

SCIENCE, ETHICS AND IDEOLOGY¹

*Henrique Rattner*²

ABSTRACT

The author renders problematic questions relating to the production of scientific and technological knowledge, according to the postulates of western epistemology (Cartesianism) and the relations existing between the production of this wisdom with Social Ethics. A discussion is made of the theme of scientific neutrality and the adoption of a critical perspective in the cognoscitive process which takes into account the diversity of social and cultural values. The importance is also stressed of considering the social actors who became visible after the collapse of socialism and the generalized crisis affecting western societies, demanding the application of human rights, ethics and democracy. Criticism is also leveled at the neo-liberal ideology which – while advocating free competition and free markets as the only means for a rational organization of economic, social and political life – justifies individual and narcissistic behavior of man and favors the acceleration of technical change. This change, in turn, has an impact on the production and marketing of goods and on the mobility of capital on a worldwide scale, accentuating the social polarization which exists in societies.

CIÊNCIA, ÉTICA E IDEOLOGIA

RESUMO

O autor problematiza as questões referentes à produção de conhecimentos científicos e tecnológicos, segundo os postulados da epistemologia ocidental dominante (o cartesianismo) e as relações existentes entre a produção desses saberes com a Ética Social. Discute-se o tema da neutralidade científica e propõe-se a adoção de uma perspectiva crítica no processo cognoscitivo que leve em conta a diversidade dos valores sociais e culturais. Destaca-se também a importância de serem considerados os atores sociais que se tornaram visíveis, após o colapso do socialismo e a crise generalizada das sociedades ocidentais, reivindicando a aplicação de direitos humanos, justiça, ética e democracia. Também são realizadas críticas à ideologia neoliberal que – ao postular a livre concorrência e o livre mercado como as únicas vias de organização racional da vida econômica, social e política – justifica o comportamento individualista e narcisista dos homens e apoia a aceleração da mudança técnica. Esta mudança, por sua vez, impacta a produção, o comércio de bens e a mobilidade do capital em escala planetária, acentuando a polarização social nas sociedades.

¹ Artigo apresentado no colóquio do ICSPS – The International Council for Science Policy Studies, no Conservatoire des Arts et Métiers, em Paris, França.

² USP-Faculdade de Economia e Administração; LEAD Brazil.

Science may be considered a specific way of acquiring knowledge. However, as in other fields of human activities, science is also a product of society, and, despite their portentous discourse, scientists do not differ in their concrete social behavior from other groups and individuals.

In this paper, it is argued that the preference for “piecemeal” scientific studies and researchers’ insistence on empirically establishing a linear causal relationship even when dealing with complex social phenomena, lead scientists into a bottleneck in terms of their conceived mission, as well as their public credibility.

Any claims for structural, systemically integrated analysis and explanation are considered subversive or classified as mere ideology, and thus, unworthy of more serious concern by mainstream scientists.

Contrary to the dominant western paradigm, fact and values, subject and object, mind and body cannot be dealt with as separate or isolated entities. Therefore, in our research endeavor we will not be able to distance ourselves from what we learn and know. We observe and interpret our world through our culture, values, and beliefs.

Each historical period has its way of analyzing and explaining natural and social phenomena. However, as Kuhn (1977) pointed out, the world is not fixed and immutable, and only our paradigms are changing. In a rather dialectic relationship, we change the world by contemplating and interpreting the “facts” in a new and different way. Looking at the phenomena of life in a different way, we perceive a new “Gestalt” and this enables us to newly envision the parts and components of the system. The way we look at scientific information depends on a set of assumptions, formulated by scientists within a given social and cultural context. The theoretical framework or the set of previous assumptions will necessarily influence the interpretation which confers meaning to the information collected.

From a methodological point-of-view, assumptions are basic for decisions about the pertinent facts and the norms and techniques of how to collect evidence. Furthermore, assumptions will help us to decide about what is a problematic issue, a step which precedes observation and analysis.

The statement that we cannot know reality in an objective way does not mean that all forms of knowledge are subjective. What we are trying to say is that the world around us is not static, something immaculate to be “uncovered” by scientific explorers. The alternative would be a dialectic view of nature, people, and society, characterized by a relationship between

subjective and objective phenomena, which excludes a non-human, purely objective perception and perspective.

Reality influences the way we perceive it, while our perception influences reality. Therefore, we can only approach the “truth” in permanent mutation.

Researchers seeking to explain natural or social phenomena, coherent with their academic background and experience, select some variables or factors considered to be determinants of the study’s subject. This selection is not only based on literature reviews. Researchers carry with them their specific theoretical framework, beliefs and values which almost inevitably interfere with the subject and methodology under scientific scrutiny. Thus, the scientific method and its products (knowledge, technologies etc.) can never be considered as totally objective and neutral because the scientists, like any human being, cannot pretend to stand aloof and beyond personal feelings, interests, beliefs and passions.

The same holds true for technologies – high-tech, intermediate or appropriate – which have to be placed within the historical, cultural and social context of their introduction, assimilation, uses and benefits. To reduce environment and development problem-solving to a “rational” choice of the best available technique seems naive at best or mystification at worst, to the benefit of maintaining the *status quo* as opposed to the process of sustainable development which rejects the fetishism of the method and technology fixes.

From this argument we may infer that there are no strictly “neutral” answers to certain questions (see, for instance, Hussay and Herrnstein’s book, “The Bell Curve”). All statements will be partially subjective. A possible agreement among research does not signify the discovery of the “truth”, but, rather, their agreement on the application of similar assumptions and values to the investigation of the same problems.

The polemics about causality or the meaning attributed to supposed causes of problematic phenomena permeate the whole scientific literature, because of the political impact of a statement about the probable or suspected causes on decision-making and public policies.

Scientists intend to explain the real world, in terms of statements subject to proof or refutation, producing “true” knowledge. By requesting and expecting empirical evidence for the assessment of what is true or false, science has contributed to the advancement of knowledge (different from

wisdom) and the gradual reduction of superstition, witchcraft and irrational authoritarian behavior.

However, the hopes deposited in science for it to become the liberating agent of humankind, by transforming religious and political authoritarianism into democratic societies, have not been fulfilled. Meanwhile science and technology have also produced a series of negative effects such as toxic substances, radioactivity, sophisticated deadly weapons, and total alienation from work.

Traditionally, science was defined as theory, a way of looking at reality as an entity independent from human action or thought. Modern science, indeed, postulated as its goal the control of natural and social reality, to be explained by theory and transformed by techniques. Contemporary science goes beyond the dreams of earlier generations, not only by describing and interpreting reality, but also by building and transforming it intellectually and experimentally in its laboratories and research institutes. Modern technologies – cybernetics, biogenetic engineering, automation, and nuclear energy – give evidence of humanity's potential to exercise total control over nature, culture, and society. And yet, looking at contemporary societies, from the economic to the social crisis, from unemployment to fear and violence, from political struggle to ethnic or religious clashes, the possibility of solidarity and pacific co-operation within and between nations based on common ethical or moral principles seems more distant than ever.

However, if science is unable to provide us with certainty and reliable guidelines for policies, where can we find better orientation? And how can we distinguish between science and ideology?

Ideology, in a popular definition, is a set of beliefs which distorts the 'truth' and thus, does not allow the objective perception of reality. People are thus unable to critically analyze ideas, facts, and their connections, and will develop a false consciousness, passively accepting the conveyed messages. This was clearly expressed in the Marxist axiom, "the ideas of the ruling classes are, in each historical period, the dominant ideas". Examining the influence of the mass media on popular consumption patterns and preferences, this point-of-view, after all, may not be too distant from reality. Some sociologists argue that "the distinctiveness of ideology is... that the same universe is interpreted in different ways, depending upon concrete power interests within the society in question" (Berger & Luckmann 1966). Another current considers ideology as a kind of integrated vision of the world, or a term of reference which allows us to better understand life in its

multiple and complex variations. Following this perception, every body shares in some ideology and thereby develops, even unconsciously, a certain vision of nature, people, and society. This integrated perception, when developed in a coherent manner, should enable us to address the following issues or problems:

1. How does the present social, economic, and political order function?
2. Why does it work in this way? which are the main driving factors, and is it good or bad?
3. What can or should be done to sustain or change the present order?

Mannheim (1968), in discussing “Ideology and Utopia”, affirmed that each social group has its ideology. Through this ideology, it tries to understand and interpret real life situations, a process which gives origin to and reinforces the group’s consciousness, and, eventually, its common values and solidarity. Lukács (1968), introducing a historical dimensions into the discussion, observes that the consciousness (ideology?) of each group is the product of its history, the experiences of relationships with others in the struggle for power. Therefore, the issue at question is not the truth or falseness of a given ideology, but the way it fits into the different stages of the historical process in its totality. Culture reflects, diffuses, and perpetuates the ideology of a given social group, and it would be the task of anthropologists, sociologists, and political scientists to identify, analyze, and interpret the underlying assumptions and their dynamics.

The pretension to find the “truth” or to reach objective knowledge lead us to develop a biased and dualistic view of the world, polarized between body and mind, fact and value, reason and emotion, as if natural and social phenomena existed independently from the researcher’s effort to study them. Dualism has appeared in the history of science at least since the time of Descartes, who compared nature to a machine in which each part has its function. However, this conception, when applied to human beings and confronted by non-empirical dimensions, is unable to account for the basic aspects such as mind and consciousness.

A dualistic approach narrows the causal analysis of social problems, and, consequently, the range of proposals for effective solutions.

Thus, research on diseases or crime, when focusing on a direct agent (virus, guns, etc.), will produce poor results because of the reductionist and dualistic approach. Inclusion of demographic and economic data (migration,

urbanization, educational level, income) and information about the historical evolution would call our attention to the broader social causes of the problem. Instead of “neutrality”, the scientific establishment’s exclusion of social values and political preferences results, in practice, in hiding the political values of the researcher.

The technical language will require a search for more data to make evidence statistically significant, resulting in the necessity of living with the suspected causes and running the risks until better evidence is produced. As in the case of radioactivity, tobacco, pesticides, or industrial pollution, the scientific claim for reliable evidence, supposedly neutral, protects the maintenance of the status quo. Scientists prefer to silence the priority goal of protecting human beings and to forget their social responsibility. By making the Manichaeian distinction between science and ethics, between true and false, correct and erroneous, they do not question the social functions of science and the uses made of technology. Only during the last few decades have dualistic concepts been challenged and analyzed for their ideological content.

The more critical view affirms that theory and observation are interlinked, and the researcher does not stand aloof but introduces his or her own assumptions, values, and emotions into the process. This insight represents a challenge to the mechanistic distinction between scientific and humanistic approaches. While “objective” description reveals itself as narrow and sterile, the alternative method does not limit itself to the “facts” but seeks to explore and understand their meaning within a given context, thereby assuming the social construction of our reality.

Could the acceptance of a pluralistic cultural and political rationality open the door to the dilemma of radical relativism, making it difficult to refute superstitious, xenophobic, and racist arguments and beliefs? Is it possible to distinguish between facts and their meaning? If reality is mediated and there is no pure perception, does it mean that there is no reality, only different perceptions, a way of reasoning which would take us back to the dualistic assumption? Looking at reality as a dialectic relationship, as a social construction in which values hide facts and facts hide values, rational objectivity and moral subjectivity are integral parts of a complex system wherein ethical issues are as public and inter-subjective as scientific issues and policies. This does not mean that all ethical arguments, in favor of or against a given policy, are equal in their weight. Some values and beliefs distort reality, while others may give us accurate and valid

descriptions. In “The Science Question in Feminism”, the author argues that “a paradigmatic model of objective research ought to be oriented towards moral and political emancipatory interests which will eliminate, in the final analysis, the sexist, racist, classist and culturally coercive understanding of nature and social life” (Harding 1986).

The conclusion which imposes itself is that if we want sustainable development for all people, we will have to incorporate egalitarian values into our research and policy prescriptions. The answer to the question, “which values ought to guide our research projects?” may be that values are issues of public interest and, as such, require public discussion well before scientists and policy makers come into the field.

Truth, like justice and democracy, is elusive and challenging. New information and different political beliefs will transform established truths and force us to start all over again, in our search for action guidelines, recognizing the rules and values which permeate and organize the context of our life.

To understand the present state and evolution of science and technology in post-modern societies it may be necessary to analyze some aspects of contemporary thought about man as the subject of history. These concepts currently appear as a legitimation for the conquest of political, economic, and social power, and for the repressive and alienating functions of the school, the family, the workplace, and social organization in general.

On the other hand, the collapse of “socialism” and the overall crisis of western societies have projected into the social arena new actors, different from the individual or even the former social classes. The collective subject, which emanated from popular movements claiming human rights, justice, ethics and democracy, has come to the forefront of our history. As a result, the classical distinction between the private and public sphere of ethics and politics can no longer be upheld. Without basic human rights, there is no democracy; and it is only within democratic practice that the principles of justice, equity, freedom, and personal fulfillment become universally recognized, accepted, and viable.

The generalized aspiration for democracy and equity is being neutralized by the neo-liberal and post-modern ideology of free markets and competition as the guiding principles of social life. By postulating the market’s needs and dynamics as the only way to rationally organize social, economic, and political life, the neo-liberal ideology emphasizes competition as the basis of social relationship, on the individual and

collective levels. Consequently, the violence of economic action and transaction is considered legitimate and necessary, without regard for ethics and social values. Thus, neo-liberal ideology not only tries to justify individualistic and narcissistic behavior but, by giving support to accelerated technical change and its impacts on production, trade, and capital mobility on a global scale, contributes in a powerful way to the increasing polarization within and between societies. The concentration of wealth, power, knowledge, and easy access to goods and services is parallel to increasing unemployment, exclusion, segregation, and alienation, dividing humanity into a minority of absolute privileged and the majority of totally deprived people.

How does all of this relate to ethics? Frequently, we use the terms “ethics” and “moral” as synonyms, whereas, in reality, they have different etymological roots and meanings. The word “moral”, in its broad acceptance, stands for the rules, customs, and values established by a given social group, which thereby determine and control the behavior of its members. To keep and enforce the moral patterns of a society, it is necessary to establish norms of conduct and of action, as well as the legal and customary sanctions applied to deviants and transgressors. Ethical principles, on the other hand, state as a basic assumption the free and rational individual, moved by his or her character and temperament to establish values and act in accordance, without or against pressure from outside.

Both morals and ethics are supposed to act as deterrents to violence, or to any action by which human beings are forced to think, feel, or act differently from what would follow from their nature and their proper understanding. If social actors are postulated as conscious and sensitive human beings, free to make their own decisions, any use of violence reduces others to the condition of objects without will and capacity to control their destiny.

Therefore, if we endeavor to build a sustainable society in which each individual would be able to reach personal fulfillment through peaceful interaction with the “others” based on mutual respect and justice, then we must reject and condemn violent means, as incompatible with moral or ethical ends.

Even a superficial analysis of the negative impacts and hardships imposed on the poor populations in developing countries by ESAP – Economic Structural Adjustment Policies –, under the tutorship of

international financial institutions, reveals the tremendous violence committed against the underprivileged and marginalized in the name of science and technology and their supposedly superior rationality.

Whereas science seeks to explain and to interpret reality by constructing theories and models, and technology refers to useful and effective action, instrumentally relating means to ends, ethics stands for an inter-subjective and non-instrumental relationship. Technology, especially market-driven high-tech, feeds and supports the “necessary” or the existing power structure with all of its misery and outrageous injustice. Ethics will guide us towards the “possible”: what could be different as an alternative concretized by conscious and free human action.

In its essence, to act ethically means to challenge the culture of submission and fear of violence imposed by the hegemonic elites and to question the theories that legitimize the rationality of the market, by which competitiveness and efficiency are acclaimed as universal values, paralleled by a menacing treatment of the excluded and defeated.

On which side do we stand?

REFERENCES

- HUSSAY, C.; HERRSTEIN, R. **The bell curve**; intelligence and class structure in American life. New York: The Free Press, 1994.
- BERGER, P.L.; LUCKMANN, T. **The social construction of reality**. Garden City: Doubleday, 1966. p.9-11.
- CHAUÍ, M. Ética e Universidade. **Ciência Hoje**, São Paulo, v.18, n.102, 1994.
- FEYERABEND, P.K. Explanation, reduction and empiricism. In: FEIGL, H. et al. (eds.). **Scientific explanation, space and time**. Vol.3. Minneapolis: University of Minnesota Press, 1962. (Minnesota Studies in the Philosophy of Science).
- GAGNEBIN, J.M. **Walter Benjamin**. 2.ed. São Paulo: Brasiliense, 1993.
- HARGIN, S. **The science question in feminism**. Ithaca, N.Y.: Cornell University Press, 1986.
- KUHN, T.S. **The essential tension**. Chicago: The University of Chicago Press, 1977.
- LUKÁCS, G. **History and class consciousness**. Cambridge, Mass.: MIT Press, 1968.

H. Rattner

MANNHEIM, K. Ideology and the sociology of knowledge. In: BRODBECK, M. (org.). **Readings in the Philosophy of the Social Sciences**. New York: MacMillan, 1968.

MULKAY, M. **Science and the sociology of knowledge**. London: Allen & Unwin, 1979.

TESH, S.N. **Hidden arguments**. London: Rutgers, The State University, 1988.

WEBER, M. Objectivity in Social Science. In: BRODBECK, M. (org.). **Readings in the Philosophy of the Social Sciences**. New York: MacMillan, 1968.