ontologically descriptive term which can apply to mere physical evidence at first. Yet, even as such it must not be unrelated to the meaning it has in the human sphere whence it is borrowed, else its extended use would be frivolous. For all their physical objectivity, the traits described by it on the primitive level constitute the ontological foundation, and already an adumbration, of those more elevated phenomena that more directly invite and more manifestly qualify for the noble name; and these still remain bound to the humble beginnings as to the condition of their possibility. Thus the first appearance of the principle in its bare, elementary object-form signifies the break-through of being to the indefinite range of possibilities which hence stretches to the farthest reaches of subjective life, and as a whole stands under the sign of "freedom."

Taken in this fundamental sense, the concept of freedom can indeed guide us like Ariadne's thread through the interpretation of Life. As to the mystery of origins—it is closed to us. Most persuasive to

me is the hypothesis that even the transition from inanimate to animate substance, the first feat of matter's organizing itself for life, was actuated by a tendency in the depth of being toward the very modes of freedom to which this transition opened the gate. Such a hypothesis affects the entire inorganic substrate on which the structure of freedom is reared. For our purpose we need not commit ourselves to this or any hypothesis on first origins, for where we start, the "first stirrings" have long occurred. But once within the realm of life, whatever its cause, we are no longer reduced to hypothesis: the concept of freedom is germane there from the outset and called for in the ontological description of its most elementary dynamics. And it will stay with us all along the upward road as a descriptive and interpretative tool.

But this is not a success story. The privilege of freedom carries the burden of need and means precarious being. For the ultimate condition for the privilege lies in the paradoxical fact that living substance, by some original act of segregation, has taken itself out of the general integration of things in the physical context, set itself over against the world, and introduced the tension of "to be or not to be" into the neutral assuredness of existence. It did so by assuming a position of hazardous independence from the very matter which is yet indispensable to its being: by divorcing its own identity from that of its temporary stuff, through which it is yet part of the common physical world. So poised, the organism has its being on condition and revocable. With this twin aspect of metabolism—its power and its need—not-being made its appearance in the world as an alternative embodied in the being itself; and thereby being itself first assumes an emphatic sense: intrinsically qualified by the threat of its negative it must affirm itself, and existence affirmed is existence as a concern. So constitutive for life is the possibility of not-being that its very being is essentially a hovering over this abyss, a skirting of its brink: thus being itself has become a constant possibility rather than a given state, ever anew to be laid hold of in opposition to its ever-present contrary, not-being, which will inevitably engulf it in the end.

The being thus suspended in possibility is through and through a fact of polarity, and life always exhibits it in these basic respects: the polarity of being and not-being, of self and world, of form and matter, of freedom and necessity. These, as is easily seen, are forms of relation: life is essentially relationship; and relation as such implies

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"transcendence," a going-beyond-itself on the part of that which entertains the relation. If we can show the presence of such transcendence, and of the polarities that specify it, at the very base of life in whatever pre-mental a form, we have made good the contention that mind is prefigured in organic existence as such.

Of all the polarities mentioned, most basic is that of being and not-being. From it, identity is wrested in a supreme, protracted effort of delay whose end is foredoomed: for not-being has generality, or the equality of all things, on its side. Its defiance by the organism must end in ultimate compliance, in which selfhood vanishes and as this unique one can never be retrieved.

That life is mortal may be its basic self-contradiction, but it belongs to its nature and cannot be separated from it even in thought: life carries death in itself, not in spite of, but because of, its being life, for of such a revocable, unassured kind is the relation of form and matter upon which it rests. Its reality, paradoxical and a constant challenge to mechanical nature, is at bottom continual crisis whose momentary resolution is never safe and only gives rise to crisis renewed.

Committed to itself, put at the mercy of its own performance, life must depend for it on conditions over which it has no control and which may deny themselves at any time. Thus dependent on propitiousness or unpropitiousness of outer reality, it is exposed to the world from which it has seceded, and by means of which it must yet maintain itself. Opposing in its internal autonomy the entropy rule of general causality, it is yet subject to it. Emancipated from the identity with matter, it is yet in need of it: free, yet under the whip of necessity; isolated, yet in indispensable contact; seeking contact, yet in danger of being destroyed by it, and threatened no less by its want: imperiled thus from both sides, by importunity and aloofness of the world, and balanced on the narrow ridge between the two; in its process, which must not cease, liable to interference; in the straining of its temporality always facing the imminent no-more: thus does the living form carry on its separatist existence in matter—paradoxical, unstable, precarious, finite, and in intimate company with death. The fear of death with which the hazard of this existence is charged is a never-ending comment on the audacity of the original venture upon which substance embarked in turning organic.

The huge price of dread which life had to pay from the first, and

which steadily mounted with its ascent to more ambitious forms, stirs up the question about the meaning of this venture and, once asked, never lets it come to rest again. In this question, asked at last by man, as presumptuous as it is inevitable—as presumptuous indeed as the attempt of form undertaken by substance at the dawn of life—the initially problematical nature of life has, after aeons of mute insistence, found voice and speech.

With matters like these a philosophy of life must deal. That is, it must deal with the organic facts of life, and also with the self-interpretation of life in man. It must interpret both: it has an existential stake in both. Accordingly, the essays collected here range over the scale of faculties with which organisms meet the challenge of the world—metabolism, sentience, motility, emotion, perception, imagination, mind—and over the ideas with which man in history has met the theoretical challenge of life's nature and his own: the latter theme being inevitably moral and in the end metaphysical. The essays range over these subjects but do not offer a finished theory of them—the goal that guided their conception. Written, with this goal in mind, and partly published from 1950 onward, I believe they do express in various facets one philosophy of organism and life. Its systematic statement, under construction these many years, has yet to reach its final shape; but the looser statement in the form of essays, that is to say, of attempts and experiments, can convey its emergent essence, and at the same time records some steps of the road by which it is being reached.

FIRST ESSAY

Life, Death, and the Body in the Theory of Being

I

When man first began to interpret the nature of things—and this he did when he began to be man—life was to him everywhere, and being the same as being alive. Animism was the widespread expression of this stage, "hylozoism" one of its later, conceptual forms. Soul flooded the whole of existence and encountered itself in all things. Bare matter, that is, truly inanimate, "dead" matter, was yet to be discovered—as indeed its concept, so familiar to us, is anything but obvious. That the world is alive is really the most natural view, and largely supported by prima-facie evidence. On the terrestrial scene, in which experience is reared and contained, life abounds and occupies the whole foreground exposed to man's immediate view. The proportion of manifestly lifeless matter encountered in this primordial field is small, since most of what we now know to be inanimate is so intimately intertwined with the dynamics of life that it seems to share its nature. Earth, wind, and water—begetting, teeming, nurturing, destroying—are anything but models of "mere matter." Thus primitive panpsychism, in addition to answering powerful needs of the soul, was justified by rules of inference and verification within the available range of experience, continually confirmed as it was by the actual preponderance of life in the horizon of its earthly home. In-

deed not before the Copernican revolution widened this horizon into the vastness of cosmic space was the proportional place of life in the scheme of things sufficiently dwarfed so that it became possible to disregard it for most of what henceforth was to be the content of the term "nature." But to early man, standing on his earth arched by the dome of its sky, it could never occur that life might be a side issue in the universe, and not its pervading rule. His panvitalism was a perspective truth which only a change of perspective could eventually displace. Unquestioned and convincing at the beginning stands the experience of the omnipresence of life.

In such a world-view, the riddle confronting man is *death:* it is the contradiction to the one intelligible, self-explaining, "natural" condition which is the general life. To the extent that life is accepted as the primary state of things, death looms as the disturbing mystery. Hence the *problem* of death is probably the first to deserve this name in the history of thought. Its emergence as an express problem signifies the awakening of the questioning mind long before a conceptual level of theory is attained. The natural recoil from death takes courage from the "logical" outrage which the fact of mortality inflicts on panvitalistic conviction. Primeval reflection thus grapples with the riddle of death, and in myth, cult, and religious belief endeavors to find a solution to it.

That death, not life, calls for an explanation in the first place, reflects a theoretical situation which lasted long in the history of the race. Before there was wonder at the miracle of life, there was wonder about death and what it might mean. If life is the natural and comprehensible thing, death—its apparent negation—is a thing unnatural and cannot be truly real. The explanation it called for had to be in terms of life as the only understandable thing: death had somehow to be assimilated to life. The question it inspired faces backward and forward: how and why did death come into the world whose essence it contradicts? And whereto is it the transition, since whatever it may lead to must still belong to the total context of life? Early metaphysics attempts to answer these questions; or, despairing of an answer, remonstrates with the incomprehensible law. It is the question of Gilgamesh—the answer of the funeral cult. As early man's practice is embodied in his tools, so his thought is embodied in his tombs which acknowledge and negate death at the same time. Out of

the tombs arose pristine metaphysics in the shape of myth and religion. That all is life and that all life is mortal is the basic contradiction it strives to resolve. It meets the profound challenge; and to save the sum of things, death had somehow to be denied.

Any problem is essentially the collision between a comprehensive view (be it hypothesis or belief) and a particular fact which will not fit into it. Primitive panvitalism was the comprehensive view; ever-recurring death, the particular fact: since it seemed to deny the basic truth, it had to be denied itself. To seek for its meaning was to acknowledge its strangeness in the world; to understand it was—in this climate of a universal ontology of life—to negate it by making it a transmutation of life itself. Such a negation is the belief in a survival after death which primeval burial customs express. The cult of the dead and the belief in immortality of whatever shape, and the speculations into which they evolve, are the running argument of the life-creed with death—an argument which could also recoil on the embattled position and eventually lead to its breaking-up. At first, any settling of the contradiction, any solution of the riddle, could only be in favor of life; or the riddle remained, an outcry without answer; or the original position was abandoned and a new stage of thought ushered in. Both the first two alternatives attest the original ontological dominance of life. This is the paradox: precisely the importance of the tombs in the beginnings of mankind, the power of the death motif in the beginnings of human thought, testify to the greater power of the universal life motif as their sustaining ground: being was intelligible only as living; and the divined constancy of being could be understood only as the constancy of life, even beyond death and in defiance of its apparent verdict.

II

Modern thought which began with the Renaissance is placed in exactly the opposite theoretic situation. Death is the natural thing, life the problem. From the physical sciences there spread over the conception of all existence an ontology whose model entity is pure matter, stripped of all features of life. What at the animistic stage was not even discovered has in the meantime conquered the vision of reality, entirely ousting its counterpart. The tremendously enlarged universe

of modern cosmology is conceived as a field of inanimate masses and forces which operate according to the laws of inertia and of quantitative distribution in space. This denuded substratum of all reality could only be arrived at through a progressive expurgation of vital features from the physical record and through strict abstention from projecting into its image our own felt aliveness. In the process the ban on anthropomorphism was extended to zoomorphism in general. What remained is the residue of the reduction toward the properties of mere extension which submit to measurement and hence to mathematics. These properties alone satisfy the requirements of what is now called exact knowledge: and representing the only knowable aspect of nature they, by a tempting substitution, came to be regarded as its essential aspect too: and if this, then as the only real in reality. This means that the lifeless has become the knowable par excellence and is for that reason also considered the true and only foundation of reality. It is the "natural" as well as the original state of things. Not only in terms of relative quantity but also in terms of ontological genuineness, nonlife is the rule, life the puzzling exception in physical existence.

Accordingly, it is the existence of life within a mechanical universe which now calls for an explanation, and explanation has to be in terms of the lifeless. Left over as a borderline case in the homogeneous physical world-view, life has to be accounted for by the terms of that view. Quantitatively infinitesimal in the immensity of cosmic matter, qualitatively an exception from the rule of its properties, cognitively the unexplained in the general plainness of physical things, it has become the stumbling block of theory. That there is life at all, and how such a thing is possible in a world of mere matter, is now the problem posed to thought. The very fact that we have nowadays to deal with the theoretical problem of life, instead of the problem of death, testifies to the status of death as the natural and intelligible condition.

Here again, the problem consists in the collision between a comprehensive view and a particular fact: as formerly panvitalism, so now panmechanism is the comprehensive hypothesis; and the rare case of life, realized under the exceptional, perhaps unique conditions of our planet, is the improbable particular that seems to elude the basic law and therefore must be denied its autonomy—that is, must be

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