

# Ethics and juridical normatives in the postmodern scientific and technological practice\*

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## Resumen

En esta ponencia se discuten dos cuestiones propias de la transición de la modernidad a la posmodernidad. La primera se refiere a la polémica que se origina de las consideraciones sobre la crisis y la emergencia de un nuevo paradigma de conocimiento, específicamente en lo que el mismo significa respecto a las relaciones entre ciencia, derecho y ética. El segundo, va dirigido a destacar el papel de la ética en las sociedades contemporáneas, específicamente en lo que se refiere a las virtudes de la ética aplicada a la ciencia como constructora de derecho, dentro de una praxis democrática.

**Palabras claves:** Modernidad, Posmodernidad, Etica Aplicada, Praxis Democrática

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# Lo ético y lo jurídico normativo en la práctica científica-tecnológica posmoderna

## Abstract

Two issues are discussed in this paper related to the transition of modernity to postmodernity. The first one refers to the polemic originated by the considerations about the crisis and the appearance of a new paradigm of knowledge particularly in what it signifies with respect to the relationship between science, law and ethics. The second one is aimed to oustand the meanings of ethics in contemporary societies, particularly as referred to the virtuousness of ethics applied to science as constructor of law, within a democratic praxis.

**Key words:** Modernity, Postmodernity, Applied Ethics, Democratic Praxis

It can be considered that the so called *applied ethics* are social practices characteristic of the western postmodern societies. With this term we refer to that ethics produced in specific social environments, through a critical, communicative and interdisciplinary hermeneutics. What distinguishes the *applied ethics* is: on one hand, that it is created and developed, not as an ethics of principles, but as an ethics constructed and argumentally founded on the dialogue produced on specific social environments; on the other hand, that the Law risen from that practice, is produced and developed within the same dynamics of this pragmatic ethics, both acting as social regulators of community base. Different from the juridical normative which at last is imposed by the application of a sanction (external control), these ethical norms are aimed to conscience and subjectivity by using the dialogue that allows argumentation, conviction, criticism and consensus. In that sense

they have the power to create conscience, at time they instill responsibility as the basis of their praxis.

Among the applied ethics socially relevant outstand those risen from the scientific practices (also can be found those applied to corporations, businesses, information and social communications), specially bioethics, genetics and that of ecology itself. The importance that, face to others, we place on the ethic applied to technological science, is related not only to the protagonic role that science and technology have fulfilled and currently perform in the development and ordering of the contemporary societies, but particularly to how meaningful is the outcome of this application, considering that science, in its classical conception, has eliminated from within all ethical competence. Furthermore, different from other social practices, the characteristic of its delimitation and development as knowledge, has been the devaluation of other types of knowledges, within which outstands morals. Several issues, then, arise. ¿How come a social practice as powerful and self-sufficient has now the need of ethics to impose its own limits? ¿Do not these limitations retract the basis on which scientific knowledge is based? ¿Why that universal and formal law cannot be the source of its regulation?

I believe that the appearance of *applied ethics* and its relationship with Law in the scientific and technological practices account for: a) the rise of a new paradigm of knowledge that can be considered the result of the crisis of modernity; and b) of the democratizatiional tendency that, as an effect of the process of globalization, has extended in the world as a cultural context of political and social practice.

If the first one may be indicating the transition or the appearance of a new socio-cultural or epochal stadium that has been called modernity, the second one speaks of the continuity and deepening of processes that are the consequence of the socio-cultural project of modernity itself. By accepting both possibilities we are

then setting ourselves in a place of confluences, in that present of eternal transition, which Sense is always a “to be”, towards which we are oriented by the illusions of “ what it was” and the “symptoms of what will be”.

It is from this perspective that I will approach the two issues that I intend to discuss in this paper. The first one refers to the polemic originated by the considerations about the crisis and the appearance of a new paradigm of knowledge, particularly in what it signifies with respect to the relationship between science, law and ethics. The second one is aimed to outstand the meaning of ethics in contemporary societies, particularly as referred to the virtuousness of ethics applied to science as constructor of law, within a democratic praxis.

## I

It seems that there is no other way of regarding the world we live in but saying that we are in “crisis”, and so referring: on one hand, to modernity as the period of civilization where it manifests and transforms, and on the other hand to the one that is deeply performed in the paradigm of dominant knowledge in that period and, finally, to the main conflicts manifesting it in the relationship between economic, political and socio-cultural systems. It is important to note that in all those references, science and technology have a central place in their qualification and interpretation.

There are countless interpretations and reinterpretations about modernity and its “crisis”. In this paper I will only take into account those (some of them) that will allow the understanding of tensions and its resolutions, in the relationship established between ethics, science and law. I will, therefore, emphasize the conception of “crisis” that refers to the one which affects the paradigm of knowledge characteristic of modernity.

Among the different authors referring to this “crisis” stands out : Alain Touraine<sup>1</sup> who relates it to the excision between the

two faces of modernity, *rationalization* and *subjectivation*; and Boaventura de Sousa Santos<sup>2</sup>, to whom it has been the result of the tension between the two pillars of modernity, *regulation* and *emancipation*.

Faced to the “classical” interpretations that identify modernity only with rationalization and its efficiency, for Touraine, modernity leans on the dialogue between two principles, Reason and Subject, that along history have become separated, this being what, as a consequence, is perceived and lived as a “crisis”: “Without the Subject, the Reason becomes an instrument of power and without the Reason, the Subject confines itself in the obsession of his identity” (Touraine, 1993: 19). I agree that both principles are present in the development of modernity, becoming much more visible recently, when criticism started to be shed upon modernity. It is true indeed that the process of establishment of reason or of rationality has led to the formation of a Subject aware of his emancipatory possibility, by turning him free from ethical religious links, thus allowing the appearance of personal autonomy and responsibility. The same is true of the process of progressive rationalization (explained by Weber) that produced a “disenchantment” desacralizer of the natural and social world, and that by turning dominant, invaded as an instrumental rationality characteristic of science, the communicative social sphere of the “world of life”<sup>3</sup>.

We can not deny that the process of Illustration was a process of rationalization that “provided the basis for the appearance of modern science, the rationalization of law based in the dissociation between legality and morality, and the emancipation of art from those contexts in which religious and practical issues are raised” ( Wellmer, A. ,1979: 76). In that sense, Reason imposed over Subject, since science, through its development, acquired value and social legitimacy, so that the possibility of KNOWLEDGE was reduced to scientific knowledge and as such, neutral, objective and rational, thus eliminating all possibility of rationality on the

knowledge created or constructed in praxis. In spite of that and with the new reconstructive methodologies, we have been able to put in evidence "the hidden and silent subjective dimension of the objective, the rational dimension of the emotional and the emotional dimension of the rational" ( Fox Keller, Evelyn: 145). "There is no modernity without rationalization, but not either without the formation of a subject-in-the-world that feels responsible face to himself and to society" (Touraine, 1993: 62).

For Boaventura de Sousa, the paradigm of modernity was founded on two pillars: regulation and emancipation, each one formed by three main logics: The first one, by the logic of the State, the market and the community, whereas the second by the logics of rationality: the expressive-aesthetic of art; the cognitive-instrumental of science and technology and the moral-practice of ethics and the norms of law. The outcome of this is that the paradigm of modernity in its complexity has been internally contradictory when searching to harmonize and to expand, reciprocally, regulation and emancipation, looking to move its development towards the complete rationalization of collective and personal life. Each one of these pillars based on their abstract principles, tended to maximize producing, at the same time, social excess and deficits. These were considered, the former, as contingent deviations and the second one as temporary imperfections, both controllable by science; and in a smaller scale, by Law; all of which granted a higher preeminence and dominance to the pillar of regulation. Thus, science and law initiated the establishment of cooperative relationships and circulation of meanings under the leadership of the former, through the subordination of the participation of Law to the instrumental rationality of science. However, its participation continued being important due to the handling of society by science, in the short term it had to be guaranteed against an eventual opposition, through normative integration and coercion.

From this perspective, then, with the development of modernity, science and law becoming dominant "silence" this process,

all other logics of emancipative rationality, the expressive-aesthetics of art and the moral-practice of ethics, and invade the logics characteristic of the regulation pillar.

This is what is shown evident when science became technoscience and scientific technological knowledge invaded not only the field of the economic decisions, but that of the political decisions, settling ambiguity and the risk meant by its use as an alibi in public decisions (the only valid knowledge), in other words, in its ideological function, by excluding the practical reason from the scope of the decision, hindering to share ends and values and immunizing public life from moral judgment.

This process of progressive rationalization is also evident when Law, in spite of being part of moral-practice, difficultly divests of it, becoming objective; objectivity obtained by means of its qualification by juridical norms. Even though Law has not been able to stop appealing to ethics, the norms in use in the juridical system are not because of their moral character or ethical importance, but because a juridical norm of the system refers to them. In this way, Law evolves as a *rational* system, that is different and independent from the social structure determining its existence; and is, at the same time *formal*, inasmuch as it is created and applied aloof of political and social factors. To Manuel Calvo<sup>4</sup>, the demand of Law for formal rationality, determined the autonomous configuration of the juridical environment, as well as the formalism in the application of law. The circle of formalism closes by means of the construction of a juridical method capable of placing in parenthesis the subjective factors present in the juridical decision and of establishing the myth of the independency or neutrality of the latter with respect to criteria proceeding from moral, political or social relations. However, this formal rationality existed more in the field of the ideological statements than in the reality. Studies carried out, particularly by the juridical sociology, lead us to conclude that the juridical autonomy as well as the neutrality and objectivity in the application of law, are part of the myth of its

certainty, while “the only thing that can be clearly seen are its ideological and political purposes in order to legitimate the decisions of the technical agents (public officials and judges) who lack a full democratic legitimacy.” (Calvo, 1994: 249). Thus we see how the individualist microethics and the legal formalism are really valued for their adaptation to the requirements of the scientific management of society.

If “crisis” is understood as a moment of a process and in its Greek meaning (Krisis), as an action of distinction and discernment, what is actually called and lived as the “crisis” of modernity would seem then, to be opening the possibility of recognition and liberation of that always present: the dialogue between Subject and Reason, and technological science and law as rational logics of emancipation. To this regard, I believe that the new “visions of world” that manifest in the transformations and re-definitions of the “world of life” of current societies and that we live as post-modernity, are the evidence of that possibility that announces the appearance of new foundations and cultural orientations of social integration and emancipation in the development of societies. I believe, as I will immediately try to assert, that the *applied ethics* and particularly the one specific to technological science, are social practices expressing these new cultural orientations.

## II

It is common to consider that today the world is displayed through two conflicts to which scientific and technological development are not foreign: On one side, through the process of globalization, especially of the economy of market (unthinkable without science and technology), and the development of new blocs of power (modern rationality has shown the complicity of reason with power and domination), but at the same time, with the appearance of social and cultural specificities fragmenting the world even within the nations themselves; on the other side, through an ever growing gap between North and South (science and technology are

again keys to this gap), where in the former prevails instrumentalism and power and in the latter “the anguish of lost identity” (Touraine, 1993).

This conflict, in a certain way, shows the questioning of the paradigm of dominant knowledge, especially when referring to the efficiency of its regulation function and when fulfilling its promise of progress. But it also shows the social spaces where the emancipation symptoms manifest. In any case, it points out, as a possibility, the appearance of a new socio-cultural project that we may consider as a paradigm of transition and, within the terms we have been handling, means that now it is the Subject who takes the initiative face of Reason and emancipation face of regulation, in the dialogue between these principles.

The irruption of ethics in recent times into the social polemics of western societies, may be considered as an evidence of this new process. But it is important to point out that it is not an ethics of return to pre-modernity since its basic characteristic, according to Lipovetsky<sup>5</sup> is to establish a new way of turning towards the same values, but breaking up the religious form of **duty** that still accompanied it as laic modern ethics. It is a weak and minimal ethics of post-duty, without obligation or sanction, that stimulates well being and subjective rights and coincides with the post-moralistic logic which constitutes one of its demonstrations. It is the ethics corresponding to societies that do look at themselves as a group of institutions, but as a field of conflicts, of negotiations and mediations between rationalization and subjectivation. It is an ethics that from a critical perspective may be answering, at the same time, demands coming from the process of economic globalization and to opposite social specificities.

This irruption has taken place, mainly, by means of two discourses and practices, that in spite of being different, are linked by the utilization of ethics as a basis for questioning and the solution of important problems of present societies.

The first discourse, which we could refer to as critical negative, because it emphasizes the social consequences of the lost of morals, speaks, on one hand, of moral decadence expressed in the boom of violence, delinquency, political and economic corruption, violation of human rights, devastating effects (social, ecological and human) of certain technologies; and on the other hand of impoverishment of the system of social values, being as it is monopolized by individualism, selfishness, hedonism, usefulness and the cult to predictive and technological reason. It is a discourse used to criticize, as well as for the explanation of many of the problems currently faced, being its focus of attention the past, the traditional instances of social control, satisfying the need of re-encountering with **duty**.

The second discourse about ethics (of interest to us), explains its present revitalization and critical efficiency through its implementation in the arising of the so called *applied ethics* to sciences (bioethics, genetics, ecology), corporations, information and social communications; as well as its constitution as a center of philosophic and social sciences research. It is a discourse that we could refer to as "positive" by emphasizing the beneficial results derived from the critical utilization of ethics, but of an ethics without models, without past or future, developed in a present oriented by the practical reason, the every day reason; an ethics that is not built upon other knowledges, but instead, by acting jointly and in relation with them , imposes its own limits.

Both discourses appear in a world in which the center seems to have been lost (as much as the external, in world domination as within the societies), as well as the utopias, where social and cultural references value-guiding our actions and ideas are absent, and where life is presented to us as a "no sense". But morals, (and by that the subjective, emotional or spiritual enclosed), de-rationalized in the process of development of modernity, seems to pretend, as an ethics, to become a carrier of SENSE and VALUE . In other words and according to Lipovetsky (1994: 9), the ethical

sphere seems to have become the privileged mirror where the new spirit of time is deciphered.

Before reflecting with further detail about the *applied ethics* and their relationship with Law in the specific field of science and technology, I will make several considerations about morals and ethics.

It is possible to recognize, from the beginning, that morals, eventhough directly unobservable, is produced in the environment in which the main processes of social integration-desintegration are generated, in the relation and tension between individual-society. That is why it is considered as a type of knowledge that make us different and unique (individualized and undetermined), allowing us, at the same time, to be gregarious in the production of the norms we establish and share with others<sup>6</sup>. In that sense we can affirm that an environment is established in which the inner imperatives of the individual interweave and synthetize (antropobiological, subjetives, emotional and desiring )as well as the sociocultural (of value, objectives and normatives). Here, in its environment of genesis, morals becomes objective and acquires regularity in systems of social action that manifest, on one side, through behaviors, norms, habits, rituals, beliefs, institutions; but also through utopias (well being, happines, good society), being the outcome of a process of collective idealization and, as such, a synthesis of desires and social needs (part of the processes of social emancipation). This inner condition makes moral life become one of the obsessive ideas that runs through all civilizations, but at the same time with a historic tendency of specificity.

The scope of ethics is the scope of morals, and based on this (creation of men and this interrelations)ethics is built. Ethics and morals are terms referring to phenomena pratically identical and in that sense delimitate the same social study environment. Even though to philosophy, ethics is that part of philosophy that reflects about morality, to social sciences they are synonymous. However,

when speaking of morality there is a tendency to characterize a behavior or a personal and individual act, with an imperative norm ; while ethicity is spoken of when there is a desire to emphasize processing, contextual and social characteristics, where argumentative and reflective judgments are established, that may be materialized as norms and institutions.

It is important to point out that morals and ethics happen and develop in the place of lived experience, in that place of praxis but also of meaning, of verbal language and action . It is there where they can be seen, understood, establish a dialogue and transform, thus be considered in permanente gestation, doing and undoing themselves. Practical rationality that combines emotion and reason and where knowledge that results links the strength of both aspects.

These are the characteristics of morals and ethics that are displayed and make possible the appearance of the *applied ethics*<sup>7</sup>, those ethics produced in dialogue by the participation of groups and persons in specific social environments, with shared interests, in that effort to build a world together. Two aspects are important to be pointed out in relation to these ethics: 1) the significance and consequence of their being produced in specific social environments; and 2) the use of critical hermeneutics that allows the communicative or discursive action, as the procedure for their production.

The consideration of these ethics developing through dialogue, in specific social environments, has as assumption: on one hand, the acceptance of the existence of a particularity in the moral dynamics belonging to that specific social environment, that has to be discovered, on the other hand, the existence of a situation of risk originated by conflicts or problems that create worries in that environment; and finally, the existence of several individuals involved in that social praxis, with diferent knowledges and beliefs, making transdiscipline the basis of the dialogue that

orients their production. It is important to point out that the second assumption links the dialogical ethics with Law, in regards to the possibility to act as a mechanism to solve conflicts.

The fact that the applied ethics use as procedure for their production, the dialogue or the communicative action, is what grants them importance and places them within the new paradigm of knowledge in transition. It is not possible, nor it is my intention, to synthetize here all that theorists, researchers or philosophers have said about language, dialogue or the communicative action and its implications<sup>8</sup>. I will only point out those aspects pertinent to the reflection that I have sustained in this paper.

The first thing we may distinguish of the proceeding quality of these ethics, more specifically when sustaining on dialogue the revision of knowledges, beliefs and plural values, is the *inter-subjectivity* established between the dialoguers as center of the process. This supposes subjects in communication identifying the "self and non-self" as the first tensor of valorization, that spreads in a struggle of truths, allowing the understanding and sharing and with it the granting, through argumentation, of sense and significance. When based on experience, the dialogue is established not only as a cognitive form, since human perspectives referred to value and significance, contextualize the search for knowledge<sup>9</sup>.

The dialogue also has a reconstructive-deconstructive character, showing the acting presence of the reason-nonreason, the subjective-objective, the emotionality-rationality; also, the possibility that in the search of those aims, that other dimension always present but ignored, of the soul and the spirit as inner light and source of energy, becomes manifest.

In the dialogue the ethic of responsibility that has to do with the aims and the consequence of the action, is not dissociated from the ethic of conviction, that provides the will and the imperative of the action. Because the dialogue allows not only a production to-

wards the outside, but also the construction of the "self", in the same process.

The dialoguers act as acknowledged valid interlocutors. They are persons (beings endowed with communicative competence), whose interests, values and beliefs are essential and acknowledged parts of the decisions taken. This allows us to underline the "autonomy of the subjects" as a subjective dimension of dialogue and along with it, the certainty that this is possible only in societies where *democracy* constitutes the cultural context of the political and social practice. Furthermore, and assuming that democracy as well as ethics is in continuous gestation, the **applied ethics** are in itself, moments of that democratic gestation. From this perspective, the rules of Law arising from this practices, are more valid and just, that means, legitimate, the more institutionalized their deciding procedures are. Because it is the discursive creation of this ethics that allows the critic and legitimacy of Law, as well the complementary function established between the responsible demand permitted by Law and the conviction towards action set by morals.

Let us determine now some peculiarities of the *applied ethics* in technological-science, taking bioethics as the specific environment of reflection, being it the most general of those ethics linked to the situation of risk in which **life** in this planet is found at present.

Two interrelated processes have made possible and necessary to incorporate ethics to the scientific and technological practice: on one hand, the inner process occurred putting in doubt important basis sustaining the dominant scientific paradigm, a fact found, basically, in the leader sciences; and on the other hand, the consequences or negative impact that its transformation produced in techno-science. Even though they are two intertwined processes, it is the latter the main detonant of the questioning of ethics to scientific production. If at time science appears and establishes, it

was placed on an sphere of truth beyond all practical moral consideration, its use brought out moral responsibility. Basic or applied, research is techno-scientific and this link is more evident the more it is associated to more advanced forms of technology. If theoretic science could be called pure or innocent, techno-science being essentially a productive and modifying activity of the world, is ethically problematic. The scientific-technological knowledge has thus turned paradoxical, since its outrageous progress is correlative to an unbelievable progress of ignorance; its beneficial progress, correlative to the progress of its harmful and deadly characteristics; and its ever growing power, corresponds to the growing impotence of scientists in society, in relation to those same powers.. For all the above, today the ethical issue is of great relevance within the problematic of knowledge, as well as in relation to its limits.

Already from science itself, especially the social sciences, actions have been taken in order to establish the bonds between science, social and symbolic, and research programs have been settled on science, technology and society (STS), as well as in the pluridimensional evaluation of research and development projects, particularly as referred to their impact. But it has been ethics applied to science that has acquired especial relevance in that crucial commitment of setting limits to scientific activity, since positive law, its accomplice in the process of rationalization and progressive regulation of societies, has not been able to do it.

This way can be verified that ethics applied to science and technology allows through practical communicative rationality, that the dynamics characteristic of "world of life", appropriate and transform the production of science and technology dominated by the instrumental rationality of the techno-economic order. The advantage of this kind of ethics is its ability to disarticulate scientism by being produced within science itself, disclosing that the same logic of scientific research demands two types of non-scientific rationality: hermeneutics and ethics.

Of the ethics applied to technological science outstands **Bioethics**, because it envelopes all the phenomena dealing with *biological life*. As all applied ethics, **bioethics** has to discover its peculiar modulation that runs through the difficulty of being produced in an environment dominated by a “knowledge” of specialists, a complex “knowledge” scarcely known beyond the circle of experts. Thus we find that the particularity of this environment lays in the fact that its praxis is dominated by an ethical principle, “knowing for knowing”, where “life” is basically conceived as a biological process, and where *fact and value* have been disconnected, eliminating all other ethical competence. However, having recognized the danger in which life is found as a consequence of this knowledge, a situation of risk has been accepted, which has allowed to perceive it in all its antropho-cosmic complexity and valuable ambivalence; futhermore, admitting the need to innerly produce an open, concrete and evolutive ethics. A pragmatic ethics that renounces to solve and prevent in advance all problems or to search a priori for an answer to all questions, since it recognizes, in this field, the unpredictable condition of future.

For the production of bioethics, the valid interlocutors are all agents involved with its praxis, such as: scientists, tecnologists, businessmen, politicians and those affected by the application of this type of knowledge. It is true that the dialogue produced in this environment can be dominated by the experts, therefore the praxis itself requires of the spreading of this “knowledge” so it can be contextualized, penetrating the knowledges obtained from the experience of all participants. This is the only way to create the intersubjectivity as center of the communicative process, with the participation of heterogeneous people whose interests are bound to be considered when making decisions that affect them.

It is here where the relationship between Bioethics and Law may be stressed. If bioethics in its own constitution has created the conviction and responsibility of the action, as guarantee of a praxis, Law, whenever necessary, would complement it, assuring

its fulfillment through its own mechanisms, such as the juridical-social recognition and the dissuasive sanction.

It is important to stress, as another virtue of the discursive ethics, that due to bioethical practice, new types of ethical demands have appeared under the name of human rights, thus providing their rational fundamentals.

Finally, and as a conclusion, I believe that the use of the discursive or dialogic ethics is of utmost importance, at present, in all processes of decision making, since they allow the use of a rational criterium towards critic and an orientation towards action.

As far as democratically weak societies are concerned, as those in Latin America, the introduction of these ethical procedures in various scopes of decision making, would allow<sup>10</sup>: the strenghtening of the value of democracy by basing its production in the plurality and communicative equality, thus promoting the participation of socially excluded sectors; the strenghtening of the autonomy of the personal self and along with it of responsibility, personal dignity and self-esteem; the promotion of solidarity, responsibility and tolerance; and, finally, to bet for the emancipation and with it for the utopia, founded upon an ethics of minimum consensus.

If we consider that in Latin American countries exists a gap between the juridical-institutional practices and the social practices, that there is a state Law that responds to foreing juridical models and a juridical pluralism many times in struggle with the former, the existence of a Law nourished by the the discursive or dialogic ethics, could accord a higher legitimacy to the juridical practice, as well as a higher responsibility and certitude of the citizens in the observance of the norms.

I also believe, that the incorporation of the procedures characteristic of the discursive ethics, would allow the developments of policies and strategies in the scientific-technological field more responsible and convincing , that should not only consider science