# New Foundations for an Evolutionary Ethics

*Patrick Tort*

Contemporary bio-ethics shares with the ancient tradition of natural theology the characteristic of assuming, in the face of the advances of a fundamentally materialist science, an *opportunistic* function, which is that of the adaptive rescue of spiritual values. Bioethical humanism exists only in the process of this perpetual movement of *repossession*, and its effort, established to this effect, leads back incoherently to the interminable dualistic confrontation between science and conscience, having failed to take upon itself the task of constructing a rationally-informed thinking on the relationships between the order of development of positive knowledge and the order of development of moral feelings, both in human evolution and in the history of societies. These matters hardly concern today's fashionable philosophers, whose dominant preoccupation seems to be to find a still-unfilled job – something between an esoteric magus and a preacher in vogue – on the great stage of the inessential upon which inconsequential thought is exhibited.

The almost complete absence of *fundamental* thought, bearing on *the relationships between scientific materialism and the theory of values*, or more simply between science and ethics, indicates perhaps that it has become necessary, if we are to consider these subjects, to raise oneself to an order of knowledge *other* than that which has, until now, obstinately upheld the aberrant dogma of their reciprocal independence.

The precipitous and marginal institutionalization of ethics must be analyzed, of course, as the symptom of this delay, but also as a symptom of the real inconsistency that confronts us as soon as we simultaneously pose the question of the *composition* of an *ethical committee* (an assembly of dignitaries drawn from various fields of

specialized knowledge and from the "great spiritual families"); that of its *powers* (at best "consultative," and, overall, symbolic); and that of its *real function* (to endorse, before public opinion, the essence of the ambitions which issue from the techno-scientific market, adjusting them to recommendations of prudence in their application, anticipating potential failures and trying to ward these off by assigning certain desirable "limits"). This marginal position of ethics becomes somewhat suspect when – for example – an international organization opens consultations of this nature many years *after* the actual implementation of a world program of research and study into the genetic diversity of human populations. The invitees are then bidden to share their point of view within the strictly set framework of a *technical* adjustment, which aims to make the program in question "invulnerable," and whose existence and active implementation have until now been the object of no "ethical" justification other than a global decree of universal benefit by its initiators.

Apart from all this, I shall here undertake to give a foundation to the ethical function by removing it from the residual religiosity within which it is very easily maintained, and which imposes ethics as a *possibly* regulatory norm – and thus absolutely open to circumvention, since it is up to us whether we choose to be religious or not – for every profoundly modificatory innovation which concerns Humanity, and especially concerning its biology. To go beyond the religious sphere signifies leaving behind a situation that can be fairly well summarized by saying that it is *understood* that morality exists and that the structuration of conduct according to ethical principles is at the same time *good in itself* and *necessary* to the proper functioning of society, but that since the good ought not to be confused with the useful, we must always hesitate between these two orders of goodness and, when all is said and done, in *principle*, we *understand* nothing.

We must disengage ourselves from the paralyzing commonplace, itself also *understood*, according to which science and morality have between them, by nature, no attributable connection, and that the latter would hold no value and no meaning, except by reason of its protected transcendence in regards to the former. If it is true that science is ethically neutral, and because of this can coun-

termand the accepted rules of morality in its developments and its applications, the consequence that institutes a rule of essential exteriority between the two discourses is all the more dramatically false since the hasty obligation with which "developed" societies have been satisfied to institutionalize ethics, *especially to treat the sciences*, makes clear to every intelligent observer the *error* of analysis which produces the *delay* that this haste reveals: If, for example, there existed no intimate relationship between biology and ethics, we could hardly understand how the first could offend the second, nor how the second could ever foresee that offense or even oppose it.

For the real link between the biological order and the ethical order belongs in fact to the sufficiently illuminated field of great evolutionary facts: with Humankind, the living being imagines its survival in the consciousness of the power of death, and that is again a *fact of evolution*, built with and sculpted from the biological, but presenting this singularity: the concerned party is endowed with the means of reflecting and utilizing the biological as a *tool* for its own construction. In other words, the evolution of the organic, social and psychic human complex is responsible for an evolutionary singularity; the ability of the human to recognize itself as *the only being capable of voluntarily creating in its own life that which is different, even that which is irreversible*, and, simultaneously or nearly so, to reveal that capacity as a *risk*, and therefore to oppose itself, by rational calculation, to the menace of destruction or enfeeblement that makes the depth of its own power weigh upon itself.

This growing awareness of the conjoined evolutions of humanity and of the places it colonizes, of human powers of irreversible action on these latter and of the resulting self-alteration, as well as the very general intuition of a global and potentially catastrophic dialectic of biotic *interactions* almost succeeded, at the beginning of the 1970s, in making emerging *ecology* on the political level the basis for a more realistic representation of fundamental solidarities; solidarities between living beings and their conditions of existence, between the members of Humankind as unequally endowed agents of the power to affect the equilibrium of the biosphere; and between the institutions which seem, contradictorily, to oppose, in the nonetheless unitary field of rational thought, the

project of innovative intervention and the will to survive. Had ecology been divested of its neo-Malthusian disguise, and fully developed its critical capacity to expose the inherent contradictions of a certain mode of exploitation of nature and of human beings, ecology could have served to construct an integrating and perpetually critical knowledge of Humankind in evolution, a knowledge perhaps apt to furnish one of several basic elements needed to escape from the theoretical and technical dissociation which today rules its opportunistic implementation by political ideologies and governments. Instead of making use of Darwin's profound thoughts – truly fundamental in this respect – institutional ecology and a good part of political ecology have become resolutely entangled in Malthusian ideology, thereby giving new life to an initial misunderstanding in European thought (the confusion of Darwin with Malthus, to which Marx himself was not immune) of which I have elsewhere studied the historical and theoretical determinants.[1] This global dialectization having been missed, we find ourselves thus again confronted by a dualistic aporia that underpins the maintenance of the opposition between two orders of reality: on the one hand scientifico-technological materialism and mercantile production, on the other hand "values" or "conscience," even though we know theoretically that the phenomena of conscience and moral behavior ("immaterial" factors, in the language of the dominant ideology) are themselves the results of a *material* evolution, proceeding from gradual evolutionary acquisitions linked to organic developments, at the heart of the mobile networks of structuring adaptations, and marking stages of growing complexity as an outcome of the interlinking of chemical, biological, psychosocial and behavioral determinants. This expulsion of evolutionary solidarities leads to the eternal reproduction of the conflict between reductionist scientists on the one hand (Spencer in the 19th century, American sociobiologists in the 20th century) and *theologians* on the other hand, a conflict which still today remains one of the recurrent models of scientifico-ethical debate. This leads, equally inevitably, to the implicit consideration of ethics as nothing more than the *conservative* partner of *progressive* techno-sciences, and the attention we pretend to pay appears more and more like an ideologico-political homage to

the virtues of ancestral values, which come from the cultural tradition and are respectable as such, but are always subject to relegation to the background by a concurrent and naturally victorious valorization of the cases of "progress" and of innovation that are quite apt to play, when necessary, the dominant role in the field of positive representations of liberalism. However, thought cannot move ahead so long as this blockage endures, the configuration of which best serves, moreover, the interests of an ideology that seeks the reciprocal exteriority of two orders of positioning and argumentation: innovative risk against eternal values. This permits, *ad libitum* and according to circumstances, restraining the former when its possible or probable developments present immediate dangers to the political system, or, on the contrary, grant the latter the eternal ability to make every "assembly of sages" seem an outdated Areopagus of anxious patriarchs.

Let me note in passing the gain, for an informed power, that results when it consults "wisdom" rather than itself arranging – on the occasion of an "ethical" evaluation of a project or program which entails the possibility of a large-scale transformation of biological and social equilibriums – the confrontation of scientific assessments which may be objectively opposed. Since the juxtaposing of beliefs and opinions is not an equivalent of methodologically organizing the encounter of crossed, and thus potentially contradictory, rationalities, the *project to be justified* would therefore not be submitted to a global critical evaluation as it results from the mutual testing of disciplinary perspectives. The pluralism of "sages" is analogous to that of believers. Itself called on to lead to a compromise, it in turn compromises the chance that a universal perspective of systematic confrontation between scientific logics (biological and social) would have to lead to a critique founded on something other than a minimal combination of subjective diversities, partially unified by a residual consensus which remains quasi-religious; that is, in other words, founded on something other than an ideological mean that implicitly admits the transcendence of ethics. In observing a "panel of sages" or an ethical committee, we may get a clear enough idea of this phenomenon by observing the way in which the "scientific" participants instantaneously feel obliged to become spiritualist philosophers.

The incoherent rapport between science and ethics thus stems from the admitted fact of *reciprocal exteriority* which an ideological strategy imposes on them, and thus from the fact of their non-conjunction in their exploration of their respective horizons. The *conjoined evolution of rationality and ethics* (Darwin) is a forgotten fact, for the political system needs a permanent means of calling for the *transcendence of the ethical*, on the condition of reserving at every point in time the possibility of discrediting it as *theology*.

However, in 1871, it was Darwin, whom until quite recently, and quite illegitimately, it was the rule to consider as the guilty instigator of an ethics founded upon the pursuit of selective elimination in the social universe, who gave us, on the contrary, the theoretical tools which permit the construction of a *materialist ethics* founded, certainly, upon evolutionary biology, but *not reductionist* and *prohibiting all attempts at domination by force in human relationships*. This is what I showed in a book published in 1983,[2] and this is what has become progressively more accepted, over the ensuing years, by the international community of specialists among whom some, at the beginning of the 1980s, still approached Darwin through the singularly deforming prism of Spencer's evolutionary *philosophy*.

## Darwinian Moral Theory and the *Reversive Effect of Evolution*

The dialectical replacement of an old academic debate is never easy. If the one dating from the beginnings of modern biology, that is the debate opposing *nature and culture* or *innate and acquired*, still holds a symptomatic capacity for repetition, it is because it records above all *another* capacity, which is the spectacular dissimulation of a social and political *incapacity*: that of responding to the ethical disarray which accompanies the observation of the great fact of *inequality*. It is an easily-repeated commonplace – its fundamental truth need not be doubted, only recalled – that every appeal to a *natural* inequality, individual or collective, implies a dispensing with the obligation of finding a remedy by social or cultural means. But just as the single great political question is that of

equality, the single fundamental and serious ethical question which a society must answer is that of the inequality which affects its members, or which opposes one society to another.

Darwin has been seen, for more than a century, as the father of modern inegalitarian theories, the promoter of an ultra-liberal ethics of obligatory competition and elimination, the founder of negative eugenics, the rationalizer of Victorian imperialism and, heedless of consistency, the theoretician of "scientific racism," the first representative of "Social Darwinism" and the defender of the selfishness of the well-to-do. Without regard for the contradictoriness of this idea, Darwin has been seen as an amalgam of Spencer, Galton, Cecil Rhodes, Gobineau and Malthus. This flood of errors – or rather, in the strong sense, of *countertruths*, since they are at every point the *contrary* of the truth – is due to a very precise historic situation which must be clearly elucidated if we are to understand the tenor of the misunderstanding which has haunted the reading of Darwin in England and in the world. Having done so, we may submit it to a critical reexamination, precisely normed in its method and exhaustive in its extent.

## The Spencerian Grid and the Context of Its Reception

The end of the year 1859 saw the appearance of *On the Origin of Species*. Some months afterwards the *Program* of Spencer's *Synthetic System of Philosophy* began to circulate, and was adopted rapidly and simultaneously as the organon of philosophical evolutionism and of individualistic English liberalism. But the philosophical production of Spencer goes back to 1842, and is from the beginning "synthetic," carrying the seeds of all the "sociobiologies" and "sociophysics" of the future. During that year, in fact, Spencer wrote a dozen or so letters for the *Nonconformist*, in which he advanced individualist theses hostile to all governmental intervention in the social domain (such intervention, he asserted, should be applied only to broad adaptive regulation, the idea for which he got from Lamarck). These letters already expressed the double reductionism that subjugated social to biological laws, and, by their intermediary, to the physical laws of a mechanics of aggregation. We may already detect in their clearest

theoretical articulation the first central ideas which organize his *System of synthetic philosophy*. He says, for example, in his first letter that "everything in nature has its laws. Inorganic matter has its dynamic properties, its chemical affinities." And he continues: Organic matter, more complex, more easily destroyed, also has its governing principles. It is with matter in its aggregate as it is with matter in its integral form. Living beings have their laws, as does the matter from which they are derived. Man, as a living being, has functions to fulfill, and has organs to accomplish these functions. It is with man morally as it is with man physically. The mind has its laws, like matter. What happens to man socially happens for man individually. Society has its guiding principles, as surely as man has. They may be neither so quickly identified nor so quickly defined. Their action may be more complicated, and it may be more difficult to obey them, but nonetheless the analogy shows us that they must exist.

Appearing before the great accomplishment of the *Synthetic System*, these pages read as something of a theoretical outline of all the reductionist programs that were to deluge Western evolutionary thought. Indeed, the profoundly prototypical character of the contents of these letters (written in 1842, and published in a collection the following year under the title *The Proper Sphere of Government)* was underlined by Spencer himself when he acknowledged them as the origin and foundation of his *Social Statics* (1850), and, later, of the *Principles of Psychology* (1855), and the whole of the synthetic philosophical system, whose publication began in 1862 with the *First Principles*, in which he reveals what was to become the canonical formulation of the famous "law of evolution."[3] We must keep this in mind: when *On the Origin of Species* appeared, Spencer's *philosophical evolutionism*, which was based on developmental biology, Lamarckian adaptationism and physical generalities invented by Spencer, had already popularized his essential conclusions in the vast psycho-socio-economico-political field, before trying to legitimize them by the composition of the different regional sections of the *System*, and whose ideological influence rapidly became so widespread throughout Europe and the world that, until the beginning of the 20th century, it virtually supplanted every other intellectual influence, including that of Comtian-style Positivism. It was essentially through this filter, whose systematic

power and dissemination are unique in modern philosophy, that the "reception" of Darwinism was effectuated almost everywhere.

To help his novel theory gain acceptance Darwin, as we know, sought alliances. He surrounded himself with a diverse group of naturalists and thinkers, who had in common, not doctrinal agreement about the theory of descent modified by natural selection, which alone could have assured a homogenous and coherent reception of his ideas, but a vaguer support for transformationalism, matched with the desire to see triumph in the academy a type of scientific practice rid of dogmatic obedience. Spencer, who did not belong to the group in a formal sense because of multiple divergences and its participation in a way of thinking less strictly naturalistic than his own, nevertheless maintained a dialogue with this group: their relations varied between general agreement (about the reality of the evolutionary movement, which he defended on his own on the basis of a model taken from van Baer's embryology, and the Lamarckian principle of the direct action of the environment) and individual polemics (for example on the ethical question, with Huxley in a public fashion, but also with Darwin in a way that was entirely implicit). Darwin, even if he granted a certain credibility to some of Spencer's ideas, notably in the realm of botany, never regarded him as a serious correspondent in natural history, and, as can be seen in reading his *Autobiography* (1876),[4] considered the reading of the whole of his work to be scientifically fruitless. He had to count, however, on the influence of the philosopher, who borrowed from him the concept of *natural selection* in renaming it *survival of the fittest*, in order, explicitly, to erase the anthropocentric connotations – which harmonized with Darwin's needs at the time – and, implicitly, to adapt the Darwinian concept to the use to which Spencer's sociology would put it. Darwin's acceptance of this terminological readjustment perhaps produced, as has been previously suggested, more real damage than theoretical benefit. Confusion between the two doctrines of "evolution" became easier both from the moment of this terminological and conceptual "exchange," and because Darwin, in spite of maintaining a fairly distant tone, granted to Spencer, in chapter four of *The Descent of Man*, the title of *great philosopher*. In fact, Spencer used a reinterpreted Darwinian selection as a conceptual instrument to

combine his sociological "Lamarckism" (based on automatic adaptation) with the "social Darwinist" dogma of the "natural" elimination of the least fit within social competition. And these became the basic ingredients which served, for a long time, as the "naturalist" base of ultra-liberal ideology, as it quickly spread to Europe, to the United States and to the rest of the world. The consequences in the ethical domain (Spencer's *Data of Ethics* appeared in 1879) are clear: moral and behavioral altruism derive from the natural selfishness of the individual and produce in return for this individual, through the intermediary of the strengthened group, an individual benefit born from the social advantages which balance the sacrifice of a part of the individual advantages which all may draw by obeying the dictates of one's own interests alone.

As for Darwin, during the same period, the situation that resulted from his quest for alliances and the contemporaneity of development, which was at the same time parallel, heterogeneous, and crossed, of this formidable ideological movement of "philosophical" accompaniment to the deployment of Victorian industrialism became, for generations, obscure and complex, open in an unredeemable manner to the renewal of a structural misunderstanding. If I were to give a schematic, and nonetheless precise, account, I would say that:

1) The first Darwinian "revolution," included in the theses of the *Origin of Species*, did not at first produce, as we might have expected, the universal approbation of the Darwinian analysis of the mechanics of evolution, but merely the tendential reinforcement of *transformationalism* in general, and often a transformationalism dominated by Lamarckianism.
2) Darwin's supporters were for the most part only fairly weakly "Darwinian," and agreed only on the overall stakes in the struggle against the old scientific style and its institutional representatives. It is in the larger framework of this progressivist combat that the demand, many times reiterated, will made of Darwin to broaden his transformationist proposal to include Humankind, so as to strike a decisive blow against the old dogmatic vigilances. However, this secularization of discourse on Man will be built upon an immense misunderstanding.

## *The Descent of Man* and its Eclipse

When *The Descent of Man* appeared in 1871, the wait of the "Darwinians" was *a priori* fulfilled, in the sense that it was decreed and understood, even before the publication of the work, that Darwin there "extended to Man" the conclusions of the *Origin of Species*. This long wait and ideological pressure, joined to a "philosophical" context which was deeply unified by the growing success of Spencer's system, largely explain the fact that the *Descent of Man* was hardly ever *read*, even when it was quoted or analyzed by commentators. For almost all, it is and it has remained the coherent and homogeneous successor, strictly "applicative," of the *Origin of Species* and of the heart of selective theory. The importance of this phenomenon, the effects of which compromised the clear understanding of Darwin's anthropology for a long time, can not be overemphasized. It is here that the *understood* forbids understanding and imposes *misunderstanding*.

It has been my task since the beginning of the 1980s to elaborate what that anthropology consists of, and to give back to Darwinian theory its overall coherence against the misinterpretations whose historical determinants I have just sketched. The ethical question is central, and the consequences of its treatment by Darwin are considerable. As this exposition requires an analysis of the important concept of the *reversive effect of evolution*, I will have to have recourse here to self-quotation, from an article written by me in 1992:

The concept of the *reversive effect of evolution* permits us to understand the transition, imagined by Darwin, between that which we designate in habitually disjunctive terms as the sphere of "nature," governed by the strict elimination of the least fit, and the "civilized" social state which signifies, to the contrary, the generalization, through institutional and ethical means, of behavioral patterns opposed to the free play of that law.

It results from a paradox that Darwin encountered in his essay on the extension of the theory of natural selection to Humankind, and is born of the theoretical effort which is inspired by our having to think through the social and moral future of humanity as a consequence and a particular development of the anterior and

necessarily universal application of the law of natural selection in the general sphere of life. This paradox – we could call it the *ethico-civilizational* paradox – may be formulated in the following terms: natural selection, the guiding principle of the evolution of life, implying the elimination of the least fit in the struggle for existence, selects in humanity a form of social life whose progressive march towards that which we call "civilization" tends more and more to exclude eliminatory behaviors through the interplay of morality and institutions. In simplified terms, *natural selection selects civilization, which is opposed to natural selection*. How may we resolve this paradox while remaining within the logic of transformational continuism, that is, without introducing between Humankind and the rest of living nature a break which the memory of a special creation and essence would inevitably evoke, and by this, the inspiration of ancient theological dogmas? The solution is to be found at the heart of the logic of the theory of natural selection as a theory of advantageous variation. Natural selection – here is a good place to underline a fundamental point – selects, as we might predict, not only organic modifications which hold an adaptive advantage, but also *instincts*, which are facilitated by the very same principle of cumulative sorting and of transmission of positive variations. Among these advantageous instincts (that is, bearers of a "good" variation), those which Darwin calls *social instincts* have been particularly retained and developed, as is amply demonstrated both by the universal triumph of the communal way of life within humanity – a way of life partly inherited from our simian and closest simio-human ancestors – and the tendential hegemony of people called "civilized." But in the state of "civilization," the complex result of the growth of rational faculties, we see, along with the increase in power of feelings of "sympathy" and the different moral and institutional forms of altruism, an increasingly marked reversal of individual and social behavior with regard to the pure and simple pursuit of selective functioning as in anterior stages of evolution: instead of the elimination of the least fit there appears, with "civilization," the duty to assist, which sets into motion the multiple procedures of aid and of rehabilitation; instead of the natural elimination of the ill and the infirm, they are safeguarded by the mobilization of technology

and knowledge (hygiene, medicine, etc.), whose aim is to reduce and compensate for organic deficits; instead of accepting the destructive consequences of the natural hierarchies of force, number, and vital aptitude, we see a rebalancing interventionism which is opposed to disqualification from life and society. Through the mechanism of social instincts, natural selection, *without discontinuity*, has thus selected *its opposite*, that is: a normed and progressively growing group of anti-eliminatory social behaviors – thus anti-selective in the way that the term "selection" is used in the theory expressed in the *Origin of Species* – matched with an anti-selectionist (in the sense of anti-eliminatory) ethic, translated in rules of individual conduct and in laws. The progressive emergence of morality thus appears as a phenomenon which is indissociable from *evolution* , just as are the religions that normally underpin its development; religions that were considered by Darwin, outside of all transcendence, as pure *facts* or evolutionary events, in which he recognized the circumstantial vehicles of a *morality* whose tendential hegemony "civilization" must, little by little, make universal. These are the normal consequences, although literally *unexpected*, of Darwin's scientific materialism, and of the *inevitable* logical extension of the theory of natural selection to the analysis of the future of human societies.

Thus, this extension, that too many ancient or recent theorists, misled by the pre-installed Spencerian grid of interpretation of Darwinism, or by its contemporary re-registration, have hastily built on the false and reductionist model of ultra-liberal "social Darwinism" (the application to human society of the principle of the elimination of the least fit within the context of generalized competition); this extension, I say, cannot, in all Darwinian rigor, take place except in its modality as *reversive effect*, which obligates us to conceive of the reversal of the mechanism of selection as the basis of and condition for the accession to "civilization." This is the way in which the union (or unification) of the homogenous and of the opposed takes place, which I have tried to make comprehensible through the topological evocation of the twisting of the Möbius strip, the perfect metaphor of a *reversal without rupture*, of a continuous and materially evident reverse transition of something which, in its initial state, was also evidently given as *distinct*

and *opposed*. It is this too which prohibits, for example, contemporary "sociobiology" – which holds, on the contrary, to the idea of a simple continuity (without twisting or reversal) between nature and human civilized society – to lay legitimate claim to the scientific, or even "philosophical," patronage of Darwin.

Finally, the reversive operation is what guarantees the final justice (and the practical wisdom) of the distinction/opposition between *nature* and *culture*, in avoiding the trap of a magically-occurring "rupture" between the two terms: evolutionary continuity, through this operation of progressive reversal linked to the development – itself selected – of social instincts, produces in this manner not a real rupture, but an *effect of rupture*. This results from the fact that natural selection has been found, in the course of its own evolution, to be *itself subject to its own law*: its newly selected form, which promotes the protection of the weak, wins out because it presents an *advantage* over its old form, which on the contrary privileged the elimination of the weak, a principle that is beginning to decline without, of course, disappearing immediately. The new advantage is then not of a biological order: it has become *social*.

This then is exactly, for Darwin, the transition between *nature* and *culture*, to return to the terms which almost invariably ornament, in their pretty academic opposition (or in the opposition between their opposition and their non-opposition, as in, for example, relatively recently, the duel between Levi-Strauss and Moscovici), the heading of the first chapter of philosophy textbooks. This is an old debate, assuredly, but one whose terms themselves, like the link between them, have evolved through the course of history, without there having been a moment at which we can say that the metaphysical component has been totally lost (and which we still find within certain uses by "materialist" theory of the "quantitative leap"). This debate has been superseded, all the same, without our knowing it, since 1871, and superseded in a manner which has been completely *dialectical* – the term expressing here a non-trivialized meaning –, implying the progressive transformation of one reality into another of a higher evolutionary level through the test of contradiction and the overturning of the antithesis, without that all this would

bring about a rupture of identity or an intervention of heterogeneous processes.

Two models can facilitate the understanding that we may draw from the *reversive effect*: the topological model, already mentioned, of the constitutive twisting of the Möbius strip: the progressive passage without "leap" of one of the sides of the band to the other which is initially opposite, making it appear that the twisting itself has conferred on this Möbius strip the property of having only a single face and a single edge. From this, taking into consideration all that has just been said, the Möbius strip, the topological model, is the metaphor for a *dialectical structure* upon which contemporary philosophy might undertake an examination which could, should this happen, help to extricate it from the relative insignificance and the decorative gratuity of its usual enterprises over roughly the last 20 years.

On the other hand, the model of the branching *tree*, itself one of the central representations of Darwinism, whose young branches represent the birth of varieties which will eventually supplant, by their selected development, those same branches from which they issue – that is, the exact model of selective evolution, applied here to itself, or self-inclusive. But it is quite precisely this which is called into question when Darwin declares in the *Descent of Man* that under the reign of civilization (whose degree depends on the progress realized upon its reversible loop), natural selection, which has given up its place to *education*, is no longer the principal force that governs the evolution of societies.[5]

Of these two models, the first, the coil, which is borrowed from topology, introduces a dialectical logic of reversive continuities. These reversive continuities are able to make use of expedients like the "quantum leap" in an attempt to overcome, for example, the academic opposition, which I have just described, between *nature* and *culture*, or between *continuity* and *rupture* in the relationship between these two terms, the latter being but the trace of the old conflict of two now exhausted dogmatisms. The second model, the tree, which derives from the naturalistic model and is an emblem of the theory of descent, introduces in this context an idea that it was important to deduce from the logical apparatus put in place by Darwin in 1871: that given the universal character

of the dynamic of selection in the history of living beings and of that which constitutes their sphere of life (or, using the terms of Faustino Cordon, of action and experience[6]) *natural selection also evolves, following a law to which it subjects the whole of the sphere that it governs*, which ultimately has the tendency to produce its own negation in the progressive arrival of a *social* hegemony of anti-selective behaviors. We here touch upon a naturalistic explanation of morality – founded upon the thesis of an evolution by selection of instincts, and thus of behaviors – which would not immediately be the equivalent of a general theory capable of defining the psychogenetic and sociogenetic determinations of the phenomenon, but all the same indispensable for establishing the scientific conditions of its possibility.

The naturalist model, effectively at work in the production of civilization as Darwin sees it, is thus wed to the reversive dynamic which symbolizes its operation in the dialectical model: an indication at least that in this circumstance, around such objects, and under intense epistemological scrutiny, the sciences of evolution and philosophy will perhaps be able to discover together something pertaining to the order of truth.[7]

## The Secularization of Ethics: Materialism, Morality, Evolution

The concept of the *reversive effect of evolution* and the discovery of its structuralizing operation at the heart of Darwinian anthropology have opened up the possibility of exploring the relationship between materialism and morality, in going beyond the endlessly reiterated aporias of philosophical tradition, the model for which could be the following objection: certainly, the reversive logic as it is articulated in Darwinian theory of civilization can trace the outline of a genealogy of morality, but can it account for the irreducible characteristics of *ethical experiences* as they appear in the intimacy of consciousness itself, as "feeling of value"? This question is but a reformulation of the criticism that Lalande[8] addressed to Spencer, who thought he had attained, on the ethical side of his system, the objective of a "secularization of morality." No matter

how far one goes on the path of an analysis of morality by the processes of its genesis, and no matter how *genealogically* convincing an etiology that ascribes moral behavior to various civilizational refinements of selfish conduct and of utilitarian calculation, every moral action *loses* its moral character as soon as it appears to be reducible in the final analysis to a determination of this order. The inner feeling of value and of duty removes ethical experience from what might appear to be the reduction of these experiences to the mere imminence of the material series, leading back towards the idea of a transcendental obligation. Here again, the non-reading of Darwin leads to the classic mistake which consists, as a last resort, in seeking refuge outside of science, in the in-between of a philosophy like Rousseau's, for example, in which the exposition of "passions" replaces, from the outset, the modulable fiction of an ethical foundation of which Humankind would be the generic trustee. Between the failure of the Spencerian attempt – whose logical shortcomings I have elsewhere identified in the inability of the organismic model to provide a viable foundation for an individualistic sociology and ethics[9] – and the preformationist naturalization of affective behaviors, Darwin is the only thinker to propose a coherent model that escapes the dangers of falling back into transcendent obligation, into an optimistic theology of passions, or into organismic reductionism. Here I will only note some consequences of Darwinian theory that might be considered fundamental in an ethics granted its own origin within evolution:

The fact that *love* can have upsetting effects with regard to simple selective efficacy marks it as part of the opposition between certain effects of sexual selection (oriented toward reproductive success) and natural selection (oriented toward success in the universal struggle for existence). This is the case in particular with certain birds, whose extraordinarily heavy courting plumage shows how vulnerable an already evolved being is prepared to make itself, in order to gain the affection of the loved one.

That the development of *social instincts* rests originally on the concern accorded to progeny, and extends in the human species to all the representatives of humanity, and even to its animal companions,[10] reverses the idea of fundamental selfishness and places women – in opposition to the largely vulgarized acceptance of

Darwin's supposed "anti-feminism" – in a privileged situation, given the "high degree of morality" that constitutes the present and the future of "the most noble part of our nature."

That *morality* is a *fact of evolution* will not be contested by those who accept the most general tenets of transformationism. To the extent that this is accepted, it is a necessary consequence that morality, subject in its emergence to the law of selective advantage, fits, outside of any transcendence, within an *evolutionary tendency* with objective landmarks; and this is enough to rid it of the old teleology.

That *the conjoined evolution of rationality and of moral sentiments* contradict on many points the reduction of social life to the primitive (selectionist) model of biological evolution is now explained by reversive theory.

Finally, that the *effect of transcendence* of the moral commandment and the subjective impression of the irreducibility of the *feeling of worth* find a psycho-genetic explanation in the Freudian theory of *sublimation* may today appear to be the materialist response to the objection which tirelessly opposes them to every attempted comprehension of the springs of morality and the affective commitments in their evolutionary origin.

Darwin's anthropology permits the *materialist reconquest of morality* and of a great part of psychology, in *relegitimizing the ethical requirement of the subject for reason.*

With the establishment of these foundations, the road is henceforth clear to begin to reflect non-theologically about ethics.

## Notes

1. See esp. *Misère de la sociobiologie*, Paris, 1985, part II; the discussion "Introduction à l'anthropologie darwinienne" in: *Marx et le problème de l'idéologie*, Paris, 1987; *Darwinisme et société*, Paris, 1992 (first lecture); *Dictionnaire du darwinisme et de l'évolution*, Paris, 1996 (article on "Malthus" and the Summary).
2. *La Pensée hiérarchique et l'évolution*, Paris, 1983.
3. See H. Spencer, *Autobiographie*, edited by P. Tort, Paris, 1987, pp. 87-91.
4. See J.-M. Goux (ed.), *Darwin. Autobiographie. La vie d'un naturaliste à l'époque victorienne*, Paris, 1985.
5. See C. Darwin, *The Descent of Man*, 2nd ed., London, 1882, p. 618: "Important as the struggle for existence has been and even still is, yet as far as the highest part

of man's nature is concerned, there are other agencies more important. For the moral qualities are advanced, either directly or indirectly, much more through the effects of habit, the reasoning powers, instruction, religion &c., than through natural selection; though to this latter agency may be safely attributed the social instincts, which afforded the basis for the development of the moral sense." This concluding passage echoes an idea developed earlier in chapter V (ibid., p. 137): "With civilised nations, as far as an advanced standard of morality, and an increased number of fairly good men are concerned, natural selection apparently effects but little; though the fundamental social instincts were originally thus gained."

6. F. Cordon, "Interprétation évolutionniste de la biochimie. Les avantages sélectifs qui opèrent dans l'origine et le développement évolutifs du métabolisme cellulaire," in: P. Tort (ed.), *Darwinisme et Société* (Paris, 1992), pp. 449-59.
7. P. Tort, "L'effet réversif de l'évolution. Fondements de l'anthropologie darwinienne, " in: idem (note 6), pp. 13-46.
8. A. Lalande, *La Dissolution opposée à l'Evolution dans les sciences physiques et morales*, unpubl. PhD. thesis Paris, 1899, published in 1930 under the title *Les Illusions évolutionnistes*.
9. P. Tort, "La synthèse organiciste. Spencer et l'évolutionnisme," in: idem (note 2), pp. 329-431.
10. See C. Darwin (note 5), p. 123: "Sympathy beyond the confines of man, that is, humanity to the lower animals, seems to be one of the latest moral acquisitions."