

Andrea Altobrando, Pierfrancesco Biasetti
Natural Born Monads

The concrete highway was edged with a mat of tangled, broken, dry grass, and the grass heads were heavy with oat beards to catch on a dog's coat, and foxtails to tangle in a horse's fetlocks, and clover burrs to fasten in sheep's wool; sleeping life waiting to be spread and dispersed, every seed armed with an appliance of dispersal, twisting darts and parachutes for the wind, little spears and balls of tiny thorns, and all waiting for animals and for the wind, for a man's trouser cuff or the hem of a woman's skirt, all passive but armed with appliances of activity, still, but each possessed of the anlage of movement.

John Steinbeck, *The Grapes of Wrath*

Numerical identity is the essential feature of individuality: to identify something as an individual, we need to be able to track its survival as it changes in space and time. Organisms, in this sense, can be considered as a peculiar kind of individuals. Whenever we analyze a living being, we inevitably end up considering two key elements: its internal structure, and its relationship with the surrounding environment. On the one hand, this happens because the spatio-temporal survival of an organism depends on its *inner articulation* – on its functional parts, and on the way they work together. In this way, it is possible to give a simple definition of an organism as an individual whose numerical identity is preserved thanks to the work of its parts. Yet, on the other hand, this is not enough. This “work of the parts” invariably involves some sort of exchange with what is placed outside the border of the organism. Organisms entertain a fundamental relationship with their environment, one on which their individuality depends: it is this *ecological relationship* that further defines the subset of organisms inside the larger set of individuals.

Throughout the history of ideas, this basic idea of what an organism is has been applied to different scales and levels of organization. In fact, the embedding of an organism in an environment does not solely concern its relationship with the medium of its movement, with the climate, resources, and other non-living parts of a habitat. It also concerns its interactions with other organisms, be they conspecific or allospecific. In this respect, it has always been tempting to consider the various communities formed at different biological levels, from pairs of symbionts to networks of species sharing an ecosystem, as organisms in themselves. There is a similar temptation with regard to our stance on human communities: in fact, until recently, holistic sociological and political

Andrea Altobrando, University of Padova / China University of Political Science and Law
Pierfrancesco Biasetti, Leibniz Institute for Zoo and Wildlife Research

theories, giving priority to wholes rather than individuals to explain social and even psychological phenomena, have not been rare.

According to such views, the individual organism at a “lower” level becomes just a part of a larger organism in the “upper” level. Its life – and, more radically, its *significance* – can be explained, and can actually subsist, only in relation to the function carried out for the complex whole of which it is part. Concerning human communities, this social holism easily results in a negation of any intrinsic value of simple individuals as individuals – i. e., besides, or beyond, their social roles and functions. For most of our modern societies, this seems unacceptable. On the other hand, symmetrical “atomistic” alternatives seem likewise untenable, as they do not seem capable of accounting for the “natural” human propensity to live inside different kinds of groups.

This volume is motivated by the wish to contribute to a better understanding of this peculiar situation of human individuals. We believe that only a thorough and careful assessment of the concept of the organism, and of its relations to the environment and to itself, can allow us better to understand human groups, and the relations between human individuals and their environment.

We are convinced that the conceptual history of the terms at stake is highly important. For this reason, we have gathered several scholars specialized in different fields of philosophy in order to sketch a specific line of conceptual development concerning the organism that runs into the current debates in metaphysics, philosophical anthropology, social philosophy, and philosophy of biology. It is a story that starts with Leibniz and his understanding of *organism* and *human nature*, and continues its arc across the philosophy of German Idealism, before branching into several post-Darwinian redefinitions of this legacy. Its main thread is, as the title of the volume suggests, the concept of the *monad*. But another important protagonist is *dialectics*. What monadology and dialectics share, in our view, is that both concepts entail a fundamental relationship between an individual and its otherness – be this its natural or social environment. This may sound odd given the current meaning of “monad” – a term usually associated with solipsistic views of subjects and substances in general. We believe this latter reading to be extremely narrow and unrepresentative of the original concept. In this regard, one should not forget that Leibniz’ monadology was devised to formulate a metaphysically and ontologically pluralistic view of the universe, and that a monad, in Leibniz’ understanding, is “made” of its relationships with all other monads.

The volume is divided in two parts. In the first part the analysis is centered on the core figures that form the “trunk” of the tradition we would like to discuss: Leibniz, Kant, and Hegel. In the second part, the volume focuses instead on some of the post-Darwinian ramifications of the monadological and dialecti-

cal legacy, showing how the concepts first formulated at the end of seventeenth century, and constantly reassessed since then, still represent the theoretical hard core one has to confront when reflecting on what an organism is.

The first article of the volume, written by Antonio M. Nunziante, sets up the discussion, by focusing on the genesis of the concept of the organism in Leibniz and in the Early Modern Western philosophy. Leibniz is one of the first authors to try a tentative systematization of the discoveries made by the emerging life sciences. He does this by re-inserting teleology into the mechanistic paradigm of Early Modern philosophy, and by providing, with his concept of the monad, a metaphysical account of life and organism. Nunziante shows how the terminological and conceptual invention of Leibniz is indebted both to the Cartesian tradition of the “machine”, and to the Aristotelian tradition of the “form”. In this sense, Leibniz’s attempt is exemplar of the Early Modern tension between, on the one hand, the need to explain the universe in purely physical terms, and, on the other hand, the need to understand the mind of the “designer” teleologically.

Teleology, and its place in our understanding of nature, is famously a central issue of Kant’s Third Critique, where Leibniz’s original attempt to merge teleological discourse with the modern mechanistic view of nature is given a new formulation. In the second paper of the volume, Hugh Desmond and Andreas Hune-man analyze the role and the legitimacy of agential explanations in current biology, navigating between the Scylla and Charybdis of “ontic” and “reductionistic” interpretations of agency. In this way, they show how Kant’s reflection on the apparently unavoidable use of teleological descriptions of organisms is still of the greatest importance for our understanding of the living world.

The teleological issue raised by Leibniz forms the basis not only of Kant’s, but also of Hegel’s view on life sciences. In her article, Michela Bordignon shows how Hegel, via Kant, develops his dialectical account of the concept of life in order to overcome the logico-ontological issues posed by modern science. Bordignon illustrates Hegel’s dialectic as a process of self-determination implying a fundamental relation with – or more precisely, an assimilation of – alterity. She also shows how, by means of “dialectical thinking”, Hegel aims at overcoming Kant’s understanding of natural purposiveness as having a merely regulative value. Bordignon’s contribution thus shows how Hegel’s account of dialectic is, at least partially, born from the need to explain the dynamic nature of an organism. He achieves this by reassessing, and, in part, by overcoming, the monadological ideas of Leibniz.

The introduction of dialectical thinking operated by Hegel constitutes a fundamental step in our conceptual history, a passage that reveals how every philosophical reflection on the organism and on the proper understanding of human

individuals has to take into account the issues regarding self-determination and both the natural and the social environment. In their contributions, Luca Illetterati and Federico Sanguinetti specifically try to work out Hegel's ideas concerning human nature. Both Illetterati and Sanguinetti point out how, for Hegel, thought is what differentiates human individuals from other non-human animals. Illetterati focuses on the classical characterization of humans as rational animals, and shows how, when considered according to Hegel's philosophical system, rationality marks human beings as essentially open to others and to alterity in general. In this sense, the essence of human subjectivity consists in the "natural" capacity to realize oneself as a rationally self-determining subject – i. e., as a *free* subject. In turn, the implementation of the subject's freedom essentially involves a relationship with otherness.

Sanguinetti too insists on the rational essence of humans, as well as on the fundamental link that Hegel draws between rational self-determination and freedom. He does so by carrying out an analysis of the very meaning of freedom in Hegel's *Philosophy of Subjective Spirit*. This analysis shows a fundamental connection between the capacity to be free and self-conscious responsiveness to norms. This latter is reached through a dialectical process, which coincides with the liberation from nature achieved by the spirit in different stages. However, drawing from John McDowell's recent works, Sanguinetti claims that Hegel's account of the process should not be read in evolutionary terms. In this way, he anticipates some issues from the second part of the volume, namely the possibility of reconciling the Leibniz-Kant-Hegel legacy with the post-Darwinian naturalistic account of the organism in general, and of the human individual in particular. According to Sanguinetti, from a Hegelian/McDowellian perspective, the possibility of a conciliation relies on a clear distinction of fields and methodologies, insofar as there is a fundamental difference between the philosophical and the scientific understandings of "what characterizes human beings as individual organisms of a specific sort". More specifically, all evolutionary, scientific, anthropogenetic understandings of human beings are not properly able to grasp the fundamental, constitutive, and thus causally inexplicable, self-referential nature of human beings.

Hegel is the figure in modern philosophy who most clearly stretches the understanding of the inner structure of living beings and of their relationship to the environment beyond the realm of purely biological sciences. Signally, Hegel points out that the dialectical relationship of human individuals with both their natural and their social environments is different from that of other animals to their purely biological complexion, as well as to their groups and species. One could say that Hegel tries to work out a holistic understanding of the totality of being, which can account for the dependency of human individuals

both on their societies and on their species, but that is also able to safeguard their individual independence and freedom. In this way, Hegel tries to avoid a reduction of human individuals to mere pawns within a society understood as a big organism. The next step in our conceptual history is thus, unsurprisingly, represented by Marx. By confronting recent debates in Marxian scholarship, Yusuke Akimoto shows how Marx's thought, contrary to what has long been assumed, is neither anthropocentric nor unable to understand the importance of the natural environment. Akimoto stresses that Marx's account of labor as a basic factor for the development of human nature is based on a triadic structure, which links together human individuals, society, and natural environment. This shows, according to Akimoto, that neither an organicist understanding of society, nor the assimilation of human individuals to purely natural organisms, would properly grasp what human nature, as it were, is.

Other historical successors of Hegel took seriously the need to avoid a reductionist understanding of human life. Among them, the so-called British Idealists tried to cope with the new view of nature sparked by Charles Darwin's theory of evolution. To them, Darwinism came as a renewed assault on the citadel of teleology, and, as such, as something deeply problematic. In his paper, Robert Kocis shows how two authors from this tradition, James Hutchinson Stirling and David George Ritchie, devoted considerable reflections to the issue. Stirling mainly criticized Darwinism, considering it a biased theory, incompatible with any sound philosophical system. At the opposite end of the spectrum, Ritchie tried to appropriate Darwinism, and integrate it into a fully-fledged philosophical system – one deeply indebted not only to Hegel, but even more to Kant's reflection on the nature of teleology. In this way, Kocis presents the philosophy of Ritchie as a significant philosophical achievement, capable of reconciling, even in a post-Darwinian era, teleology and life sciences.

An interesting alternative to the "Hegelian" development of Leibniz's ideas on organism and life, which, nevertheless, crosses in many aspects the trajectory of German Classic Philosophy, was developed by Haeckel, one of the greatest propagators of Darwin's idea in Germany. As explained by Caroline Angleraux, Haeckel, in his attempt to give a systematic account of the new discoveries in biology, and to achieve an almost metaphysical view of reality, incorporated Schelling's interpretation of Leibniz into his views. In particular, Haeckel transformed the metaphysical concept of the monad into the biological-physical, i. e., naturalistic, concept of monera. In fact, in his doctrine of monera as the smallest living parts of the universe, Haeckel tried to combine, in a Leibnizian fashion, philosophical reflection and scientific investigations in a vitalist view of the universe. Haeckel, in this sense, can be considered as a thinker at the crossroads of a new era, when natural sciences became more and more independent from philosoph-

ical reflections. On the one hand, he still attempts to offer a metaphysical perspective on the universe. On the other hand, perhaps due to influence from Schelling, he shuns dialectics, and firmly anchors his vitalism to a naturalistic ground, interpreting the basic constituents of reality as purely natural entities.

This same need, i. e., to reach a holistic, yet purely “natural” understanding of life and reality, lies at the core of the first works of Japanese modern philosophy. At its beginning, Japanese modern philosophers were deeply influenced by the dialectical reading of life and reality derived from Hegel, often through the filters of Green and Bosanquet, i. e. two important figures of British Idealism. Although British Idealism has long been as good as forgotten (at least until very recently), one should not forget that, at its time, it was hugely influential. In fact, while British Idealism’s star was quickly waning from the anglophone world, giving rise to the anti-idealistic stance of the first generation of analytic philosophers, dialectical explanations of life and human nature were brought forward in an original manner – and, for the first time, beyond “Western borders” – by the Japanese philosophers of the first half of the twentieth century. This is especially evident in the so-called Kyoto School, whose beginnings are conventionally placed in 1911 with the publication of Kitaro Nishida’s seminal work *An Inquiry into the Good*. At the time of their massive encounter with Western philosophical and scientific traditions, Japanese philosophers attempted to carry out an original form of synthesis, with the ambitious aim of overcoming all impasses of previous speculative systems, while, at the same time, integrating the most recent scientific theories. As Yujin Itabashi shows, with regard to the issues of the organism and the human individual, Nishida tries somehow to conciliate, or rather to sublimate, Hegel’s dialectical thinking with the then recent biological theories of John Scott Haldane (the father of J.B.S. Haldane). Itabashi poignantly shows that the Japanese thinkers, and notably the main representatives of the Kyoto School, were especially interested in a philosophical understanding of life, in all its forms.

This is shown also by the fact that, more or less in the same period, Hajime Tanabe, who was one of the first students of Nishida, and one of the most prominent and original ones, started to develop a “logic of species”. Tanabe devoted thirteen volumes to such an enterprise. Strangely enough, he does as good as never really tackle Darwin’s *Origin of Species*. This perplexing fact notwithstanding, Takeshi Morisato attempts to show how Tanabe’s highly metaphysical and speculative thoughts on the relationship between species and individual can fruitfully be employed for a philosophical and systematic understanding of organism which, at least in Tanabe’s view, should overcome the one-sidedness of both Kant and Hegel.

Naturalism has been the dominant metaphysics of most of contemporary Western philosophy. Perhaps predictably, however, there is much debate on its definition and scope, especially when it comes to discussing the status of “normative” phenomena in the world. In this regard, contemporary naturalism can be divided in two broad categories. On the one hand, the so-called “scientific”, “strong”, and “reductionist” naturalism, in which normative phenomena are reduced to non-normative ones. On the other hand, “liberalist” and “non-reductionist” naturalism. This latter view has the advantage of being more inclusive, but, at the same time, it needs a plausible explanation of how it could be possible to account for normative phenomena without resorting to the non-natural. In his paper, Andrea Gambarotto analyzes Hans Jonas’ attempt to overcome the “antinomical” stance on teleology that goes back at least to Kant, replacing it with a perspective grounded on the reciprocal co-implication of life and cognition. Gambarotto’s intention is to assess this approach, and see if it can be of use in the development of a non-reductive yet naturalistic philosophy of biology. In the end, Gambarotto shows that, by putting an excessive emphasis on the first-person perspective, Jonas’s account of the organism and teleology steps into “super-naturalistic” territory. Gambarotto believes, however, that freed from this excess, Jonas’ ideas could be of high interest in the development of a naturalized account of normative phenomena.

As a matter of fact, reductionism seems, to a higher or lesser degree, to be a significant element of many contemporary approaches to the organism. In fact, according to biologists Richard Lewontin and Richard Levins, it could be even counted as one of the constitutive traits of contemporary biology. Building on the Marxist tradition of dialectics (and, in particular, on Engel’s dialectics of nature), Lewontin and Levins have crafted an alternative approach, devoid of the “ideological assumptions” beneath the machine metaphor that shapes contemporary views of the organism and of its relation to its development and environment. In his paper, Pierfrancesco Biasetti tries to assess this approach, principally by adopting Lewontin’s constructivist views as a test case for dialectical biology. His conclusions are that while it is unquestionable that Lewontin’s characterization of the organism stands as an inspiring conceptualization for many system-centered approaches to development and evolution, it remains debatable whether these approaches can be considered “dialectical”, at least in the articulate sense of the term framed by Lewontin and Levins.

Besides the tradition of dialectical materialism, many works and researches have recently been carried out to show how Hegel’s *Naturphilosophie* can still be aptly deployed in order to advance our understanding of nature and human life. Sanguinetti, as already mentioned, insists that Hegel would be against any form of reduction of genuinely philosophical questions to historical-causal questions

concerning human specificity. In the penultimate chapter of this volume Lenny Moss advances a quite opposite view, pushing forward with certain Hegelian ideas in order to tackle fundamental issues in philosophical anthropology – and, we would say, also in metaphysics, understood as the doctrine concerning the basic structure and elements of reality. Although he avoids a causal account of human nature, Moss illustrates how some recent discoveries in paleontology and anthropology seem to be in agreement with a dialectical understanding of life and nature. Moreover, he points out that, while both Leibniz and Kant have considered the responsivity to norms that characterizes human beings as somehow static, without development, and, thus, as something without history, Hegel, thanks to his dialectical thinking, allows us not only to recognize stages within the development of human mind, but also to fill the gap between nature and spirit. Moss recognizes that Hegel's *Phenomenology*, by presupposing mindedness as somehow there “from the beginning”, cannot properly satisfy contemporary needs for a naturalistic account of mindedness. Moss, however, believes that some of Hegel's ideas could be used to such a purpose.

In this way, Moss' article clearly shows how the conceptual history we sketch in this volume is far from being dead, or accomplished. It is instead a living history, and a source of ideas and thoughts that, like living organisms, can keep living only when (self-)moving and developing. In other words, the life and liveliness of such tradition depends on our capacity to further develop it. According to such tradition, indeed, certain natural organisms understand themselves as freely self-moving and self-determining unities – this is what Leibniz would call *spiritual monads*. Spiritual monads are “naturally” disposed to build themselves respective to norms, and not only to natural laws. As a consequence, the topicality and the outliving of the conceptual history portrayed here depends on the very existence of subjects that are able to understand themselves as spiritual monads – and this means as subjects for which such a history is not simply assumed, or passively inherited, but also actively worked out, analyzed, and even transformed.

That the conceptual history inaugurated by Leibniz' monads and further enriched by Kant's reflections on teleology and by Hegel's dialectical thinking is still alive and kicking is lastly shown by another contemporary philosopher, with whose contribution this volume ends: Tom Rockmore. The validity of Kant's voice within the contemporary debates in philosophy of biology, especially as regards teleology, is pointed out in Chapter Two by Desmond and Hune-man. In this closing chapter of the volume, we can see how a certain development of Kant's views can help us also to understand the specific issue of human nature. Rockmore claims that the Copernican revolution operated by Kant should be implemented further into the form of a constructivist approach

to human sciences in general. These sciences do not just ascertain what we, as human beings, are. Rather, they participate in the making of ourselves. Indeed there is one fundamental “fact” the human sciences especially need to recognize in order to be both meaningful and truthful, namely that our nature consists in a kind of self-construction, or, to say it better, that our natural determination consists in the need, and somehow also the duty, to determine who, and perhaps even what, we are. No concept of human nature can be considered compelling. It goes without saying, though, that such self-construction is neither totally free, nor arbitrary – and it is definitely not to be understood in individualistic terms, being it always a social endeavor.

In conclusion, we take the liberty of saying that, if the conceptual history we have sketched here is correct, then it is also correct to say that we, as humans, are *natural born monads*. We are individual unities, that naturally strive to preserve ourselves as unities, but in a fundamental – and we would even say “essential” – relationship with an environment, both natural and social, which goes far beyond ourselves – and without which we would have no life. To Leibniz, the “external world” was somehow necessary in order to have something “going on” in the monad, since the monad, in the end, is a representation of its environment – and, ultimately, of the whole world. More “naturalistically”, all kinds of living organisms can be preserved only through constant exchange and communication with their environment. In the case of human organisms, communication and exchange concern not only one’s natural environment, including one’s own bodily constitution, but also the social environment. Indeed, the “moral”, or existential, determination of the human individual as a self-determining agent would make no sense, if the normativity to which one is supposed to be responsive were not embedded in an environment that, from time to time, urges one to exert one’s self-determination. Something “alien” is required to keep self-determination really, i.e., actively, alive. We could, in this sense, say, that the understanding of the fundamental “monadicity” of our existence was enriched first by Kant’s reflections on different types of teleology, and then by Hegel’s insistence on the necessity of alterity for the very possibility of one’s own genuine self-determination. If *this* is what we are, namely if we are self-consciously self-determining individuals in an environment that exceeds ourselves, and if such an environment, indeed, also partakes in making what we are, we could then paraphrase Sartre, and say that we are *naturally* condemned to “freely” – and this means also consciously – determine ourselves as self-determining living beings. Such a condemnation is both practical, in as much as it regards our actions and our drive of self-conservation, and theoretical, because we cannot help but try to find a clarified and comprehensible explanation of ourselves that is in agreement with the aforementioned natural deter-

mination to self-determination. And all this means that we are naturally born monads.

We cannot choose to be otherwise. We are born as monads, and our birth does not depend on us. We are only able partially to decide what kind of monads we want to be – and this implies, first of all, not so much what kind of identity we want, but rather what kind of environment we build for our self-preservation. We are mirrors of the universe – mirrors whose identity depends on our power to shape, at least partially, the universe itself, and on the shape we manage to give to it.

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