Vive la Différence—Quality of Life in an Integrated World

 "After September 11, 2001, the world is no longer the same!" This statement—with obvious implications for what we experience as quality of life—has been repeated *ad nauseam*. And the more it is used, the emptier it becomes. My contribution to the European Research Conference on Unity and Diversity can probably be summarized as follows: to explain why the events of that unforgettable day are actually a continuation of a necessary development best described as a new framework for human life and activity, i.e., a new pragmatic framework, and not a historic accident. And to put the issue of quality of life in the perspective of this development.

A new framework

Civilization has entered a phase defined by practical experiences that allow humankind to reach levels of efficiency corresponding to the needs and expectations of a global community. Efficiency is such that the output of fewer workers and farmers suffices in order to guarantee means of survival for the majority of Earth's inhabitants. As we know, this had to come about given humankind's new structural condition. But all is not rosy. Quite to the contrary, humankind is facing a challenge of global scale. In addition to foreigners invited (or tolerated) as low-wage workers, for jobs Europeans no longer want, there are probably millions trying to flee starvation, violence, persecution, and intolerable living conditions. In Europe, as in the USA, progress and abundance have surpassed the stage of fulfilling needs and have led to consumerism and indulgence under the protective scrutiny of democratic principles. Equal access to mediocrity, and plenty of it, is a reality anchored in the social contract. Yet the technical progress that has both made this abundance possible and brought about the blessing—yes, blessing—of globality has been so rapid that most people in the developed world cannot grasp what is actually happening and why. Factors characteristic of past practical experiences, which correspond to the divided world of nations and to the industrial model, are being progressively replaced. Hierarchy (vertical) gives way to non-hierarchic dynamic structures (e.g., self-organization); centralism is replaced by a multi-center (multi-nuclei) model; homogeneity is overwritten by heterogeneity, sequentiality by parallelism, concentration by distribution; and determinism is being effectively supplanted by non-deterministic paradigms. Instead of a single dominant national language and its associated literacy, human activities today rely on many types of languages and many partial literacies. The symbolism of mathematics, physics, chemistry, genetics, and digital technology; the languages associated with visual and auditory phenomena that render various data interpretable as images and sounds; and the language through which our mind interprets data provided by our senses are only some examples.

This is a very promising development, but also extremely challenging. Let us take one example: literacy. While illiteracy has not yet been eradicated in the world, it is doubtful that the answer to the many questions we face is literacy in its traditional form. Literacy, as we know it, entails more than the ability to read and write. It remains first and foremost a national and, in some cases, religious identifier and repository of experiences and feelings that tend to dominate all other experiences or exclude them. Embodied in the civilization of the book, literacy many times

led—too many, as we learned last September—to intolerance, discrimination, exclusion and destructive hate. It goes without saying that this is not an argument against the book in general. But manifestations such as those I mentioned above should serve as a challenge to everyone who uncritically finds in the book only those qualities that gave it a legitimate place in the history of culture.

In the final half of the past century, a small number of intellectuals and scientists started to question what the generally educated population has learned throughout history. The questions extend to the romantic notion of an educational system that, according to its literate foundation, homogeneously dispenses knowledge by funneling an equal portion of whatever is believed necessary into the heads of students of all ages. The system tends to erase differences in the name of democracy, instead of building on the strengths and resources of variety. A growing number of concerned individuals and groups finally realize that for quite a number of problems human beings face—maintenance of quality is only one of them—the knowledge and methods we used to accept and live by are no longer appropriate. This is not a matter of the triumph of some perceived mediocrity over language, literacy, or education, or even of industrial society— such as the mediocrity of television, the educators' favorite scapegoat—as some commentators have tried to explain. Rather it makes evident the need to perform at levels of efficiency that can no longer be effectively supported by language and education as we have known them, or within the industrial model, which eventually extended to education. Within this industrial model of education, all components are standardized: the products (identified as students) are reduced to the common denominator of age and processed accordingly; a central authority plans what and how much material (the curriculum) goes into the product; worker (teacher, professor) performance is upped to the maximum (high student-to-teacher ratio); at the end of the processing, the product is tested against certain criteria and certificates (diplomas) are issued. Tests, such as the one administered by the *Programme for International Student Assessment* (PISA, 2001, an OECD survey of knowledge and skills), only measure how successfully output matches input, not how the product will function in the real world. Neither do they examine whether the knowledge currently disseminated in our schools and universities is appropriate in the context in which the students will live and work. Students in Europe performed way below expectations, and many of the nations involved in the survey are hard at work in devising plans to remedy the suspected weaknesses of their respective educational systems.

In the broader context of the concern over quality of life, society becomes aware of a conflict: Quality itself is opportunistically redefined. This means, for example, that literacy has been conveniently redefined in order to fit a lower quality standard. In order to read "airport literature," one needs a vocabulary as limited as that of the tabloids. Calculators are used even for simple arithmetic. And science is popularized at various events through breathtaking experiments that do not provide an understanding of the phenomena behind them. In many instances, quality is sacrificed because means that lead to complacency, not to a critical attitude, are disseminated. In the final analysis, these means are no longer adequate to the dynamics of current and future human existence. In pursuing this course of mediocrity, we generate forces of polarization. People resist change—not only in the developed countries—because, the majority says, it is coming so fast upon all of us in this stage of human development. The majority refuses to, or just cannot, understand that the speed of change corresponds to their own expectations. We prefer the beaten path of experiences that are familiar, even when we have the feeling that they

are no longer adequate to the current scale of human activity. Indeed, the current economic crisis and the extreme forms of reaction adopted—the terrorism of the past decade is one form—are testimony to the difficulties inherent in the fundamental transition from hierarchic, linear, and sequential pragmatic frameworks—represented by the metaphor of machine processing of natural resources—to a multitude of interactions that cannot be reduced to the old models.

Literacy in its traditional forms does not accommodate the change; rather, it makes change more difficult. Terrorism, as extreme as it is, cannot be singled from the broad context of other manifestations within the broad context of globality. It is but one manifestation of the conflicts inherent in the dynamics of change, as well as one of the avenues for human self-constitution in today's world. The paradox of the latest manifestation of terrorism is that, although the motive for it derives from a dogma based on the book—a dogma that preaches hate of difference and sees all progress as a threat—it adopted the extremely efficient means characteristic of the post-industrial age. I dedicated a book—*The Civilization of Illiteracy* (1996)—to the entire subject. Here I will emphasize only one point from it: In this new framework of conflict between the pragmatics of change and the attempt to freeze society in a certain moment in history, knowledge is becoming the most important resource—the resource of last resort. But even this thesis cannot go unchallenged since the notion of knowledge is far from being unequivocally understood.

Old models in a new framework

One revealing aspect of our confusion in respect to this new state of affairs is how a perspective of knowledge rooted in some glorious scientific past dominates not only education but also the current research and funding agendas. Indeed, the deterministic sequence of cause-and-effect inaugurated by Newton and Descartes (in the 17th century) and the Cartesian reductionism, expressed in the physical model of the world (take the problem at hand and divide it into parts that can be handled) dominate our views. The world is reduced to physics. It is obvious that based on such a perspective, the human being itself is seen as a machine made of parts that in turn are considered as only smaller machines, entities in themselves. What is lost in this perspective is the realization that there is something that keeps the whole functioning. We give up the understanding of the whole (as an integration of many different functions) and of the variety of ways in which the living organism is assembled—better said, assembles itself. No doubt that physics led to spectacular progress in science and technology. But in this physical model of the world we keep re-acting to our problems, throwing more science and technology at them before considering alternatives. This is what literacy embodied and expressed. This is how literacy functioned. To react is probably acceptable in respect to many situations corresponding to the physicality of the world, but not to those characteristics that cannot be reduced to the sequence of cause-and effect. The living is of a different condition than that of the world described by physics.

The reductionist deterministic model of reality can be complemented through the perspective of anticipation, a characteristic of the living not reducible to physical mechanisms. If in physics, and the associated humanistic developments (philosophy, psychology, sociology, etc. in the Cartesian tradition) the future state of a system is determined only by its past, in a living system, a future state can determine a current state. Quantum phenomena reveal related aspects (in particular the non-locality property, so often associated with how we interact, learn, feel, etc.)

These considerations represent the conceptual framework of my contribution. More concretely, I am addressing the issue of quality of life in an integrated world and suggesting ways of reconsidering the corresponding agenda of scientific and technological research, in particular within the European Community. Trading choice and self-determination (i.e., differences) for less concern (delegation) and higher rewards in order to satisfy needs and desires is an alternative—but not necessarily the choice. Within a certain identity, there is the promise (and comfort) of continuity (language, culture, etc.). In the integrated world brought about by the dynamics of change (in turn driven by the expectations of efficiency), permanence gives way to transitoriness. Let it be noticed that in today's world, the reductionist, deterministic model dominates. We answer the questions we face with more physics: machines of all kinds intended to ensure the proper functioning of society; a medical system that equates the human being with a machine and practices a mechanic-shop type of spare part replacement care; and the war machine response to terror instead of an anticipatory defense mechanism. We have made tremendous progress in information processing, and we pursue the ideal of replacing the human being wherever and whenever the machine is deemed more reliable and cheaper to maintain. It is precisely this attitude, expressed also in the allocation of means intended for research, that has to be challenged if we do not want to abdicate our responsibility to ourselves. The humanities get at best a negligible percentage of research funds, but even this amount is probably too high when we realize that they often recommend an unqualified return to the past. Instead of shedding light on today's human condition, the humanities settled for a subservient role in respect to scientific and technological innovation. The controversies over bioengineering, stem cell research, and modern agriculture, among many others, are examples in this respect. Almost without exception, the humanities justified the means without questioning their deeper necessity and meaning.

New literacies for a new time

Faced with unprecedented scientific experimentation, large-scale communication, social and political homogenization (everyone claims ownership of the center), and the threat of terrorism, people observe that they do not have the language for understanding these phenomena, not to say coping with them. Here they experience a discontinuity. They look for words and ultimately realize that those words, assumed to exist, cannot be found because the pragmatic framework requires something other than language. They look for actions and find only reactions, some quite disconcerting in their possible consequences. The proactive component, through which anticipation is partially expressed, is missing from the majority of programs meant to support the maintenance of quality, or even to contribute to its augmentation.

My arguments derive from the understanding of the nature of change and of its necessity, not from romantic visions of the past. Since my own work takes place in the universe of science and technology, I feel qualified to challenge some of its aspects and implicit assumptions. Human beings have reached a scale of activity and interaction such that means rooted in the experiences of literacy and the industrial model this literacy has influenced only slow down the dynamics of change. However, they cannot stop it. Let me mention two examples. We would be better off advancing visual "literacy" as a complement to verbal literacy because knowledge acquisition today is predominantly visual. Or we could better respond to new manifestations of human violence and intolerance if we understand that terrorism unfolds as a decentralized, highly

parallel, distributed experience of violence (regardless whether in the "cell" model of the new wave of terrorism or in other schemes). Instead, we insist on opposing it through a structure based on centrality and through hierarchic modes of operation. The machinery of military organizations and alliances can at best destroy (level everything in the hope of erasing the invisible enemy), but not counteract or neutralize the forces of terror, and even less the motivation leading to violent acts.

The anticipatory perspective

In the experience of ascertaining values and a sense of quality, differences can assume a new status. They transcend the regional boarders and reflect a new human condition. Caught between the two—continuity, resulting from preserved differences, and discontinuity, resulting from everything that shapes the new integrated world—people are not asked to choose, but to accept the trade-off, to re-act instead of not to act at all. In the long run, as individuals give in to ever higher expectations, distinctions lose relevance. In the commercial democracy of equal access to mediocrity, identity loses out. However, with the advent of a pro-active anticipatory perspective, this trend will eventually be reversed as we free ourselves from the mass-production—mass-consumption obsession of the industrial age. The transition to an anticipation-based perspective that complements the known deterministic view is not trivial. But to continue to delegate our problems to science and technology in the tradition of ignoring the anticipatory dimension of the living is not acceptable.

Deplored by the proponents of diversity, digital technologies and the new focus on understanding what life is (bio-computation is only part of the trend) could turn out to be their best allies, provided that we not focus only on what is feasible—the physics—but anticipate what is relevant—the living component. For this we shall have to switch from a society obsessed by function (and functionality) to one that acknowledges relations and correlations. It is time to bring together those who understand what the living is and how it unfolds (not only biologists and the new DNA scientists obsessed with the mechanics of life) with those who are focused on complexity (the opposite of the Cartesian reductionists). Together with scientists, they can probe the various forms of anticipation from which society can benefit. It is quite probable that, in such an endeavor, people working commonly in anticipation—writers, artists, performers, etc.— would cooperate with others able to capture the resources of anticipation in effective forms, such as computation, genetic processing, and molecular engineering. What would have to be defined is a set of goals, among which the understanding of quality, not as an end in itself, but as a premise for anticipation, will probably figure very high.

Educating for quality

If we want to address quality, we have to create the context for a dynamic notion of quality, while preserving notions we still acknowledge as being of value to the individual and society. This being the case, education deserves to be given more attention here due to its role in forming minds. Education seems more and more involved in a catch–up game. It reacts to the changing world and its expectations instead of exercising initiative and making of new forms of human experience possible. While failing to understand the nature of mind processes, education has become even more a packaging or canning industry. "Basic" education—whatever "basic"

means to various groups—does not even train students for today's society. It is affected by the aging syndrome which affects the anticipatory quality of the human mind and of our institutions. Indeed, senescence goes hand in hand with the loss of anticipation.

The tragedy is that education, for the most part, does not notice this or does not have the intelligence to understand such thoughts articulated by people outside the domain of education. The institution's self-perpetuating drive prevents not only learning, but also self-assessment or self-awareness (evaluation), as well as projection of goals (planning). Instead of pursuing processes of education, it pursues technologies of training under the pressure of shorter cycles of information viability (what is learned today becomes irrelevant more quickly than it did 20 – 30 years ago). In fact, education has become parasitic because, not exercising any anticipatory function, it is a training medium for outmoded skills, not a context for the constitution and interaction of minds. Instead of fostering the humility of knowledge and doubt, education as it is practiced disseminates the impertinence of certitude that its limited training goals and service functions entails. A strange circularity characterizes the educational process. Education claims that society determines what it should accomplish; and what it accomplishes determines the society according to the perceived claim. Obviously, there are ways to change this, and my suggestions, no less than my criticism, result from the explanation of mind processes that I have set forth, especially from the social implications of this model. One condition of the mind is plurality, and interaction of minds is the concrete form of this plurality. The other is anticipation.

The *quadrivium*, which corresponds to the experiential context of ancient Greece, offered two disciplines of practical anticipation (music and astronomy), one of constitution (arithmetic), and one of representation (geometry). Under new practical circumstances such as ours, we should be able to offer an appropriate "quadrivium" corresponding to the new condition of human activity: the disciplines of hearing and seeing, thinking and interpreting, and interaction. However—and this is of utmost importance in the context of European institutions—interaction cannot be imposed upon people through legislation or through programs for the dissemination of so-called interactive technology. It should result from the necessity of their practical experience and from the new conditions this creates. People should come to the realization that technology should correspond to the unfolding of their abilities, and not turn technology into agents of actions upon which they have no control. Instead of more legislation and regulation, the opening of avenues for more initiative, creativity, and self-determination should become the goal of the European Union.

When democracy fails us

Education has to constitute networks of interaction corresponding to the nature of our minds and to the brain and body, whose processes the mind controls. We have to address the conscious and the intuitive components, to enhance intuition, and to allow for the mind's anticipatory characteristic. The asymmetry of the individual brain corresponds to the asymmetry of our mind. Education should cease the uniformizing action it exercises (at various levels) on its subjects and accommodate the individual in his or her irreducible characteristics. Obviously, the concept of democracy, a representation of an abstract ideal, cannot, if turned into an instrument of opportunism, serve as the structuring element unless we really intend to reduce the variety of

minds to two or three acceptable types. This sounds more dangerous than it is. This is why I shall elaborate on the criticism of the abstract notion of democracy and the practice it led to.

Like minds, education has to anticipate events, not merely follow them. As the institution of education corresponds to the brain (in its relation to minds), conditions for learning should be created accordingly, so that learning ("mathema" means "what is learned") is followed by a diversification of possible interrelations, by an increased number of channels of communication, and by increased capacity for supporting human interaction. I would again go so far—please follow the argument before reacting—as to claim the need for a barrier similar to the blood-brain barrier in the human body, which would shield education from society (and the political surges it goes through) to the extent such a shield is necessary. And we all know that it is necessary, unless we want to pervert education beyond its current state of perversion. No doubt, education needs exchange with society, but a selective barrier will ensure proper conditions for mind constitution. Fundamental research, for instance, is not possible without such a selective barrier. In recent years, fundamental research has been continuously sacrificed on the altar of fast high returns on the scientific investment that society makes (through public and private channels). A balance between how we support representation-oriented functions—in particular, problem solving—constitutive functions—on which creation of new values rests—and communication would allow education to play a role which goes beyond servicing needs or making for opportunistic political slogans.

The reality is that the universality implicit in the literacy model of education, reflected in the corpus of democratic principles guaranteeing equality and access, is probably no longer defensible in its original form. Education should rather elaborate on notions that better reflect differences among people, their background, ethnicity, and their individual capabilities. Instead of trying to standardize, education should stimulate differences in order to derive the most benefit from them. Education should stimulate complementary avenues to excellence, instead of equal access to mediocrity. Some people may be "uneducatable," in the context of the homogeneous education imposed on everyone on behalf of a misunderstood notion of democracy. They might have characteristics impossible to reduce to the common denominator implied in literacy-based education, which democracy adopted as its goal in a past when no alternatives were possible. These students might require alternative education paths in order to optimally become what their abilities allow them to be, and what practical experience will validate as relevant and desired, no matter how different.

Equal representation, as applied to members of minority students or faculty, ethnic groups, sexes or sexual preferences, and the handicapped, introduces a false sense of democracy in education. It takes away the very edge of their specific chances from the people it pretends to help and encourage—women, minorities, the handicapped, etc. Instead of acknowledging distinctions, expectations of equal representation suggest that the more melting in the pot (the American slogan now in the process of being adopted in Europe), the better for society, regardless of whether the result is uniform mediocrity or distributed excellence. Actually, the opposite is true: equal opportunity should be used in order to preserve distinctive qualities and bring them to fruition. Unity in diversity is the highest asset that Europe has. Democracy fails us as long as we practice it as an external goal in a new dynamic context that has made any eternity impossible.

A new plurality

Centrism—Euro-, ethno-, techno- or any other kind—as well as dualism—e.g., *good and bad*, *right and wrong*, *just and unjust*, *beautiful and ugly*—and hierarchy have exhausted their potential. The attempt to measure the emergent pragmatics—and thus the emergent quality—against ideals that do not originate from within them can only result in empty slogans firmly entrenched in the avatars of machine-age ideologies. As we experience it at the juncture between literacy and illiteracy, the legacy of language is not only accomplishments, but also the diversion from what the world is to descriptions that stand for it in our minds, books, and social concerns. What emerges in the new pragmatic framework of distributed practical experience and of cooperative, parallel human interactions is a human being self-constituted in a plurality of inter-conditioning means of expression, communication, and signification. This plurality will expand. It rests on the most fundamental characteristic of the living: individuality. Albeit, we will do well to acknowledge the danger of extreme individualism, and the associated patterns of asocial behavior to which terrorism, for example, belongs. This danger is at least as high as the danger of negating the individual and turning him or her into an easily dispensable part in a social body that can be manipulated in the traditions of fascism, belligerence, unbridled capitalism, and their current manifestations.

No, the events of September 11, 2001 did not change the world. They affected us in many ways, more deeply than our emotional reaction to the deaths of innocent people and the ensuing anti-terrorist reactions reveal. The terrorist acts were a wake-up call to the effects of the change that started some time ago as we entered a new pragmatic framework corresponding to the new scale of human activity. That this new pragmatic framework corresponds to a necessary level of high efficiency is also reflected in the efficiency of destruction and crime we experienced in real time. If we want to understand this process, we could derive from this understanding the knowledge we need to prevent similar instances. Moreover, we could derive the means to counteract forces of destruction as these emerge, as they always have as humankind advances towards new goals. The old never gave in to the new. The conflict between the two has stimulated the species towards its continuous change.

We are rapidly advancing towards a new age. Promise and peril are of comparable scale. We can hold ourselves back from unfolding in ways never before imagined, nor possible, in human history. Or we can open our minds to the possibilities that our own creative and anticipatory abilities present to us, thus making the best of the age we are entering. But one thing we cannot do: We cannot stop the process!

References

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