

Algis Mickūnas

## The Limits of Modern Western Science<sup>1</sup> (Moderniojo Vakarų mokslo ribos)

**Santrauka.** Švietimas, o pirmiausia – formalusis švietimas, yra svarbus modernėjimo ir globalizacijos komponentas. Tai rodo, kad visuotinis žmogiškų problemų sprendimas esti būtina nacionalinių ir tarptautinių santykių supratimo sąlyga. Demokratijos ir gerovės plėtra pasaulyje remiasi formaliojo švietimo reikalavimais. Tiek vadinamosiose išsivysčiusiose Vakarų šalyse, tiek ir siekiančiose tokio išsivystymo visuomenėse esamas švietimo lygmuo pasitelkiamas kaip vertinimo kriterijus.

Šiame straipsnyje nagrinėjamos dabartinės teorinės, metodologinės ir civilizacinės švietimo problemos, siejamos su globalizacija. Taip pat svarstomi Vakarų moderniojo mąstymo, kuris laikomas „globalizuojančiu“, klausimai, o taip pat aptariamos postmoderniojo multidiskursyvumo galimybės sprendžiant švietimo problemas, kurios atsiranda dėl globalizuojančio modernybės modelio poveikio pedagoginėje praktikoje.

### INSTRUMENTAL RATIONALITY AND TECHNOLOGY

At the outset it is assumed that mathematics or quantitative procedures are not only methodological, but founding for all theoretical thought. They contain structures and rules which can be formulated without any relation to experiential awareness. In this sense, the subject who calculates, and formalizes must be either subsumed under the method, or be the condition for the constitution of the method. If the former thesis is accepted, then the method must assume

a position of supremacy over the subject, i.e. be objective; yet this very method permits only one kind of reality: homogeneous matter. If the latter is taken for granted, i.e. that the subject too is to be submitted under the method, then the subject must be contingent and reduced to a sum of measurable parts. What is more important is that the quantitative language, as scientific, is regarded as an instrument in its own right.

<sup>1</sup> Pradžią žr.: Mickūnas, Algis. 2005. *Sociologija. Mintis ir veiksmas* 2: 19–25.

Thus, if we can define something mathematically, we also know the rules how to make it. In principle, the language of science is technical. The well advertised position of postmodern writers, claiming that languages, including those of sciences, are arbitrary constructs for power and fulfillment of desires, has its origin in the instrumental-technical presumption of mastering the world through quantitative methods. What leads the process is the possibility of increased formalization of propositions, resulting in the concept of formal systems which can be differentiated into formal sub-systems and of splitting up of systems into distinct formal systems.

Quantitative formalism regard all that is qualitative, such as human, with indifference. As already suggested, the formal indifferent and value free structure lends itself to a horizontal process of increased formalization of all propositions in such a way that there emerge increased formal differentiations of formal systems. While leading to more complex formal connections, it also includes increased differentiations. In this sense, the material reality can be increasingly differentiated and constructed along more complex and yet more distinct technical masteries and controls of the material.

The increase of formal complexities and differences is coextensive with an increase in the contingency of the material domain, leading to more possible rearrangements of the indifferent material nature. Every refined and produced material process offers possibilities for further formal

refinements and material rearrangements. This provides a basis for scientific disciplinary differentiations, each having its own formal approaches and each capable of possible construction of material fulfillment. While this process maintains its basic principles of formal and material detachments, it “progresses” toward a differentiated inclusion of all events, both “natural” and cultural, and thus constitutes a formally differentiated world where semi-independent spheres call for semi-independent functions and “work.”

Its engagement is with possibilizing constituents both at the formal and at the material levels. The possibilizing allows for formal variations and differentiations of processes into systems and sub-systems, until the sub-systems can become “distinct” sciences, carving out their fields and accessing the environment in accordance with their formal requirements. This simply means an increased refinement of “application” and fulfillment of the formal sphere in the material sphere. This is the technological process. Technologization posits formal operations, coupled the presumed homogeneous and indifferent reality, leads to increased contingency, non necessity of all events. and second, formal and technological detachment from the concrete intentionalities which tie the subject to the human lived world.

What is relevant in human life depends and is contingent upon the manner in which the formal constructs divide the human “material:” the human is economic, social, chemical, physiological, psychological, ge-

netic, biological, etc. set of differentiated “behaviors,” each semi independent of the others. It would be redundant to analyze the obvious: the “power” of these differentiations comprises also the separations of social functions and tasks, leading to a society of semi-independent groupings of expertise. Yet what each expertise produces within its own sphere has no necessary connection with other spheres.

Hence the results of “research” in a specific domain, can be picked up by military or by art. For the experts of each domain there is no recourse to any external criterion concerning the intentionalities which would correlate the results as possibilities in another domain. This is to say, the material, i.e. technically produced forces can be selected at will, arbitrarily by other social domains, such as politics for possible application. The differentiation decentralizes responsibility, thus increasing the contingency and arbitrariness, and the latter is increasingly unchained from any constraints. Every formal rule, and every material result made to fulfill the formal design, become totally arbitrary, offering possibilizing formal and material combinations without end. Each domain is released from the concrete lived world implications, each an expert in its own sphere, need not relate to any other sphere; each can claim that there is no such thing as conclusive evidence precisely because the formal systems and their fulfilled material arrangements are arbitrary designs and carry no necessity; they are, insofar as they make, and with the making they produce reality and

hence increment power and “prove” their momentary success.

Here one is faced with a fundamental assumption that left to itself, material reality is contingent, unless it acquires its necessity from the theoretical-methodology. Contingency excludes, at the same time essential distinctions among different types of beings, possessing necessary characteristics, accessible to perception, or to inductive generality of what is essential. The abolition of essential opens the door to the notion of regarding reality in terms of POSSIBILITY. This is to say, since what IS cannot be perceived, and since its being posited as transcendent reality does not offer any necessity for its composition, then it can be accessed and dealt with in accordance with theoretical-methodological formal possibilities. This is precisely the juncture at which it becomes “necessary” to regard this transcendent reality in accordance with what it can possibly be.

This is possible because quantitative discourses are already technical. If one knows how to define something mathematically, one also obtains a rule how to construct the defined object. In this sense, we have a theoretical thought which is theoretically practical, technical. The quantitative possibility of reality is conditional; it follows the logic of quantitative and material “if-then” structure. If a sum of matter is arranged in a particular way, then it will produce specific results. The physical arrangement of matter comprises conditions for the production of physical results. At this level, human physical activity, “labor,” becomes pre-

eminent, since without it the a priori metaphysical calculations could not become real possibilities. We witness, here, the birth of “homo laborans.” The “real” world is a product of reflective thought as metaphysical, arbitrary will, and labor.

It is now possible to decipher an essential definition of instrumental rationality, as the ground of modern Western civilization: Quantitative-formal thinking is a means to factually construct conditions as material means for material results. But the results, as material, can be calculated as means for other material results, etc. There is no final purpose as a result, since every result becomes means for other results. Any “scientific discovery,” enabled by mathematical techniques as means, is an aim that science achieves, but such an achievement must be immediately posited as means for accessing the material world for further aims which too will become means. Instrumental rationality serves any purpose to be achieved materially, and any achieved material result becomes part of instrumental rationality. In essence, such a rationality is purposeless and irrational.

It would be redundant to speak of real human needs since the latter are part and parcel of the possibilizing procedures and become at the same time needs and fulfillment. We can make it, therefore we want it, and we want it therefore we can make it. Here is a process of increased contingency and arbitrariness that comprises a self-referential domain. This means that there are no restrictions for the “search for truth.” After all, such a search has lost any bound-

dary and any distinction between knowledge and object. Even in social understanding, the relationship between the formal and material processes are determined by science, i.e. the very self articulation and production. One, thus, cannot find any trans-scientific criteria to check this process. And each domain has no built in reason to stop the proliferation of its own form of knowledge and praxis. There are no physical reasons to cease making more physical experiments and refinements, no economic reasons to stop the economic growth, no biological reasons to stop remolding of the living processes along new combinations, etc. Any limitation would be regarded as an infringement on the autonomy of research. Any science, which would proclaim that it has become complete, would cease to be a science in the context depicted above.

Given instrumental rationality there emerges an attendant factor which is permanent: PROGRESS. It must be without regression, without death, and all formal systems and all transformations of the lived world into calculatively remade world are enhancements, maintenances of this permanent structure. What is peculiar about progress is that it has no “subject” that would progress. Its aim and its subject is itself and thus it is self-referential. Progress is its own destiny. It constitutes its own increasing formal refinements, efficiencies and improvements without, of course, aiming at any final purpose. No attained construction is left without possibilizing and hence improvement. In this sense one could say semiotically that the signifier and

the signified, the meaning and the meant, are one. Progress for the sake of progress – an empty and purposeless destruction and re-composition, destruction of the re-composition for “improved” re-composition.

The question that arises in this kind of progress, and as pointed out, its proliferation of increasing arbitrariness with respect to all phenomena, is the appearance of crisis. What is immediately notable is the disproportion between the sub-system called science and the rest of the culture. The efforts by the theoretically-methodologically designed systems to master the material nature has become exponential. And this is precisely the point of crisis: the sciences are entering human life on the basis of this “use” i.e. making humans function in accordance with the very prescripts that are imposed on the presumed physical world. Thus the question: is this a progress for human life, or is this the arbitrary treatment of the human and hence the subsumption of the human under arbitrariness and its opening up of power over the human? The human is treated and treats, or at least is exposed in principle to treat everything arbitrarily, i.e. violently. Arbitrariness is a “power” which opens an initial experience of violation. But this violation cannot be avoided within the context of modern Western civilization. What this implies is something unexpected, specifically in face of the mass media propaganda about the new world order and its great benefits to humanity. With respect to the latter, intended or not, modern Western civilization is anarchistic.

ANARCHY. In principle, anarchy me-

ans a destruction of all human orders as oppressive without replacing such orders by any other order. This is to say, anarchistic revolutions cannot offer any purpose that would provide a justification for revolutionary violence. Any purpose is a limitation and a hindrance to a total expulsion of what would comprise a world without human condition. Here resides the final moment of modern Western civilization. The incessant destruction of society, institutions, values and norms, without justifying such destruction by other norms. But how is this anarchistic violence without justification related to modern scientific progress? The arguments presented above concerning instrumental rationality and its underlying progress, have shown that neither have a purpose or justification for their engagement with the world and human beings. First, all that is human and human order, human essence, human norms, are to be abolished as scientifically untenable. The abolition is not done intentionally, but on the unavoidable grounds of scientific reductionism that claims to explain everything by factual conditions and results. Hence, what is not subject to such reductive explanation, is not part of reality. Third, to make human beings, their social orders, interpersonal norms, into scientifically accessible objectivity, they must be “explained” away. Hence, there are no values, no mind, no love, no person, no responsibility, and no freedom. Fourth, the fragmentation of a person under various disciplines for material reconstruction is a violation of individual identity. Fifth, abolition of any semblance

of purpose in life, apart from being means among other means to be retooled as means for other means, and hence constantly rearranged. And finally, sixth, the very globalization of this instrumental progress is destructive of other civilizations, i.e. their abolition as humans in favor of material, fragmented, and constantly retooled lives.

It could be surmised that for the Western civilization, the all disruptive progress with its resultant anarchy is needed in face of the civilizational shock of the death of its god. There is no longer a belief in an after life, hence instrumental reason, with its increasing ability to perform the magic of replacing parts by improved parts, seems to promise an eternal material life. If our parts wear out, we shall replace them by better parts, and indeed work hard to improve even the latest parts by more advanced body parts. In this sense, progress is designed to be a promise of materially reduced life to exist for ever – but not as a human. It is obvious that human sciences, here, such as economy, sociology, anthropology, political science, are equally designed to enhance the permanence of materialized life. How to live longer and better, how to form social relationships, how to have a life without stress, how to have children by genetic design to be geniuses, and how to avoid getting old and dying. But this might be another limit of science.

## HUMAN SCIENCES

There is no question that, in face of the “success” of the scientific-instrumental ra-

tionality, human sciences are either attempting to be “quantitative” and “reductive” or are dismissed as subjective, and hence in disarray. The reason for the latter lies in the notion that for human sciences there is no unifying subject matter. Hence, any activity that is not quantified and bio-geneticist, becomes part of human sciences, resulting in university courses studying tap-dancing and ban twirling as equivalent to logic and grammar. This means that the serious scientific-technical courses are not humanities and are hard, while humanities are “easy.” What is needed to guarantee the future of human sciences is to understand the priority of their content of study over the “hard” sciences. To establish this priority would not be difficult if scientists were to accept the irrationality of their position (specifically in instrumental rationality) and recognize that they depend on another domain – the human sciences – which are not derivable from the base that hard sciences assume. Hence, the first task is to argue for a non-reductive character of scientific logic.

As mentioned in the section of instrumental rationality, there is an assumption of a metaphor called “conditions-results; and projected results requiring construction of conditions.” This way of speaking presumes that given a specific condition, a specific result must follow. What is important to note that all accounts for phenomena must be reduced to constructed conditions. In this sense, the scientific hypotheses, framed in mathematical and formal languages, must be derivable from, say, genetic material. Af-

ter all, if such languages are human, and if human is a sum of genetic components, then language is a direct result of such components.

Yet it is precisely at this juncture that all “atomistic” causal explanations fail. There is no one to one correlation between a cluster of material components – even if arranged in accordance with mechanical rules, and any language (including mathematical) whose function is to signify. This is well attested by the discrepancy between the current view that human genetic components only vary 2%, while linguistic diversity – even in one language – is indefinite. Moreover, the mechanical-instrumental base in no wise correlates to the logical and grammatical rules. If we know all the mechanical rules by which we construct a typewriter, such a construction will not imply the rules of any language. The latter is more than, and is irreducible to, the atomistic and mechanistic materialism of any type. Language is a human phenomenon and cannot even be obtained by a trick of additive evolutionism, i.e. that adding one more gene, or chemical as causes, suddenly leads to an addition of extra noises that, as if by magic, become language. Language has meaning, it signifies, and belongs to humans.

It is necessary, at present, to suggest that scientific language(s) as human, comprise also one mode of signifying, and hence interpreting the world. In this sense, it is not an impartial and purely objective (of course it need not be subjective either), but a way that we are invited to “see the world mathematically,” and, at another level to

use mathematics for human purposes. Here, the very meaning of scientific language reveals itself not only to be human phenomenon, but also that humans live purposefully. If this were not the case, instrumental rationality would become, as it has in the West, irrational. Furthermore, it is admitted by scientific technocracy that while human bio-chemical base contains only minimal and inessential variations, cultural differences are vast and, indeed, responsible for all sorts of racism, languages, theoretical systems and world views. This is a very peculiar claim proving precisely the wrongness of reductionist explanations. How is it that only a fraction of biological variants (2%) could ever determine the rest of the biological factors and produce such vast cultural differences. There appears to be a drastic causal incommensurableness. The latter suggests the falsity of bio-chemical and basically materialist reduction and instrumental explanation, and implies that human culture, as a whole, is more than can be derived from the material (bio-chemical, etc.) parts. In this sense, humanities that engage in teaching and researching their subject matter, such as literatures, theories, world views, etc. can do so as objectively as the instrumental sciences. If what the latter produce are by human design, they too cannot be explained away by some presumed material base. In brief, instrumental reason is not explainable by sciences. It belongs in the domain of human sciences and should be taught concerning its function and limits in human affairs. The problem in modern Western civilization, to insist once more, is

that instrumental reason has become self asserting and independent process that subjects everything under its demands.

What appears in these arguments is the reversal of the presumed scientific base that can explain all events by reducing them to its own postulates. The human logic, human scientific mathematical and formal languages, human hypotheses, cultural creations dictate the manner in which the world is understood and interpreted. All these aspects are not caused by conditions that are blind, factual, valueless, and meaningless.

The very notion of “science” is the way humans attempt to interpret the world, without, therefore, having the legitimate right to claim that it is the only way. What the reversal suggests, furthermore, is another, and more basic variation between “material facts” and the way such “facts” are understood. If material base were a cause of all that we think and do, then there would be only one theory, say about society, economy, politics, biology, literature, etc. Yet the evidence points overwhelmingly in the opposite direction. For example, economic material facts are framed in distinct and even opposing hypotheses. If capitalist economic arrangements of material conditions were the cause of all human taught under capitalism, then there could not have been any criticism by the socialists of the inhumanity of such conditions.

After all, any criticism would have been caused by the capitalist conditions and hence would not have gotten out of such conditions to say anything different than the conditions required. Indeed, socialism

would be simply a support of capitalist interests. Any critical posture always appeals to something human and indeed is human to be taught in human sciences. If the human criteria as human disappear in either capitalism and socialism as expressions of instrumental rationality and progress without purpose, then there cannot be any critical thinking that could evaluate the benefits, detriments, values of all the progress. This means that any judgment, even reductive bio-chemistry, tacitly introduces the human dimension without which all would be senseless. One task of the human sciences is a constant articulation of this human factor that is assumed by all, even by those who claim that humans are nothing but a biological variant among other living forms.

The primacy of the human sciences appears in another guise; the social ethos, the legal edicts, and the expectations that we adhere to them. What does this mean for instrumental sciences? First, such norms provide a context of interpretation and judgment concerning technical efforts to transform the environment and us as aspects of the environment. Whenever there is a judgment that certain things cannot be allowed merely because we have the technical means, suggests that the norms are neither derived from our material base, nor are they implied by instrumental reason. In turn, it is becoming obvious that the Western human, reduced to be a bio-chemical aggregate, suddenly acquires in the bio-chemical components all the social and human categorizations and habits.

In popular culture and scientific jour-

nalism the prevalent theme is the “discovery” of the latest gene that causes precise behaviors. Hence, the increase in crime rates has been located in a “criminal gene,” and an increase in narcotics, to a cocaine loving gene, and lately, the tendency to watch television, eat potato chips and drink beer at the same time is attributed to television gene, to potato chip, and beer genes. This means that to avoid crime, the genetic material has to be corrected, to avoid cocaine, the drug abuse gene will have to be removed – biological engineering. While this might sound strange, it is taken seriously on the grounds of the atomistic conception of one-to-one correlation of conditions-results. The reversal from the human side is never noticed; it is the case, after all, that first there are legal norms that are already understood by persons of a society, and yet such legal norms are, then, projected unto innocent bio-chemical processes that somehow resume human rules that sciences attempted to avoid. This mode of reversal appears in every discipline. It is deemed that there is no consciousness, since in reality there are only brain functions. Yet when such functions are described, there appear the very components that belong to consciousness: memory, reasoning, language, symbolic activity, and systems of practical orientation – all conscious, human abilities. This demonstrates the primacy of the human as the condition of sciences and above all the primacy of human sciences.

Human sciences, to remain the founding disciplines for all sciences, are in a position to avoid per formative contradictions.

The latter comprise an aspect of the principle of self inclusion. It is notable that when a scientist, such as an economist, psychiatrist, or any other, propose a material-instrumental explanation of human activities, they tend to exclude themselves and their logic from the very components they regard to be basic. This means that if, say a Marxist, claims that all thinking, all conscious awareness, and above all every scientific thesis are, in reality, results of current material-economic causes, then, to be universal, this claim must also include Marxian explanation as caused by the same material conditions and hence valid only as long as the conditions last. Or, if we take Freudian psychiatry that claims that all of human actions and conscious life are results of sublimated and suppressed libidinal drives, then this very claim must also be a result of libidinal drives. It is like saying that when I teach logic, I actually want to have sex with every student, and mathematics is a metaphorical way of having sex. Sexy numbers.

Performative contradiction means that I make a claim that everyone without exception acts on the basis of libidinal drives, but I do not, since if I did, then my very explanatory statements would be another instance of libidinal drive, true only of my drives. Yet the theorists claim to escape this per formative contradiction of self exclusion, and in this sense demonstrate a human dimension which is not a result of the very components introduced to explain all human behavior.

The above issue of self-inclusion and its per formative contradiction pervades

both, Western postmodern thinking and the well known deconstructivism. It is important to mention these two “theories” because they have become a framework for contemporary human sciences in the West. All actions are laden with desire (sort of Neo-Freudianism), and there is no meaning that does not fall apart into deferral of any meaning. Thus “multi-discursivity” laden with desire to speak but never capable of saying anything. Here an example can be offered from the last speech by Derrida at the Pennsylvania State University on “perjury.” He suggested that since there is no personal continuous identity, then what one said yesterday and what one says today need not pertain to the same person.

Hence, if someone said something before an official about one’s previous state of affairs, such as being unmarried, does not mean that he is perjuring himself. Simply he is a different person today and can deny his previous marriage. In this sense he is perjuring himself in terms of the legal rules, but not in terms of his own personal discontinuities. Asked whether what he is saying is true, the only answer Derrida could give is “I am also perjuring myself.” Why spend two hours boring an audience, when, in the final analysis, one admits that one did not say anything. This sort of revelation is an aspect of the future of human sciences that could be called “rhetorical criticism.” Such a criticism appeals to human, social norms in order to point out that anyone who thinks that by some rhetorical trick such norms can vanish is mistaken, since he too appeals to such norms to make his case. The

point is this: the very efforts to abolish human identity, commitments, and ethics, must introduce in a devious way human social and ethical norms as an implicit point of reference to make a judgment that we are all perjuring ourselves. It is unavoidable that human sciences must do research in the nature of such norms, their legitimation, and their universality.

Perhaps the most important function for human sciences must come from the increasing complexity of instrumental rationality in the sense that there is a fragmentation of disciplines, each capable of making its material objectivity without offering any kind of criterion as to the consequences of the continuous working, reworking, rearrangement of most diverse material components. It is to be noted that the only avenue that instrumental rationality offers to check such proliferation of disciplines and their results is to create more “technical experts” and hence to proliferate the rule of instrumental rationality and its aimless progress. Given this increased complication, it is the task of the human sciences to set public standards based on human values to insure the management of the increasing instrumental complexities.

The research into the management of complexities is essentially a discovery of the following intersections of human aspects. First, counter to Western modern atomistic subject, there is a prime reflection from the rules that govern human relationships. Such rules are intersubjective and usually stem from an eminent text that a people regard as founding. Such rules are historical,

since they are valid VERTICALLY as ever present. This is to say, if a people have future concerns, such rules – basically ethical, will play a role how to select all other factors, such as education, commerce, sacred and secular spaces, and family relations. Second, within the horizon of the ethical rules, education is preeminent. Whatever disciplines will be included in education will be decided by such rules. Hence, not everything goes and not every whim belongs in educational system.

Third, The ethics set down in an eminent text comprise a framework of values and purposes, and in the final analysis, the purpose of society – what is the good of the whole that is more than the sum of the individuals. Hence, every engagement in selectivity as to what is good, will be an act of valuation. In this sense there is no value free judgment, despite what instrumental rationality would regard as value free facts. After all, the constant selectivity of means for purposes, even within the context of instrumental rationality, is a human act of valuation. Human sciences, of whatever type, have a duty to teach a critical process of valuation.

Fourth, the intersection of ethical rules, educational selectivity, and valuation comprise a horizon of options that are mutually reflective and set a limit to what can and cannot be done, what is possible and what is not. This is the civilizational morphology. For example, within the horizon of rules certain commercial practices are permitted and good for the entire society. Hence, they are valued positively. Yet certain

commercial practices may be excluded, even if there are technical and instrumental means to obtain them: producing in laboratories genetically designed children to be sold for body parts. After all, Western bio-technocrats claim that such children are a result of bio-engineering, and are a property of the producer. They are value free facts, as results of scientific ingenuity; hence they have no other legal status. Yet at the same time there is an introduction of a value judgment that these parts are valuable because they will prolong someone's life who needs a specific part. Value judgments, legal codes, are taken for granted even if one attempts to reject them.

The next argument is more complex and must be contextualized within the requirements of a given civilizational consciousness. As was mentioned in earlier discussion that modern Western civilization posits a reflecting subject who thinks its own thoughts and uses them as criteria to judge the world. This is a serious claim that led to the final atomization of the human in terms of "internal" needs, wants, desires that must be fulfilled materially. There is no need to go into the continuous controversies that still plague contemporary philosophical mainstream in the West. What is relevant for the future of humanities is that this type of subject cannot be dialogical. It must interpret all events in terms of its private biopsychological concerns. This is more serious when it comes to the prevalent assumption that any human science, if it is to be science, must be quantitative in methodology. A prevalent research involves ques-

tionnaires with yes/no options, i.e. without dialogue. It is regarded that each subject will offer his/her personal and subjective opinion.

Hence, if one person were to give an opinion, it would be irrelevant, but if 51% were to give the same opinion, then suddenly we have quantitative and therefore objective validation. Numbers do not lie. After all, we know that an average American family has 3.6 children. The point is that the subject's opinion is a reflection of the subject upon itself, referring everything to itself. We all have heard a very common phrase used by children and adults: "I want my money," or "I want what is coming to me," etc.. "I do not want anyone touching my chemistry." As if the bio-chemical, genetic events were a personal property. Perhaps there is no other way of doing human science in modern Western civilization, given the kind of subject we have. Be this as it may, other civilizations, such as Islam, are a priori dialogical.

This means that the human self is reflecting from another to establish his/her position and self recognition. In this sense the individual is not a measure of all things, and his/her thought can be judged by the other. This sort of reflective subject is required to attend to the position of the highest and thus adhere to its requirements. This means that the subject is always in "conversation" with an eminent text that sets standards and criteria what it means to be a human in the scheme of the interrelated whole that is more than the sum of individuals. First, the individual is cognizant that what he/she says is not his/her own words alone, but coex-

tensive with the words of an eminent text. In this sense, the individual belongs a priori to both, his and the other's consciousness, thus forming a "supra-consciousness" or dialogical awareness. Yet the individual also is cognizant that the dialogical relationship to an eminent text is also a dialogue with the highest, such that neither can be objectified or become objects of measure. Through this dialogical reflection from the eminent text and another, human recognizes his/her dignity, worth, honor, and self-other respect. These aspects are the ground of ethos – a way of life that cannot become historical.

There is a reason for pointing to this civilizational context, specifically in light of the invention of the notion of modern Western history. It would take us to far afield to explicate all the metaphysical and ontological reasons for this invention. It ought to suffice to say that the materialization of nature, including the human, and hence abolition of any purpose, leaves progress as the only base for history. Initially, one still surmised that progress, and hence its derivative history, has a purpose – utopian society. Yet, as noted previously, progress becomes self referential and hence purposeless, and in this sense DIRECTIONLESS. Perhaps it has become obvious to most intelligent observers that Western society and its political events are floundering, drifting. Nonetheless, progress is still the presumed ground wherein instrumental time allows a distinction of events between lesser past and more complex future. Yet a civilization without this sort of materialization of nature

and human, need not refer to its eminent text(s) in past sense and to suggest that such a text has progressed and added “improved” interpretations. Eminent texts are present without dates, and their validity is not a set of propositions but a context of awareness of the world that it establishes. This notion of civilizational validity leads us to another task of human sciences.

**CIVILIZATIONAL CONSCIOUSNESS.** Despite all the technical successes and its resultant anarchy, modern Western civilization has no direct access to reality. It is a way of being aware of the world, including humans, as instrumental. In this sense its tradition is a specific theory as a consciousness that cannot claim greater validity over others. If this can be maintained, then it can also be maintained that other civilizations are equally traditions consisting of theories as consciousness. Islamic, Hindu, Chinese civilizations can be regarded as complex modes of conscious awareness of the way the world is.

A civilizational consciousness as a tradition provides an interpretation of events that allows the human to make sense, to have values, ethics, and purposes – indeed, a final and ultimate purpose. The way that civilizations can be judged is by their inclusiveness of all aspects of awareness without reductionism. If a civilizational consciousness is open to and supports human values, meaning, honor, respect and self respect that derive not from some biochemical blind drives or psycho dramas but from another, more significant source, such as an eminent text, then that civilization is richer and is

open to human sciences as human. In this sense it is universal. With all of its globalizing power, the modern Western civilizational awareness is partial by its very lack of the human dimension (even if such a dimension occasionally breaks through in a flash of compassion in a technocrat).

At any rate, and most fundamentally, the reasoning so far leads to the understanding that it is impossible to have education without grounding all disciplines in human sciences. The question that arises for us is what are the methods of human sciences, and how such methods are involved in all sciences even if the so called physical sciences would want to escape being subject to what human sciences have to say. What they have to say consists of the first layer of educational requirements for any human in whatever discipline he/she may engage.

The first layer can be called surface dimension and includes subject matters that lead to the understanding of human educational abilities and their communication: (1) the grammars of languages, mathematics, processes of generalization and formalization, and inferential reasoning (including deductive procedures); (2) articulation of the ontological nature (reality status) of these subject matters of each discipline in their own right. Thus, when scientists propose to deal with finite and infinite numbers, human sciences must raise the question as to the nature of finitude and infinity; after all, unexplicated awareness is dogmatic and may lead to numerous unwarranted pronouncements. Or when linguists analyze the meaning of terms, they must also raise the

question concerning the nature and source of meaning. This sort of questioning will require the awareness of formal procedures to guarantee that no reductionism of meaning is permitted (such as psychologization, biologization, etc.); (3) The explication of all scientific procedures requiring such understanding as hypothesis formation and at the same time the avoidance of dogmatic conclusions from hypotheses to confirmation. Humans are fallible – - except for modern Western man who has acquired a “divine complex” – and resultantly is correctable. And finally (4) In all languages, processes of generalization and formalization, quantification, there is a subject matter to be deciphered in its essence. If a researcher in a human domain uses quantification as one aspect of methodology, such a researcher must also understand qualitatively, valuatively, what is being quantified.

The second layer for future human sciences is to articulate ways of critical evaluation, and hence the involvement with values as objectively accessible. This means that when the first layer becomes “applied” to human affairs, the task of human sciences is to explicate the standards – here the human beings in their essence, and what aspects of the first layer are valuable for the entire society. This means that human sciences must engage with all other sciences in demonstrating the deeper requirements for instrumental evaluation: what is good for the individual within the framework of what is good for the society as a whole. This leads to the question of the reality of what is good and, what values we can infer from

the good. After all, there are many hasty and indeed surface judgments concerning all sorts of evils in society; we need also to know what is good for the society in a positive way.

The third layer of future human sciences is hermeneutical. One major hermeneutical procedure – methodological – is understanding the **PREUNDERSTANDING** of a given text. Text can be anything, as long as it has meaning; hence human action, architecture, scientific hypotheses, practical valuations, and even such things as “health, disease, well being” are texts. One major rule of hermeneutical method is to learn how to read a text within its own context. The latter means a civilizational consciousness that is framed by an eminent text whose validity is not objective or subjective, but locates both and more. At this level of human sciences the context determines the interpretation of the first two layers. Valuations and norms – conscience – is a total correlation to civilizational consciousness. In short, the way the world is deployed in the most fundamental sense, also requires a correlate conscience – ethics. If modern Western civilization regards everything in terms of instrumental materialism, then its valuative conscience is use value. Something has a value and can be treated only in terms of its utility. In fact, the mainstream ethical conscience is utility calculus. One cannot demand a treatment of oneself and others in terms of honor, respect, self-respect and dignity.

Methodological hermeneutics, as an important aspect of human sciences, cannot be overemphasized. Too many scholars,

and above all too many popular views and images of the others, are placed in a civilizational context of the interpreter. This is reading a text outside of its own context. What occurs in such cases goes through various steps. First, it is a diminishment of the civilization of the other by saying that it is subsumable under, and explainable in terms of the reader's civilizational consciousness. Second, it is a reductionism to the extent where claims are made that the other's civilization is, in reality, an ideological projection of all sorts of power legitimations, social injustices, and inhumanity. Third, the other's understanding is primitive, a projection of psycho drama of fears, illusory modes of healing, and above all, lagging in evolutionary development. Hence, all sorts of efforts to "develop the primitives." Western feminism, and neo-liberalism is replete with such views.

Fourth. It seems that it is too late to avoid civilizational encounters and mutual incursions. We live in a world where either by force, or by attraction, various aspects of others enter into our lives. In this sense human sciences must do comparative research of the ways that civilizational traditions comprise awareness of the world. But how are we to understand such a comparative methodology and avoid imposing our civilizational prejudgments on others?

Here again, a specific set of theories must be avoided, and above all those of "cultural determinism" that is a result of theories that human consciousness is caused by cultural conditions. These views have entered into many positions of cultural anthro-

pology, leading to well known claims of cultural relativism. This claim cannot be maintained on the following grounds. First, if we are bound by our culture, and whatever we say is determined by cultural conditions, then the claim of cultural relativism belongs to a given culture, wherein the theorists are determined by their own culture to make such a claim. This claim would not be relevant to another culture if the members of that culture were not determined to be relativistic. Second, cultural relativism does not allow any anthropological studies, since an anthropologist could not tell us anything about the other culture in our language without interpreting the other culture in terms of the culture of the anthropologist. Hence, all we would learn is what our culture already has said.

Third, perhaps it is not possible to offer a complete translatability of the language and practices of another culture, but it is possible to recognize precisely where we fail and hence to have an awareness of the moment of difference of the other, an awareness that we can share with the other. The point is that the other is never a total alien who is incomprehensible. The only thing that is incomprehensible is the way some civilizations are attempting to avoid the human, all the while claiming that their ways are most beneficial to humans.

**COMPARATIVE CIVILIZATIONS.** The work of comparative civilizations requires a method that can access the most fundamental symbolic designs of a given civilizational awareness. One way that constantly reappears in various guises is to ac-

cept various disciplines in human sciences and perform a first level variations among the composition of such disciplines to discover isomorphic correlates. This means that if there are, for example, disciplines such as psychology and sociology in a civilization, a research might reveal that despite presumed different subject matter, they have a common morphology. Take the common social classification of peoples into “upper, middle, and lower” classes; while this classification may vary in terms of income, education, or symbolic status of persons, it is repeated in psychology in a different language: “super-ego, ego, and id.” In fact, there is an intimation of the movement of social classes from lower to higher: where id was, ego shall be – the working class striving to become the middle class. Another variant of the same pattern appears in the judgment of person’s psychological well being: dysfunctions are judged in terms of socially required codes of performance and activities. This kind of research leads to a required interdisciplinary cooperation in human sciences.

This first level of variation – call it interdisciplinary – can serve a notice whether members of another civilization can have the same psychological composition as the Western. If there are no three distinct classes, can there be three distinct levels of personality. It is possible to extend these interdisciplinary variations and research cooperations to exhibit other affinities, and indeed differences. Yet what appears in such variations are meaningful formations.

In addition to this intra-civilizational variation among disciplines, it is essential to discover a second level wherein any facet of life, both theoretical and practical, may be submitted to variations in research to reveal the following: what emerges in a civilizational awareness as essential and permanent, in what ways the first level variations are designed to maintain and even enhance this permanence, and what aspects in that civilization will be regarded as disruptive of that permanence. Indeed, at this level of investigation, an entire civilizational consciousness may be disruptive in whatever discipline it is expressed. Thus, pure instrumental rationality, dominating every discipline in the West, is a flux that is disruptive of all levels of other civilizations. Numerous examples could be adduced to articulate such civilizational processes. What is important is to maintain in focus aspects that are permanent and would not be surrendered without surrendering the identity of that civilization and the meaning, purpose, and value of humanity. Persons would prefer to die to maintain that permanence rather than surrender it. People do not sacrifice themselves for economy or biology, but for the central meaning in their lives. Meaning, here is not psychological but the very way that a world is understood.

Third level of research focuses on the intersection of two (or more) civilizational morphologies. This means that a careful investigation must be obtained in order to show what disciplines, what normative rules, what texts may enter from one civiliza-

tion into another as permanence enhancement or its disruption. This is a point at which scientific texts are produced to demonstrate what is valuable and what is not. To accomplish such a feat requires cooperation among human sciences and a sharing of tasks. Here human sciences face a challenge to acquire inter-civilizational awareness without the loss of their own identities. A great future and so much to do in higher education.

Fourth level of research that may cut across disciplines and indeed become interdisciplinary, and inter-civilizational, is to discover the most basic and strict rules that govern human awareness. Pair of rules began to emerge in the just concluded discussion: Dynamics can maintain and enhance what is essentially permanent in a civilization, or they can disrupt and destroy what is essential. It is clear that other such rules are open for discovery during research by the human sciences. Such research should

be left to fine scholars in the human sciences of the future.

## POSTSCRIPT

A brief attempt was made to explicate some issues facing the human science of the future. Of equal importance had to be placed on the ways that human sciences may, inadvertently, disregard human concerns, human experience, human contexts and especially, human cultural and civilizational consciousness and its attendant conscience, and hence cease to be human sciences. It is the task of civilizations to establish human sciences as human in order to maintain the permanence of human significance, other and self respect, dignity and honor. After all, the arguments presented above made a case that no science is value free, and hence human sciences are ruled by human values. If that were not the case, there would be no sciences and above all no human sciences.

## REFERENCES

Mickunas, Algis; Pilotta, Joseph. 1998. *Technocracy vs. Democracy*. Hampton Press.

Murphy, John; Mickunas, Algis; Pilotta, Joseph. 1986. *The Underside of High Tech*. Greenwood Press.

Richter, Horst. 1979. *Der Gottes Complex*. Rowohlt.

Fink, Eugen. 1979. *Grundphaenomene Des Menschlichen Daseins*. Verlag Karl Alber.

Fink, Eugen. 1978. *Grundfragen Der Systematischen Paedagogik*. Verlag Rombach.

Schaefer, Karl-Hermann; Schaller, Klaus. 1976. *Kritische Erziehungswissenschaft Und Kommunikative Didaktik*. Quelle & Meyer.

Huysen, Andreas; Scherpe, Klaus. 1989. *Postmoderne: Zeichen Eines Kulturellen Wandels*. Rowohlts Enzyklopaedie.

Įteikta 2005 05 30

Pateikta spaudai 2006 06 20

Department of Philosophy,

Ohio University (USA)

El. paštas: aigms5@frognet.net