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**Challenges of the university in the knowledge society,  
five years after the World Conference on Higher  
Education**

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# CHALLENGES OF THE UNIVERSITY IN THE KNOWLEDGE SOCIETY, FIVE YEARS AFTER THE WORLD CONFERENCE ON HIGHER EDUCATION

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## 1. UNIVERSITY AND KNOWLEDGE SOCIETY

### 1.1 Contemporary knowledge

One of the characteristics of contemporary society is the central role of knowledge in the production processes, to the extent that the most frequent qualifier now used is that of the *knowledge society*. We are seeing the emergence of a new economic and productive paradigm in which the most important factor ceases to be the availability of capital, labour, raw materials or energy and becomes the intensive use of knowledge and information.

Today's most advanced economies are based on the greatest availability of knowledge. Comparative advantage is increasingly determined by the competitive use of knowledge and of technological innovations. This centrality makes of knowledge a pillar of the wealth and power of nations but, at the same time, encourages the trend towards treating it as a mere commodity subject to market laws and open to private appropriation.<sup>1</sup>

On becoming productive forces, knowledge and information became integrated into capital itself, which begins to depend on such factors for its accumulation and reproduction. Insofar as economic hegemony belongs to financial capital and not productive capital, information prevails over knowledge proper since financial capital operates with purely virtual wealth, whose existence amounts to information itself. Such a situation produces, among other effects, one that is fairly precise: economic power is based on the possession of information which, as a result, becomes secret and ultimately constitutes a field of unprecedented economic and military competition while necessarily blocking democratic forces, which rest upon the right to information, both the right to obtain it and the right to produce and disseminate it. In other words, the *knowledge society*, from the information viewpoint, is governed by market (especially financial market) logic, so that it is neither appropriate nor conducive to the political action of civil society and the effective furtherance of requisite information and knowledge for social and cultural life.

In short, the notion of *knowledge society*, far from promising a significant advance and an autonomous development of universities as social institutions with a commitment to the lives of their societies and linked to direct democratic authorities, suggests the opposite: both university heteronomy (when the university produces knowledge intended to generate more information for financial capital, bowing to its needs and logic) and the irrelevance of the activity of universities (when research is autonomously defined by or seeks to meet the social and political needs of their societies). The sign of heteronomy is clear, for example, in Latin American universities in the area of what is referred to as basic research, where the aims and methods of research are determined by links with the major research centres of the economically and militarily hegemonic countries, since such links are a prerequisite for funding the research and also serve as an instrument for international academic recognition. Another clear sign of irrelevance is the deterioration and

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<sup>1</sup> "Wealth", says Jeremy Rifkin, "is no longer vested in physical capital, but rather in human imagination and creativity." Rifkin, J.: *The Age of Access*, Penguin Putnam Inc., New York, 2000 – ISBN 1-58542-018-2; ISBN 1-58542-082-4 (paperback edition). Intellectual capital, say the specialists in administrative sciences, is becoming the main asset of enterprises. It is estimated that over 50% of the GDP of the largest OECD economies are now knowledge-based.

dismantling of public universities, increasingly treated by the State as a burden (hence the advance of privatization, tertiarization and massification) and a factor perturbing the economic order (hence the growing demoralization of those working in public universities).

Furthermore, there is a marked reduction in the time between the advent of the new knowledge and its technological application, which means that its technical applications may come to determine the content of scientific research, with possible repercussions on the traditional “disinterested” nature of basic research.

Contemporary knowledge possesses, among other characteristics, those of accelerated growth, greater complexity and a trend towards rapid obsolescence. What is referred to as the *knowledge explosion* is both quantitative and qualitative, in the sense that the amount of disciplinary knowledge increases apace and, at the same time, new disciplines and sub-disciplines arise, some of which are transdisciplinary. Hence we also speak of an “epistemological explosion”.

According to figures supplied by James Appleberry, cited by José Joaquín Brunner, internationally recorded discipline-based knowledge took 1,750 years to double for the first time, counting from the start of the Christian era; it then doubled in volume every 150 years and then every 50. It now doubles every five years and it is projected that by 2020 knowledge will double every 73 days.<sup>2</sup> It is estimated that every four years the amount of information available in the world doubles; as the analysts observe, however, we are only capable of giving attention to between about 5% and 10% of that information.

The figures on the amount and speed of knowledge acquisition that derive from the publication of articles presenting scientific discoveries may prompt additional reflection. For the question is whether the quantity of discoveries implied a change in the definition of a science. In other words, were chemistry, mathematics, biology and history (to keep to Brunner’s examples) redefined as to their objects, methods and procedures to the extent that we might say, for example, that today the epistemological change in chemistry would be equivalent to the move on from alchemy to seventeenth-century chemistry? Or could we say that the epistemological change in history would match that which, in the nineteenth century, broke with the narrative-based historiographic tradition of *memorabilia* and led to our separating nature and culture, regarding historicity as the human way of being and seeking a solution for the classic theme (that defines history from Herodotus to Thucydides) of the alternative between contingency and necessity? Or, again, we know that the fundamental epistemological change between classical and contemporary science (twentieth century) lies, on the one hand, in the fact that the former deemed that it understood things as they were in themselves while the latter has no hesitation in treating its objects

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<sup>2</sup> Brunner, José Joaquín: “Peligro y promesa: la Educación Superior en América Latina”, essay included in the collective book: *Educación Superior latinoamericana y organismos internacionales – Un análisis crítico*, (F. López Segrera and Alma Maldonado, Coordinators), UNESCO, Boston College and University of San Buenaventura, Cali, 2000, p. 93 et seq. For some disciplines, in the same essay, J.J. Brunner illustrates the growth of knowledge with some examples taken from several authors: “Chemistry: Since the beginning of the 1990s, more than a million articles have been published in specialist reviews every two years (Clark, 1998). Between 1978 and 1988 the number of known substances rose from 360,000 to 720,000, reaching 1.7 million in 1998 (Salmi, 2000). Biology: In 1977, when the method was devised for determining the DNA base sequence, it was possible to determine the sequence of 500 bases a week. Today, with much improved robotization of the method, a million bases a day can be determined (Allende, 2000). Mathematics: Each year more than 100,000 new theorems are made known (Madison, 1992). History: In two decades – between 1960 and 1980 – the discipline produced more publications than in the entire previous period since the classical historiography of Greece (Van Dijk, 1992). In the area of business administration five new book titles a day have been appearing in recent years (Clark, 1998)”. “If the time elapsed since the appearance of Homo sapiens on earth could be represented by one hour, 95% of our knowledge would have come from the last 20 seconds”, we are told by Hernando Gómez Buendía in “La Educación. La Agenda del siglo XXI”. *Hacia un desarrollo humano*, TM Editores, Bogotá, 1998.

as constructions; and, on the other hand, in the fact that classical science deemed that it was operating with the ideas of necessary causal order and connection, while contemporary science tends to abandon the idea of causal laws and elaborate notions like probability, regularity, frequency, symmetry, and so on. When we talk of the *knowledge explosion* and *epistemological explosion*, can we say that the *knowledge society* introduced such great epistemological changes as to transform the sciences? Has there been in the last 30 to 40 years an alteration in the *structure* of the sciences?

Those questions are prompted by two main considerations: (1) the fact that chemistry discovers new elements or mathematics develops new theorems could be looked upon as a mere quantitative increase in knowledge whose foundations have not changed in the last 30 to 40 years, the quantitative increase resulting from the new technologies used in research and the greater number of researchers worldwide; (2) the quantity of publications should be taken *with a grain of salt* since we know that such a quantity works against quality and innovation, given that: (a) the processes of assessment of academic production that govern job retention, career advancement and research funding are based on the quantity of articles published and of congresses and symposia attended; (b) the number of “points” scored by researchers likewise depends on whether they manage to publish their articles in suitably ranked scientific reviews; (c) the major research centres only obtain public and private funding if they continue to “prove” that they are attaining new knowledge, now that assessment has gradually stopped being done by peers and is determined by the criteria of efficiency and competitiveness (another sign of our heteronomy). Those questions also take us on to a substantive issue, namely the change in the *time factor* involved in intellectual and scientific work.

As we know, one of the most distinctive traits of contemporary culture is what David Harvey has called *time-space compression*.

Examining the post-modern condition, David Harvey (*The Condition of Postmodernity: An Enquiry into the Origins of Cultural Change*, Cambridge, MA: Blackwell, 1990) analyses the effects of flexible accumulation of capital, namely the fragmentation and dispersion of economic production, the hegemony of financial capital, the extremely high labour turnover, the staggeringly fast obsolescence of work qualifications as a result of the constant advent of new technologies, the structural unemployment caused by automation and high labour turnover, and social, economic and political exclusion. Such economic and social effects of the new form assumed by capital are inseparable from an unprecedented transformation in the experience of space and time. That transformation is described by Harvey as *time-space compression*, referring to the fact that the fragmentation and globalization of economic production engenders two contrary and simultaneous phenomena: fragmentation and dispersion of space and time; and, under the effects of the information technologies, the compression of space (everything is happening *here* without distances, differences or frontiers) and the compression of time (everything is happening *now* without past or future).

We can add to what has been stated by Harvey the fact that speaking of the present as the “age of uncertainty” indicates, rather than a philosophical and scientific failure to grasp the natural and cultural reality, an acceptance of the economic and social destruction of all of space and time references, whose meaning was to be found not only in day-to-day perception but also in the work of geography, history, anthropology and the arts. It is preferable to speak of *insecurity* rather than uncertainty. However, we know that insecurity gives rise not to knowledge and innovative action but to fear and paralysis, to a bowing to what has been decreed, to rejection of criticism, to conservatism and to authoritarianism.

In truth, the fragmentation and dispersion of space and time are what causes them to be brought together within a non-differentiated space and an ephemeral time, or a space reduced to a flat surface of images and a time divested of depth and reduced to the movement of swift and fleeting images.

In the case of artistic and intellectual production (humanities), the compression of space and time makes a paradigm of the market of what is in fashion (i.e. of what is determined by the market as disposable and ephemeral): works of art and intellect last a “season” and, when discarded, disappear without a trace. To have a share in that ephemeral market, literature for instance abandons the novel for the short story, intellectuals forsake the book for the *paper*, and the film is supplanted by the video clip or by large montages with “special effects”. Post-modern ideology has it that reason, truth and history are totalitarian myths; space and time, an ephemeral and volatile succession of speeding images and the compression of places and instants into virtual unreality extinguishing any contact with space-time as something structuring the world; subjectivity is not reflection but narcissistic intimacy, and objectivity is not knowledge of what is exterior to and independent of the subject, but a set of strategies mounted on language games that represent thought games. The history of knowledge may be seen as a periodical interplay of language and thought, that is, as the inventing and discarding of “paradigms” without knowledge ever touching on reality itself.

Time-space compression also makes itself felt in universities, with reduced graduation and post-graduation time and also less time for masters dissertations and doctoral theses. Where teaching is concerned, the speed is such that the need to transmit to students the history of each discipline, knowledge of their classics, the matters that gave rise to them and their transformations is gradually made a thing of the past. In other words, the absorption of the space-time of financial capital and the fashion market leads to abandonment of the fundamental nucleus of university work, namely *training*.

The greater complexity in the structure of contemporary knowledge, which according to Edgar Morin can only be assumed by “complex thinking”, dictates interdisciplinarity as the appropriate response to that complexity. “The predominance of fragmented learning divided up into disciplines”, Morin tells us, “often makes us unable to connect parts and wholes; it should be replaced by learning that can grasp subjects within their context, their complexities, their totality.”<sup>3</sup> Interdisciplinarity presupposes complementarity, mutual enrichment and a conjunction of disciplinary skills.

The very structure of learning is subject to change. We live in a *new scientific age: the age of possibilities or probabilities*. As Ilya Prigogine said, “we come from a past of conflicting certainties – be they related to science, ethics or social systems – to a present of questioning”. “A robust theory”, Karl Popper affirms, “is no more than an assumption that has so far withstood efforts to refute it.” ... “Reality is more to be seen as an unstable system, like a cloud”, he adds. The result of chaos and order, in the opinion of Prigogine, who adds that “we were looking for all-embracing schemes, for symmetries, for immutable general laws, and we have discovered the mutable, the temporal, the complex”. Even the laws of physics express possibilities rather than certainties.

It will be necessary then to educate for change and uncertainty. The academic community, according to Federico Mayor, “must have the courage to tell young people that privilege and certainty are now no longer part of life: it is in uncertainty that hope is to be found, at the boundary

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<sup>3</sup> Morin, Edgar: *Seven Complex Lessons in Education for the Future*, UNESCO, EPD-99/WS/3, Paris, 1999, p. 8.

between darkness and light”.<sup>4</sup> Higher education systems, says the World Declaration (Paris, October 1998), “should enhance their capacity to live with uncertainty, to change and bring about change”. Uncertainty should not lead us to perplexity but to willingness for change and to an unceasing extension and renewal of knowledge. If the twentieth century was the century of the quest for scientific certainties and of accelerated development of the various disciplines of human knowledge, the present century is marked out to be the century of uncertainty and interdisciplinarity.<sup>5</sup>

But in addition, Luis Yarzábal warns us, knowledge is different and is handled differently. From being single-discipline, knowledge has become interdisciplinary. It is problem-centred and not discipline-based; it is produced in various areas closer to its application and has shifted from academic circles to draw nearer to entrepreneurial and industrial production fields. It makes very intense use of electronic networks for the purposes of exchange, production and transformation into technology; and it is subject to a variety of quality controls, so that simple control by peer assessment has become obsolete. It now has to demonstrate its social relevance and economic efficiency and it has to demonstrate other forms of quality beyond the scope of peer assessment.<sup>6</sup>

Where management is concerned, we know that the present-day university has become an administered organization (in the sense in which Adorno and Horkheimer use the concept of capitalist administration), making it inward-looking as a structure of management and contract arbitration. Governed by management contracts, assessed on the basis of productivity indicators and designed for flexibility, the university is structured by strategies and programmes of organizational efficiency, and hence by the special nature and the instability of means and goals. Being defined and structured by norms and patterns that are completely alien to knowledge and intellectual training, the university is split up into micro-organizations that take up the teachers’ time and submit students to requirements unrelated to intellectual work. The heteronomy of the autonomous university is self-evident, what with the senseless increase in teaching hours, the reduced time for masters’ and doctors’ degrees, assessment on the sheer quantity of publications, symposia and

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<sup>4</sup> “The development of scientific knowledge is a potent means of detecting errors and combating illusions. However, the paradigms governing science may give rise to some illusions and no scientific theory is immune to error. Furthermore, scientific knowledge cannot concern itself solely with epistemological, philosophical and ethical issues. Education must set about detecting the sources of errors, illusions and forms of mental blindness. Rationality is the best barrier against error and illusion. Critical rationality is exercised particularly over the errors and illusions of beliefs, doctrines and theories. Hence the need to recognize in education for the future a principle of *rational uncertainty*: rationality constantly runs the risk, if it fails to maintain its self-critical vigilance, of lapsing into rationalizing illusion. In other words, genuine rationality is not just theoretical and critical but also self-critical. Any education therefore needs to bring out major questions on our possibility of true knowledge. Practising these questions provides the oxygen of any learning venture.” David René Thierry García: *La educación del futuro*, Paedagogium, July-August 2001, Year I, No. 6, p. 20.

<sup>5</sup> “This century of uncertainty is ahead of its time and we are only just beginning to feel the effects of the new rationality. The contemporary university must recognize and act in accordance with this rationality that is starting to become evident through the diversification of societies in the world, their ever more multicultural composition, the characteristics of massification, the structures of information communication, the incorporation of technologies in daily life, the reduction of distance between public and private, the access of citizens to forms of knowledge-seeking differing from those in use, the new dimensions of work based on capacity for personal and collective initiative and on joint responsibility for decisions, interdisciplinarity of jobs and permanent mobility of professional profiles, geographical and cultural mobility, ongoing mutation of society defined by uncertainty and geographical and cultural complexity, and the reduction of the nation-State by means of regional, economic and social superstructures. All this goes to make up an epistemological globality that has been called the ‘knowledge explosion’ and accounts for the complexity of relations.” Escotet, Miguel Angel: “La Universidad ante el siglo de la incertidumbre”, lecture delivered at the University of Zacatecas, Mexico, in November 2002 (multicopied).

<sup>6</sup> Yarzábal, Luis: “La Educación Superior en la sociedad contemporánea”, lecture delivered at the “First National Forum on Higher Education”, Managua, May 2002, in *Universidad y Sociedad*, review of the National Council of Universities, No. 10, September 2002, Managua, p. 8.

congresses, the growing number of commissions and reports, and so on. The university *operates* and therefore *fails to perform*.

Teaching is understood as the rapid transmission of knowledge set forth in textbooks that are easy to read and preferably abundantly illustrated and backed up by CD-ROMs. Teachers are recruited regardless of whether or not they are proficient in the field of knowledge of their discipline and the relationships between that and other similar disciplines. Teachers are taken on either because they are promising researchers in something very specialized or because, with no particular bent for research, they consent to being steamrolled into accepting temporary, precarious – sorry, “flexible” – employment contracts. Teaching is looked upon as a means of rapid qualification for graduates needing right away to enter a labour market from which they will be eliminated a few years later on becoming obsolete and dispensable young people; or as a driving belt between researchers and training for new researchers. In short, teaching is reduced to transmission and job training.

What hope is there for research when reason, truth and history are regarded as myths, when space and time are turned into the flat surface of a succession of images, and thought and language into games and contingent constructions of scarcely strategic worth? In an organization a piece of “research” is a strategy for intervention and control of means or instruments for the attainment of a delimited goal. In other words, research is tantamount to a “survey” of problems, difficulties and obstacles impeding the achievement of a goal, involving the working out of a partial solution to local problems and obstacles. In that case, research does not mean acquiring knowledge of anything but possessing instruments to intercede and control something. Hence there is no time in an organization for reflection, criticism and an examination of the instituted knowledge and possible ways of transforming or moving beyond it. In an organization there is no rhyme or reason for cognitive activity. On the contrary, in the strategy game of competition in the marketplace, the organization maintains and affirms itself if it is capable of proposing areas of constantly renewed problems, difficulties and obstacles, which is achieved by fragmenting old problems into brand new micro-problems over which there appears to be ever greater control. Fragmentation, as a prerequisite for the organization’s survival, becomes real and proposes specialization as the principal strategy, “research” being understood as the strategic demarcation of an area of intervention and control. Clearly, such work can only be evaluated in terms comprehensible for an organization, namely in cost-benefit terms, while it is regulated by the idea of productivity, estimating how long it took, what it cost and how much was produced.

Michael Gibbons observes that not only are new forms of knowledge coming into being, but also new forms in its production and dissemination. The new form of generating knowledge is characterized by the involvement of a great many actors, which transforms the responsibility that traditionally rested with a handful of recognized specialists into a broader, social-type responsibility. Generally speaking, those assuming these new forms of knowledge generation are more concerned about their competitive edge in terms of market, cost and commercial considerations, namely more by the application of their results than by their contribution to the advancement of learning, shifting, as Gibbons himself notes, from a disciplinary orientation to one of “context of application”. In this way, the new production of knowledge is increasingly becoming, as he puts it, “a socially distributed process” tending towards a “multiplication of the nerve endings of knowledge” worldwide.<sup>7</sup>

It is also fitting to refer to the international character of contemporary knowledge. States have borders and knowledge has horizons. Scientists are increasingly part of the *world academy* made up

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<sup>7</sup> Gibbons, M., et al. *The New Production of Knowledge: The Dynamic of Science and Research in Contemporary Societies*, London, Thousand Oaks, New Delhi, Sage Publications, 179 pp.

of the host of networks using cyberspace as their medium of communication. The emergence of knowledge without frontiers and of the information society, in an ever more globalized world, presents contemporary higher education with unprecedented challenges.

It must not be forgotten however, that globalization calls for a very precise economic and social division between North and South, or between hegemonic central countries and dependent peripheral countries. That division means that the academics, scientists, artists and intellectuals of the dependent peripheral countries do not participate in the *world academy* on an equal footing with those of the hegemonic central countries. And this is so in at least three main respects: (1) there is inequality regarding financial, instrumental and technical resources for research; (2) there is inequality of opportunity for divulging and applying research results; (3) for the sake of relevance to the *world academy*, the members of the dependent peripheral countries agree to restrict their research to problems, issues, themes, methods and techniques defined in the hegemonic central countries. Instead of defining their own problems, themes, issues and methods in accordance with the needs of their countries and societies, and in keeping with theoretical, scientific, technical and artistic traditions that guarantee the permanence of a particular history of knowledge making it possible to partake of the universal, they seek to partake of universality (or the “global”) assuming for themselves the distinctive nature of others. In other words, instead of assuming a process whereby the particular expresses a distinctive universality of knowledge and the arts, what is sought is to be immediately in the universal without the mediations of special social, historical and cultural features. And on account of that lack of mediation and that quest for the immediate, instead of a concrete universality, what is arrived at is an abstract universality that is no more than submission to the particular features of those in possession of hegemony over the domains of the intellect and of the arts.

To put it yet another way, instead of taking the view that a *world academy* already exists, with actual interchanges and universalized production, it seems to me that it should be seen as a task yet to be performed, a goal, requiring both critical reflection on the present and the mediation of the particular in the direction of the universal.

The *Policy Paper for Change and Development in Higher Education*, prepared by UNESCO as an *intellectual compass* in the process of preparing the World Conference on Higher Education, affirms that “[t]he growing internationalization of higher education is first and foremost a reflection of the global character of learning and research. This universal context is being reinforced by the current process of economic and political integration, the growing need for intercultural understanding and the global nature of modern communications, consumer markets, etc.”.<sup>8</sup>

We thus speak of *globalization of knowledge*, a process involving the universities, and it is closely linked to the very nature of contemporary knowledge. Such globalization, which often masks a process of corporatization of knowledge of academic origin, is generating a new *academic ethos* on account of the greater supervision of research findings by enterprises.<sup>9</sup>

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<sup>8</sup> UNESCO: *Policy Paper for Change and Development in Higher Education*, ED-94/WS/30, Paris, p. 33.

<sup>9</sup> “In the nascent model of science, the production of knowledge is oriented towards its commercial application. As a result, the primary objectives of scientists are transformed into others quite distinct from the disinterested quest for truth, with a consequent erosion of the academic *ethos*, that is, the *ethos* of disinterested research.” Licha, Isabel: *La investigación y las universidades latinoamericanas en el umbral del siglo XXI: Los desafíos de la globalización*, Colección UDUAL 7, UDUAL, Mexico City, D.F. 1996, p. 15. According to Francisco López Segrera, the tendency to accentuate practical ends in the generation of knowledge has four implications for knowledge generation in the future: “First, many technological advances have more to do with the rise of scientific research sponsored by those standing to gain from it financially; the upshot is that the new science comes to depend on the industrialization processes and the interests of their sponsors, which has made economic interest the overriding factor in the exercise of science and education. Second, the knowledge society is

In turn, the new information technologies are bringing about significant cultural changes in the context of the new “IT culture”. As Juan Carlos Tedesco cautions: “Their utilization makes it necessary to modify such basic concepts as *time* and *space*. The very notion of *reality* is beginning to be reconsidered, given the possibilities of constructing ‘virtual’ realities setting out new epistemological problems and issues whose analysis has only recently got under way”.<sup>10</sup>

Computer technologies are also giving rise to a new form of inequality, *digital inequality* as observed by Paul Kennedy and expressed in the twin aspects of *info-rich* and *info-poor*, according to whether we are talking about sectors with access to those technologies or sectors debarred from their use for economic and social reasons.<sup>11</sup>

We close this section concurring with the question formulated by J.J. Brunner in the previously cited essay: “As we enter the twenty-first century, what is the challenge faced by the region? In short, to advance rapidly along the path of growth for the sake of social cohesion and, at the same time, to join in the new knowledge-based economy, the information society and the global culture”. Growth should refer, we add, to the major compendium paradigm that should be served by contemporary higher education, namely the paradigm of endogenous human development, both human and sustainable, which means a development based on our own productive forces and on our capacities and competitiveness, in the service of the dignity of the human being, one that respects the right of future generations to satisfy their own needs and preserves the cultural identity of our peoples.

The World Declaration on Higher Education states in its Preamble that “[w]ithout adequate higher education and research institutions providing a critical mass of skilled and educated people, no country can ensure genuine endogenous and sustainable development and, in particular, developing countries and least developed countries cannot reduce the gap separating them from the industrially developed ones”. And Article 1 of the Declaration affirms that “the core missions and values of higher education, in particular the mission to contribute to the sustainable development and improvement of society as a whole, should be preserved, reinforced and further expanded”. “The knowledge society”, states in turn the *Santo Domingo Declaration* (Science for the Twenty-

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producing radical changes in theories previously regarded as convincing explanations of humankind and the world. These changes are becoming continuous; for such is the development of knowledge that the paradigms undergo rapid change. The new paradigms renew at breathtaking speed the explanations given about humankind and the world that had stood unscathed for centuries. This in turn brings us to a third aspect to do with the revolution also under way in the form in which knowledge is communicated. Knowledge and information permeate the various social strata to a greater extent than before and circulate in a volume and at a speed never even imagined. A fourth and perhaps the most questionable aspect is the super-specialization of knowledge. Knowledge grows at an accelerated speed but fragmentarily; knowledge has divided and multiplied, and the individual facets into which the great window of knowledge has been converted lack unifying force. This fragmentation of knowledge becomes worrying when it is not just knowledge that becomes fragmented but people and culture.” ... “The problems that used to be clearly confined to disciplines have been turned into urgent transdisciplinary or interdisciplinary tasks. Any specific knowledge becomes obsolete with the sheer scale of problems. Furthermore, we find that we have accumulated knowledge that we never even thought of attaining; but that knowledge does nothing to stem the world crisis since we observe that the greater the development of knowledge the greater the deterioration of the world, of humankind and of relations among people.” This situation is expressed by T.S. Eliot when he wrote: “Where is the knowledge we have lost in information? Where is the wisdom we have lost in knowledge?”. López Segrera, Francisco: *Globalización y Educación Superior en América Latina y el Caribe*, Ediciones IESALC/UNESCO, Caracas, 2001, p. 148 *et seq.*

<sup>10</sup> Tedesco, Juan Carlos: *Educación en la sociedad del conocimiento*, Fondo de Cultura Económica de Argentina, S.A., Buenos Aires, 2002, p. 47.

<sup>11</sup> According to a study by Isidro Fernández-Aballí, Regional Adviser for Latin America and the Caribbean of UNESCO’s Division of Information and Informatics, cited by F. López Segrera, *op. cit.*, p. 47, 15% of the population possess 71% of the telephone line, over 60% of the world’s inhabitants have never used a telephone, only 14% of the world population have access to the Internet, and in 2005 there will be more Internet users than telephone users (use of mobile telephones and television for Internet access).

First Century, March 1999), “implies increasing technological capacities by combining traditional and modern methodologies to stimulate scientific creation and lead to sustainable human development.”

## 1.2 University and society

University education has from the outset pursued the aim of creating, transmitting and disseminating knowledge. While knowledge, as we have seen, today occupies a central place in the processes that go to form contemporary society, the institutions working with and on knowledge also partake of this centrality. This consideration has given rise to a fresh analysis of the relations between higher education institutions and society and to greater relevance of the strategic role of higher education.<sup>12</sup>

The World Declaration on Higher Education gives recognition, in its Preamble, to that strategic importance of third-level education in contemporary society. The Declaration states that there is “an increased awareness of [higher education’s] vital importance for sociocultural and economic development, and for building the future”. And it affirms that: “Owing to the scope and pace of change, society has become increasingly knowledge-based so that higher learning and research now act as essential components of cultural, socio-economic and environmentally sustainable development of individuals, communities and nations. Higher education itself is confronted therefore with formidable challenges and must proceed to the most radical change and renewal it has ever been required to undertake, so that our society, which is currently undergoing a profound crisis of values, can transcend mere economic considerations and incorporate deeper dimensions of morality and spirituality”.

Analysis of university/society relations is one of the main curriculum components of studies on higher education. The academic world should undoubtedly become more involved in social, economic and cultural processes, but maintaining the features that set it apart as academia. This is what is referred to in the paragraphs of the World Declaration (Art. 2) where we are told that higher education institutions should “preserve and develop their crucial functions, through the exercise of ethics and scientific and intellectual rigour in their various activities”. The recognition given by society to the intellectual authority of higher education institutions, according to the Declaration, is closely linked to their being able to speak out on ethical, cultural and social problems completely independently and in full awareness of their responsibilities.

Neither a *cloistered university*, with its back to society, nor a *militant university*, that is, a university invaded by the clatter and clamour of the street, but a *participant university*, as José Medina Echavarría advocated several decades ago. A university that participates in all aspects of the life of society, without forfeiting its academia character, and that only affirms what it is fitting as academia to affirm.<sup>13</sup>

Since the relationship between university and society is not one of just appearances, we cannot regard the university as an independent entity that should find mechanisms or instruments in

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<sup>12</sup> “Today, more than ever before in human history, the wealth – or poverty – of nations depends on the quality of higher education.” Malcolm Gillis, President of Rice University, cited in the report of the Task Force on Higher Education and Society of the World Bank and UNESCO entitled: *Higher Education in Developing Countries: Peril and Promise* (Washington: World Bank, 2000).

<sup>13</sup> Medina Echavarría, José: *Filosofía, Educación y Desarrollo*, Siglo XXI Editores, first edition, Mexico City, 1967. According to Carmen García Guadilla: “The desirable university is an institution that has the duty and also the privilege of being able to be in the ‘flow’ of changes and, at the same time, in the ‘ebb’ of reflection on the implications of those changes and how they should be directed towards an ideal having the desired long-term benefits”. Carmen García Guadilla: *Conocimiento, Educación Superior y Sociedad en América Latina*, CENDES – Nueva Sociedad, Caracas, 1996, p. 122.

order to enter into a relationship with society. On the contrary, the university is a social institution and, as such, *expresses in a determinate manner the structure and mode of functioning of society as a whole*. So much so that, within the university as an institution, we find the presence of conflicting opinions, attitudes and projects that mirror the divisions and contradictions of society as a whole. A *cloistered university* expresses the manner in which a particular society conceives knowledge; a *militant university* expresses the manner in which a part of a given society claims that knowledge serves particular policies. Similarly, a *functional and operational university* that trains specialists for the work market mirrors a society viewing the market as the be-all and end-all of social living. On the other hand, a university that looks on knowledge through the prism of the right of the citizen, does what it can to stem depersonalization and places a premium on democratization reflects a society in which the democratic values of citizenship are the political and ethical imperative of university life.

The internal or expressive relationship between the university and society is that which, in addition, explains the fact that the public university has always been, from the outset, a social institution, meaning a social *action*, a social *practice* resting upon public recognition of its legitimacy and its attributions, based on a principle of differentiation giving it autonomy vis-à-vis other social institutions and structured in accordance with legislation, rules, norms and values of internal recognition and legitimacy. The legitimacy of the modern university was based on the idea of the autonomy of knowledge in relation to religion and the State, and hence on the idea of knowledge guided by its own logic, necessarily inherent in it, from the point of view both of its invention or discovery and of its transmission. In other words, particularly since the French Revolution, the public university has looked upon itself as an institution that is secular (autonomous vis-à-vis religion) and republican (autonomous vis-à-vis the will of the ruler). After the social revolutions of the twentieth century and with the political and social struggles they triggered, education and culture came to be regarded as part and parcel of citizenship and therefore as rights of citizens; with the result that, over and above its republican vocation, the university also became a social institution inseparable from the idea of democracy and the democratization of knowledge. Whether to fulfil or to oppose this idea, the university could not in the course of the twentieth century avoid the reference to democracy as a regulatory idea. On the other hand, the contradiction between the democratic ideal of equality and the social reality of division and class struggle obliged the university to take sides regarding the socialist ideal.

With the university regarded as a social institution whose changes accompany social, economic and political transformations and as a social institution of a republican and democratic stamp, the relationship between the university and the State cannot, either, be seen as one of just appearances, since the republican and democratic nature of the public university is determined by the presence or otherwise of republican and democratic practice in the State. In other words, the university as a differentiated and autonomous social institution is only possible in a republican and democratic State.

When looked at in these terms, it might be supposed that the university, rather than being determined by the structure of society and of the State, would ultimately be their reflection. However, this is not the case. Precisely because it is a social institution differentiated and defined by its intellectual autonomy, the university can enter into a relationship with society as a whole and with the State in a manner involving open debate, dividing itself internally into those for and against how society and the State build up social division and exclusion, and prevent the republican materialization of the university institution and its democratic potential.

From this point of view, the present relationship between the university and society reflects the “flexible accumulation of capital” or globalization under the hegemony of financial capital, while it also reflects the presence of post-modern ideology. This means that the autonomy of the

public university, which used to be defined in terms of rejection of the tutelage of religion and the State, has now to be seen in the light of rejection of the tutelage of business and finance (which, as we observed above, are antidemocratic and look down on the idea and practice of intellectual training). While, in the past, it seemed impossible to break away from the tutelage of religion and the State, it now looks impossible to shake off the tutelage of business and finance, knowledge having been turned into a productive force and made inseparable from world capital flows. To take this fact as an insuperable obstacle is to affirm a blind economic determinism – “It is not in our power to change things” – and abandon the prospect of political action to the effect that “It *is* in our power to change things”.

On the relations between science, technology and society, the *Santo Domingo Declaration*, approved by the Latin America and the Caribbean Consultative Meeting for the World Conference on Science (March 1999) stated that: “It is indispensable to improve knowledge and analysis, and to contribute to the harmonization of the complex interrelationship between science, technology and society”. The World Declaration on Higher Education states in turn that: “In economies characterized by changes and the emergence of new production paradigms based on knowledge and its applications, and on the handling of information, the links between higher education, the world of work and the other parts of society should be strengthened and renewed”.

Analysis of the relations between university and society is at the core of the theme of the relevance of higher education, one of the topics uppermost in the current international debate. When the relevance of higher education is addressed, there is a tendency to reduce the concept to that of the appropriate response to the demands of the economy or the business sector. Higher education should undoubtedly meet these demands but its relevance transcends them and should be examined in a broader perspective taking account of the challenges and demands presented it by society as a whole. What is involved is translating the overall aims and purposes of society in terms of the tasks incumbent upon higher education, in both its quantitative and its qualitative aspects: training of high-level specialist personnel; research scheduled; extension and service tasks to be programmed, and so on. Deciding on these tasks is no simple matter and of course does not come down to a mere quantifying of the requisite human resources, which is hard enough in itself, but also has to involve estimating the potential global contribution of higher education, through its various functions, to the human and sustainable development of society.

Higher education is a highly complex phenomenon whose analysis requires instruments that go beyond purely economic or partial approaches and take in the need to strike balances between the needs of the productive sector and the economy, the needs of society as a whole, and the no less important needs of the individual as a human being, all within a particular historical, social and cultural context. The tasks of higher education institutions must be relevant. But who defines relevance? In other words, who answers the questions: Higher education for what? For what society? For what type of citizens?

Some of the aspects that cannot be left out when assessing the social relevance of higher education systems would include the following. First, institutions have to be consistent with their officially established educational project and aims. Such relevance also has to do with the responsibilities of higher education in relation to the rest of the education system, of which it should be the head and not just the crown. This has to do not only with the training of teaching staff for the preceding levels but also with the incorporation in its agenda of socio-educational research and analysis of the most acute problems affecting education systems; the possibilities offered by the new technologies as means of extending and improving education services, and proposals for raising quality and transforming teaching methods throughout the education system. As suggested by UNESCO, higher education must assume a leading role in renewing the entire education system.

The concept of *social relevance* is thus the concept of relevance that emerges from the regional consultations and preparatory work for the World Conference emphasizing the dialectical relationship that should exist between society and higher education. The World Declaration on Higher Education for the Twenty-First Century included the following concepts relating to relevance that reflect the complexity and extent of the social tasks of contemporary higher education:

- “(a) Relevance in higher education should be assessed in terms of the fit between what society expects of institutions and what they do. This requires ethical standards, political impartiality, critical capacities and, at the same time, a better articulation with the problems of society and the world of work, basing long-term orientations on societal aims and needs, including respect for cultures and environmental protection. The concern is to provide access to both broad general education and targeted, career-specific education, often interdisciplinary, focusing on skills and aptitudes, both of which equip individuals to live in a variety of changing settings, and to be able to change occupations.
- (b) Higher education should reinforce its role of service to society, especially its activities aimed at eliminating poverty, intolerance, violence, illiteracy, hunger, environmental degradation and disease, mainly through an interdisciplinary and transdisciplinary approach in the analysis of problems and issues.
- (c) Higher education should enhance its contribution to the development of the whole education system, notably through improved teacher education, curriculum development and educational research.
- (d) Ultimately, higher education should aim at the creation of a new society – non-violent and non-exploitative – consisting of highly cultivated, motivated and integrated individuals, inspired by love for humanity and guided by wisdom.”

### **1.3 Globalization**

The twentieth century will be remembered as a complex and paradoxical century since, besides ushering in huge advances in science and technology, it was the setting for the bloodiest and most destructive wars of human history. Perhaps, says the Club of Rome, because technological and power ambitions removed any will to create values shared by humankind as a whole. The most dramatic of the paradoxes left by the twentieth century is the increase in the production of wealth, coupled with its ever more unequal distribution between nations and between social sectors within nations, even the most developed ones. Furthermore, the people who go on accumulating wealth feel constantly more insecure and with less stability in their lives. Situations of ungovernability loom on the horizon for all societies, whether opulent or impoverished.

The power structure governing the world via globalization is concentrated in the Group of 7, the United Nations Security Council and the Davos Forum. This hegemonic power structure can also be seen to be made up as follows: (1) Megacorporations: 96% of them have their parent company in eight countries, only 2% of their board members are foreigners, and 85% of their technological developments originate in the headquarters country of the parent company (their operations are transnational but their ownership and management are entirely national); (2) The governments of the central countries, particularly their economy and finance ministries, located at the apex of the world power structure together with the megacorporations; (3) The institutions that came into being as a result of the Bretton Woods agreements (IMF, IBRD, WTO); (4) The mass media enterprises, including newspapers, radio and television; (5) The economists purporting to

legitimize the neoliberal order. Discussion of the essence of this power structure peculiar to neoliberal capitalism in the globalization age has vanished from the public agenda: it is regarded as a natural phenomenon, which constitutes the main ideological victory of neoliberalism, coupled with the fact that, in the tussle between the financial and the industrial fraction of capitalism, the former carries the day in the form of neoliberal globalization and speculative capitalism (casino economics) in the face of the crisis of Keynesianism and the collapse of the socialist camp. Hence it is a fallacy of some analysts to speak of the global financial market as though it were an automaton, when what we have are nations and groups – ranging from large corporate entities to organized crime in drugs and arms trafficking – responsible for today’s problems. If we are incapable of promoting an alternative to the political and economic practices of these elite circles, which reflect the power of a handful of nations and transnational enterprises, we shall see the advent (if we manage to achieve peace, stability and order to prevent the present world system from plunging us into chaos) of a new world system round about 2050 that will shut out tens of millions of human beings on an earth ever more degraded environmentally. Globalization has made possible in the economic sphere the increasingly speculative – and hence non-productive – character of capitalism via staggering movements of capital in virtual form seeking the best opportunities and profits, and being promptly withdrawn upon particular signs of insecurity (tequila effect, Asian crisis, financial “corralito” [deposit freeze] in Argentina, etc.). On a 1990s average, more than 90% of world currency transactions corresponded to buying and selling operations in respect of periods not exceeding seven days. Globalization has tended to demolish cultural identities and turn them into a world culture in a process of growing McDonaldization.

“The twentieth century”, the Brazilian professor Cristovam Buarque tells us, “exceeded all expectations regarding technological and economic advances but was a failure where building a Utopian society for all was concerned.” The twentieth century enabled us to assume globalization, whereby “planet Earth ceased to be an academic concept, and universality became an awareness and a way of life”, but at the same time, while human society became a society living in the “global village”, it is now divided and fragmented. Informatics and telematics, the communications revolution, have incorporated the human species in a single universal society, but one divided by a “golden curtain”, “which separates those enjoying abundance, wealth and luxury from those sunk in utter poverty, hunger and filth”, adds Buarque.<sup>14</sup> In Latin America the 1995 statement by the World Bank that it is the region with “the most extreme distributive polarization in the world” still applies.

In his most recent work *The World Ahead: Our Future in the Making*, Professor Federico Mayor states that: “The twentieth century left two far-reaching transformations that have profoundly altered our view of the world: the *scientific revolution*, which by dint of extraordinary discoveries has led us from an age of certainty and dogmatism into an ocean of uncertainties and doubts; and the *third industrial revolution*, which is radically transforming contemporary society through advances in informatics and telematics, which paradoxically bring nations closer together through the phenomenon of globalization and, at the same time, move them apart by generating ever more abysmal inequalities between them in terms of access to the benefits of globalization, knowledge and information”.

After examining the challenges facing humankind, on the basis of the most recent scientific information available, Mayor advocates a change of course. There is a “discontent in globalization” akin to the “discontent in civilization” detected by Freud in his time. We are seeing a “twilight of civilization” whose root cause is to be found in the crisis of values and the “sicknesses of the soul”. But we are still in time to ward off the “perfect crime” of self-destruction of the human species.

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<sup>14</sup> Buarque, Cristovam: *La cortina de oro. Los sustos técnicos y sociales del fin de siglo y un sueño para el próximo*, Colección Utopos, Colección Comunica, 1997, p. 13 et seq.

The challenges facing humankind are summarized by Professor Mayor in peace-building, combating poverty and exclusion, ensuring sustainable human development, sound management of the world environment, and the quest for a new course since, as Seneca observed, there is no such thing as a following wind unless you know what port you are bound for (*Ignoranti, quem portum petat, nullus suus ventus est*). “Will the twenty-first century be synonymous with growing and giddy inequalities?”, asks the author.<sup>15</sup> Will we manage to overcome the propensity to consumerism? A recent study has it that three planets Earth would be needed if the world’s population were to attain the consumer patterns prevailing in the United States. Planet Earth would be unable to cope with the existence of six billion credit cards.

Globalization is not a new phenomenon. Manuel Castells distinguishes between *globality*, which is the awareness that the human species has of living on a globe-shaped planet, an awareness acquired in the fifteenth and sixteenth centuries with the “discovery” of America and Magellan’s circumnavigation, and *globalization*, which is the present-day phenomenon characterized by the growth of international trade and of transnational financial dealings, by the opening and interdependence of markets and, above all, by the extraordinary development of the information and communication technologies.<sup>16</sup> According to Fernand Braudel, the *world-economy* is now universal, in the sense that all nation-States are, in differing degrees, incorporated in its central economic structure, a phenomenon that Immanuel Wallerstein prefers to call “world-system”, the “market of the whole universe”, as Sismondi put it.<sup>17</sup>

The concept of *globalization* is not confined to the purely economic aspect; it is in fact a multidimensional process taking in aspects relating to the economy, finance, science and technology, communications, education, culture, politics, etc. Furthermore, globalization is inescapable. The Delors Report tells us that globalization is the most dominant phenomenon in contemporary society and that which most influences people in their daily lives. Education for the Twenty-First Century should teach us to live together in the *global village* and to desire such harmony. That is the meaning of *Learning to live together*, one of the pillars of Education for the Twenty-First Century, so as to turn us into “citizens of the world”, but without forfeiting our cultural roots or our identity as nations. Manuel Castells has this to say about it: “There is no other course than to sail the choppy global waters [...]. It is therefore essential, for that inescapable and potentially creative voyage, to possess a compass and an anchor. **The compass:** education, information, knowledge, both individual and collective. **The anchor:** our identities; knowing who we are and whence we came so as not to stray whither we go”.

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<sup>15</sup> Mayor Zaragoza, Federico: *The World Ahead: Our Future in the Making*, UNESCO Publishing, Paris, 2001, p. 1 *et seq.*

<sup>16</sup> Néstor García Canclini tells us that: “Situating globalization in the second half of the twentieth century is the result of its being distinct from internationalization and transnationalization. The internationalization of the economy and culture began with the ocean-going voyages, the commercial opening of European societies towards the Far East and Latin America, and the consequent colonization [...]. Transnationalization is a process that was taking shape through the internationalization of the economy and culture but has advanced somewhat since the first half of the twentieth century by giving rise to organizations, enterprises and movements headquartered not solely or principally in any one nation [...]. Globalization was under preparation in these two prior processes through an intensification of reciprocal dependencies (Beck, 1998), and the growth and acceleration of economic and cultural networks operating on a world scale and a world basis. However, it took satellites and the development of information systems, manufacturing and the processing of goods with electronic resources, air transport, high-speed trains and services distributed worldwide to build a world market where money and the production of goods and messages are de-territorialized, geographical borders become porous and customs services often become unable to function. What then comes about is a more complex and interdependent interaction between scattered centres of production, circulation and consumption”. García Canclini, Néstor: *La globalización imaginada*, Editorial Paidós, Buenos Aires, 1999, p. 45 *et seq.*

<sup>17</sup> Ianni, Octavio: *Teorías de la globalización*, Siglo XXI, UNAM, Mexico City (fourth edition), 1999, p. 14.

The first problem with neoliberal globalization lies in the fact that it is not really *global* but *fragmented* and that, as a result, it accumulates the advantages in an ever smaller sector of the population of the advanced and of the underdeveloped countries and spreads the drawbacks to ever broader sectors. It is *selective*, as Aldo Ferrer tells us, since it is habitually concerned with spheres in which the interests of the most advanced countries are uppermost. It has further to bear in mind, as Ferrer lucidly observes, that “globalization in fact coexists with national spaces in which most economic transactions take place and the development process is generated. On average, more than 80% of consumption and investment is supplied from the countries’ internal production. This means that under 20% of the world’s production of goods and services crosses national borders. History and present-day experience are conclusive: the only successful countries are those capable of acting upon their own endogenous conception of development and, on that basis, joining in the world system”.<sup>18</sup>

With the processes of globalization and the formation of major economic groupings, States need new approaches and clear-sighted policies to increase their bargaining power and improve their insertion in the international economy, remembering that globalization is dominated by *intensity of knowledge* and international competitiveness.

The UNDP Human Development Report for 1999 tells us that we have to move on from the neoliberal globalization of markets to the globalization of society. For globalization to work properly for people, it is not enough just to accumulate profits; there is a need for globalization with ethics, equity, inclusion, human security, sustainability and human development. This means a model of globalization with a human face, with solidarity, quite unlike the neoliberal model forced on us. The true ultimate concern is to globalize *human dignity*. At the opening of the World Conference on Higher Education (Paris, 1998), the French Prime Minister, Lionel Jospin, said: “[T]he market economy is a fact of life within which we act. But it should not form the horizon of society. The market is an instrument; it is not the *raison d’être* of democracy”.

Given this worldwide issue challenging the intelligence, creativity and responsibility of the “human nation”, it is absolutely essential to arrive at a new vision of the world and of the future of the human species if it is to survive the twenty-first century. “Never before in human history”, Edgar Morin tells us, “have the responsibilities of thought been so huge.” The great challenge is whether we shall be capable of drawing up “a new system of ideas”, of “rethinking the world”, because the time has come to redefine the course and meaning of life, if indeed we do not want it to be extinguished from the face of the earth. We can only overcome this crisis of the conception of the world and of life if we are capable of inventing a new humanism and giving our course an ethical horizon.

The prevailing globalization, that being forced on the world by transnational economic and financial interests, is neoliberal globalization in which the interests of transnational capitalism are clearly uppermost. “A central problem of the present globalization process”, José Rivero tells us, “is the growing power of transnational corporations, answering only to their shareholders and not to their States of origin or to the countries into which they expand. The world power of transnational corporations is increasingly anonymous, and persons who are neither known nor elected decide the value of a country’s currency and determine the cost of raw materials, credit, food and energy, thereby affecting millions of persons in many nations.”<sup>19</sup>

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<sup>18</sup> Ferrer, Aldo: “La globalización, la crisis financiera y América Latina”, article published in the review *Comercio Exterior*, Vol. 49, No. 6, Mexico City, June 1999, p. 527 *et seq.*

<sup>19</sup> Rivero, José: *Educación y exclusión en América Latina. Reformas en tiempo de globalización*, Miño & Dávila, Publishers, Buenos Aires, p. 20.

The adverse effects so far generated by the neoliberal model of globalization have prompted not only the demonstrations we see on television at every meeting of the Davos group, the World Bank, the International Monetary Fund and the World Trade Organization, but also reflections of thinkers and civil society groups, nationally and internationally, who both question the prevailing model and put forward proposals for an alternative form of globalization.

Among the thinkers advocating a different globalization is the Nobel economics laureate Joseph E. Stiglitz, who in his notable work *Globalization and Its Discontents* urges “globalization with a more human face”. Stiglitz takes the view that each country should assume responsibility for its own welfare and promote sustainable, equitable and democratic growth, affirming its own values and culture, without bowing to the prescriptions of the international funding bodies. In turn the Egyptian economist Samir Amin, coordinator of the Third World Forum, speaks to us of an alternative globalization centred on people, the human person and human dignity. Amin has this to say: “Contrary to the prevailing ideological discourse, I maintain that globalization via the market is a reactionary Utopia. We must counter it with an alternative humanistic project of globalization consistent with a socialist perspective. Realizing this project involves building a global political system not serving the global market but defining its parameters, just as the nation-state historically represented the social framework of the national market and not just its passive area of development.”

In all these proposals the aim is to encourage an alternative form of globalization – going beyond neoliberalism – that counters the adverse effects of exclusion, the accumulation of wealth in limited sectors, the extension of impoverished populations, and so forth.

The prime responsibility of Latin American universities regarding globalization is to assume it critically. With all its consequences, globalization has to be a priority item on the academic agenda of reflection and research, linking analysis of the phenomenon to the forward-looking vision of the scenarios lying ahead for our societies, in order as of now to build the conditions that determine the most favourable scenario for our countries. This has much to do with their favourable insertion in a globalized world, and not just having our countries turn out cheap clothes or whatever for export. On the basis of their own educational projects and engaging all their teaching and research endeavours and services, universities must contribute to the mutually agreed design of real blueprints for national action affording favourable entry into the international context and influencing the promotion of a form of globalization able to discard the prevailing neoliberal paradigm.

## **2. RESPONSES OF HIGHER EDUCATION TO CONTEMPORARY CHALLENGES**

The organization and holding of the World Conference on Higher Education, which took place in Paris in October 1998, made it clear that all the regions of the world are undergoing a process of academic change. The World Conference also revealed that the agenda for the international debate on the process contained a number of important items. These include: a concern with quality, prompting the organization of assessment and accreditation processes; a concern with the relevance of the work of higher educational institutions; the urgency of substantially improving management and administration; the need to introduce the new information and communication technologies; the desirability of reviewing the very concept of international cooperation and reinforcing the international dimension of higher education; and the exercising of academic autonomy with social responsibility.

There is thus talk of the emergence of a “new academic culture” comprising a “culture of quality and evaluation”, a “culture of relevance”, an “informatics culture”, a “culture of effective

strategic management”, a “culture of international openness” and a “social accountability culture”. The term culture is used here in the sense that concern with these aspects is turned into day-to-day practice for the institutions in question, with consequences regarding their work, and not into a mere “custom” of no greater consequence.

What are the main challenges facing present-day higher education and the responses structured by the academic institutions to meet them? Let us pick out the following.

First of all, we have the *quantitative challenge* of absorbing a constantly increasing student intake without sacrificing the quality inherent in third-level education. Quality requirements are not necessarily incompatible with increased enrolment since modern educational technology makes it possible both to maintain quality and to cater for ever larger numbers of students. As Sir Eric Ashby tells us, more does not necessarily mean worse but does mean different. More students can be catered for as long as the traditional methods are set aside. Distance higher education is called upon to play an increasingly important part in meeting the quantitative challenge. Hence the variety of experiences that have already become part and parcel of the work of present-day higher education. However, the challenge of equitable access cannot be resolved by merely extending higher level enrolment since the root causes of inequity are in fact to be found in the preceding levels of education. Higher education nowadays is still the privilege of a very small segment of the population of young people, mainly from the upper, middle and lower middle classes of Latin American society (18% being the average enrolment rate in the Latin America region for young people of an age to undertake higher studies).

The next challenge is that of the *relevance of studies*, which we have already addressed in paragraph 1.2.

*The balance between the basic functions of teaching, research and service* is another of the challenges facing higher education, and one that is only resolved if all the functions assist in achieving its educational goals of training professional academics and specialists with the requisite knowledge and skills and, at the same time, contributing to the advancement, extension and dissemination of knowledge. Although there is no perfect structural model as such, capable of serving as an ideal support for all the complex functions that are nowadays those of universities, it is quite clear that the traditional academic patterns based on the structural elements of chairs, faculties, schools, departments and institutes are giving way to new patterns that are more flexible and likely to bring about the reintegration of knowledge, the establishment of interdisciplinarity and a recovery of the overall conception of the university, frequently split up into innumerable watertight compartments without interconnections or without any unifying nucleus.

Another challenge is that of *quality*. The concern with evaluating the quality of higher education arose in Latin America and the Caribbean in the context of the economic crisis that marked the last decade and the replacement of the concept of “welfare State” by that of “evaluatory State”, which is part of the “modernization discourse”. Although concern with quality has been present in the universities from the outset, the concepts of quality, evaluation and accreditation are recent in the praxis of Latin American higher education.

The challenge of *improving the administration of higher education* for the sake of better performance of its basic functions of teaching, research and extension has led to the introduction of strategic planning as a normal task of university administration. Universities and other higher educational institutions are organizations. Hence a number of concepts and instruments are being transferred to university administration that stem from the most up-to-date theories regarding the administration of organizations, including the concepts of strategy, planning and administration. Although this conceptualization is mainly applied to productive and service enterprises, it can also

be used in educational institutions in general and universities in particular, with appropriate individual adjustments, given their academic nature and without overlooking their character as a social good.

The incorporation of “informatics culture” represents another of the challenges facing higher education. In a recent work José Joaquín Brünner tells us that for higher education in the United States more than 3,000 institutions offer online courses. Thirty-three of the states possess at least one virtual university. Over 50% of the courses use email as the medium of communication and at least a third use the Web to distribute materials and support resources. Some developing countries are going in the same direction. The six largest distance universities are in fact situated in the developing world; in Turkey, China, Indonesia, India, Thailand, South Africa and Iran (ITU. 1999). We must nevertheless prevent an overestimation of the potential of such technologies from impairing our appreciation of the role of the teacher. These technologies must always be seen as tools and back-up for teachers and not things to replace them. The personal and real teacher-learner relationship can never be replaced by a machine-user relationship.

With that note of caution, what higher educational institutions and hence their teachers cannot do is refuse or resist the utilization of such technologies, which, when well used, considerably extend their access to information and academic exchange, in addition to their radius of action in teaching. We have to avail ourselves of the great educational potential of the new technologies.

The *challenge of knowledge generation* involves universities since in Latin America they are the institutions accounting for most of the country’s scientific activity and researchers. This highlights the key role of universities in these countries with respect to the tasks of research and promoting scientific and technological knowledge. In the case of Latin America it is estimated that more than 80% of R&D activities are carried out in universities, mainly the public ones. Hence analysing the structures of higher education systems and the conditions within them that do or do not stimulate activities leading to the promotion of scientific research and the appropriation of knowledge is directly related to each country’s possibilities of establishing a genuine National Innovation System enabling it to raise its scientific and technological levels and improve its relative position in the open and competitive markets promoted by the free trade treaties and the phenomenon of globalization. It is the higher educational institutions that are entrusted with the task of, *inter alia*, forming the “high intelligence” needed for science and technology.

The world-scale economic changes that have taken place, the modifications introduced in business organization, and the new forms of work and production oblige the poor countries to acquire the capacity to participate actively and critically in the creation and management of knowledge and technologies in order to improve the living conditions of their peoples.

This cannot be achieved without a National Science and Technology System permitting basic, basic-oriented and applied research, and the introduction of a National Innovation System that rapidly makes available to society the advances of science, technology and all forms of intellectual creativity.

This means that research on the general issues of the systems and structures of higher education, the relations between higher education and scientific and technological development, and the links between universities, the State, society in general and the productive sectors in particular are evidently priority items on the agenda of the present debate on higher education.

It is important to promote a closer and mutually beneficial relationship between the academic and the productive sectors. In several Latin American countries there is at present a complete break and reciprocal ignorance between these spheres. The productive and industrial sector generally

takes no notice of the work done by universities in the field of research and its possible technological applications. It lives off and puts all its trust in imported technologies. The productive apparatus, which basically generates and exports unprocessed raw materials, does not usually require advanced or sophisticated technologies. Furthermore, the representatives of the business sector tend to be dismissive of the quality and importance of local university research, regarded as unpromising where greater productivity of their enterprises is concerned.

Relations between higher education and the world of work, the productive sector and civil society in general is another of the challenges facing higher education.

The theme of university/productive sector relations is very much bound up with the relevance of higher education, namely its capacity to provide a response to the needs of all sectors of society, including the world of work or employment. Higher educational institutions undoubtedly have to be very attentive to the changing nature of the world of work, but instead of preparing people for specific jobs they should prepare them for “employability” and analyse the major directions of the world of work. “Employability” requires, as made clear in the document prepared for the World Conference’s Round Table on “The requirements of the world of work”, emphasis on capacities and flexibility in training. This is ultimately reflected in curriculum design: “Clearly, the most outspoken voices claim that graduates should acquire general competencies, should cultivate social and communicative skills, should be prepared for entrepreneurship and, last but not least, should be flexible”.

While the work market is demanding basic cognitive skills, it also attaches great importance to affective and behavioural skills. The academic professional profile to be gathered from the OECD studies is that of a professional trained within a flexible curriculum, with cognitive and problem-solving skills, ability to adapt to change and to new technological processes, a hefty dose of creativity, and a frame of mind accommodating lifelong education. “In short,” Miguel Angel Escotet tells us, “the major professional transformation ahead of us will require a higher interdisciplinary standard, a revitalizing of the group of disciplines relating to ethics, aesthetics and communication, and a sea change in teacher and student activity when it comes to switching from the idea of a terminal education to lifelong education. In other words, the professional of the future will be caught up for life in education, and education and work will go hand in hand and not each at the expense of the other.”

Finally, reference must be made to the challenge of the *internalization of higher education*, which is a reflection of the world nature of knowledge, research and learning. As Jocelyn Gacel-Avila puts it, “the internationalization of higher education is the response constructed by academics to counter the homogenizing and denationalizing effects of globalization”. But it is also “an educational resource for training critical and well-prepared citizens to perform proficiently in a globalized context”.<sup>20</sup>

All these challenges, giving rise to the “new cultures”, necessarily lead to transformations that affect the task of higher education (mission, organization, academic structures, teaching and learning methods, homework, etc.). Such changes should be ultimately embodied in a redesigning of curricula, which is a real yardstick for the degree of transformation undergone by any particular academic institution. When all is said and done, a university is its curriculum.

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<sup>20</sup> Gacel-Avila, Jocelyn: *La internacionalización de la educación superior. Paradigma para la ciudadanía global*, Editorial de la Universidad de Guadalajara, Guadalajara, 2003, p. 19 *et seq.*

At world level and mainly in recent decades, a constant quest has been observed for new forms of academic organization that enable higher education to respond better to the requirements of society and to adapt its task more closely to the nature of contemporary science.

There is a close historical relationship between the classification of sciences and the academic structures of universities. The structure of the first medieval universities of course shows its origins, a division of labour in accordance with the disciplines which, at the time, had acquired their own physiognomy: medicine, law, theology, liberal arts. The influence of positivist philosophy in the eighteenth century renewed education with the introduction of experimental methods, but encouraged excessive professionalism and undid the institutional unity of the old cloisters. Its most representative outcome was the French university organized by Napoleon, a mere conglomeration of professional schools.

The purely professionalist structure in which each faculty or school corresponded to a specific career was largely superseded with the introduction of the concept of department, of North American origin, bringing together in the same place the courses, the teachers and the equipment pertaining to a given discipline and previously split up among the various faculties or schools. Departmentalizing thus meant an advance since it permitted the cultivation of the fundamental disciplines on their own, regardless of their professional applications, and facilitated extension of the areas of learning covered by universities.

The risks of departmentalization were soon seen with its liability to become rigid compartmentalization, accentuating the fragmentation of knowledge into small communities of scientists with a bent for super-specialization and self-sufficiency. In contemporary discussion of the theme it has been emphasized that departmentalization responds to a single-discipline organization at odds with the spirit of contemporary science and research, essentially multidisciplinary or interdisciplinary. Also coming in for criticism is the possibility that departmentalization may leave the production of knowledge in universities in the hands of business.

All this has, mainly in recent years, led to a quest for new structural elements for the academic organization of higher educational institutions. The conviction that the complex issues of contemporary society cannot be resolved without an interdisciplinary perspective means that the crux of present-day academic reforms is how to combine the structural elements of the university in such a way that its organization promotes and facilitates this interdisciplinarity, which is how the academic trade is now practised.

## **2.1 The new paradigms for the teaching-learning processes**

When what was referred to as the *Copernican revolution* took place, involving as it did a shift of emphasis from teaching processes to learning processes, it was accompanied by renewed interest in the learning theories or paradigms.

We speak of a *shift of emphasis* to indicate that, with the processes of knowledge transmission now being centred on learning, or the subject being educated, the apprentice, the pupil, this does not mean overlooking or belittling the importance of the teaching processes and, much less, the role of the teacher. What happens is that the teachers cease to be the main centre of the process. It is not that they become the pupils; they do not go away from them but are turned into guides, tutors, promoters of learning, capable of generating in the classroom a learning environment. We might even say that they become co-apprentices with their pupils but do not go away or cease to be important in the teacher-pupil relationship, which is the basis of any teaching-learning process.

The present processes of transformation seek to overcome the conception of education as mere *transmission-accumulation* of knowledge and information. This makes the *crisis of education* largely a crisis of the traditional teaching model. That model needs overhauling in view of the indisputable fact of the accelerated growth of contemporary knowledge, coupled with its rapid obsolescence, and given the other reality of the displacement of the school system as the sole supplier of education and the advent of the *parallel school* of the mass media and the rapid dissemination of information by means of the modern technologies. There can be no doubt that these phenomena necessarily modify the instructional model and the role of the university teacher.

These learning challenges lead to the academic responses that form the nucleus of the present processes of university transformation and should inspire educational and academic models. These responses are:

- Adoption of the paradigm of learning to learn.
- Shifting the emphasis in the teaching-learning relationship to the learning processes.
- The new role of teachers, in view of the leading part played by learners in the construction of significant knowledge.
- Curriculum flexibility and the whole modern curriculum theory being applied in the redesign of syllabuses.
- Promotion of greater flexibility in academic structures.
- The credits system.
- The close interrelationship of the basic functions of the university (teaching, research, extension and services).
- The redefining of professional competencies.
- Institutional re-engineering and strategic management as a normal component of university administration.
- Responsible university autonomy.
- The processes of linking with society and its various sectors (productive, work, business, etc.).

It is said that learning or the different types of learning represent the essence of the contemporary university. The question then is what to do in teaching practice to generate conditions for effective pupil learning. David Ausubel affirms that there is a close link between knowing how learners learn and knowing what to do to help them learn better. In short, learning is an active inner knowledge-building process that the subject who learns carries out (cognitive structure).

All this points to the following as basic competencies for contemporary and strategic learning:

- Reflective and critical capacity.
- Problem-solving capacity.
- Ability to adapt to new situations.
- Ability to select significant information from the areas of work, culture and the exercise of citizenship that makes for sound decisions.
- Ability to continue learning in contexts of accelerated technological and sociocultural change and permanent expansion of knowledge.

- Ability to seek intermediate spaces of connection between the contents of the various disciplines, in such a way as to undertake projects involving the application of knowledge or procedures pertaining to a variety of subjects.
- Ability to enjoy reading and writing, the exercise of thought, and intellectual activity in general.

Education must promote the training of individuals whose creative interaction with information causes them to construct knowledge. Teaching is essentially to provide assistance adjusted to the constructive activity of pupils, the aim being to promote learning through comprehension. In every teaching-learning setting, a joint construction takes place between teacher and pupils that is unique and unrepeatable. Teaching is thus a process of creation and not just repetition.

These new educational and pedagogical paradigms are built upon the contributions of present-day psychology and cognitive science as to how the human being learns, and they prompt us to recognize that the student must not only acquire information but also learn cognitive strategies, that is, procedures to acquire, retrieve and use information.

## **2.2 The ethical dimension of higher education and research in contemporary society**

Higher education and, more concretely, universities must take on a commitment to ethics. The World Declaration on Higher Education, approved in Paris in 1998, establishes that all the university functions – teaching, research and extension – should be exercised with an ethical dimension, that is, subjecting its entire work to the demands of ethics. This dimension, states Federico Mayor, “takes on special prominence today, at the dawning of a new century, at a time of rapid change which affects almost all areas of individual and collective life, and which threatens to erase our points of reference and destroy the moral underpinnings which would enable new generations to build the future”.

In turn, the Declaration on Higher Education in Latin America and the Caribbean (Havana, November 1996) stated that: “Knowledge is a social asset that can only be generated, transmitted, criticized and recreated for the benefit of society, in plural and free institutions that have full autonomy and academic freedom. However, the latter must also have a clear awareness of their responsibility and a steadfast will to serve when seeking solutions to the demands, needs and shortcomings of society. This is indeed a society it should be accountable to – as a requirement – in order to exercise fully its autonomy. Higher education will be able to fulfil this important task only if it demands [of] itself the highest quality. In this respect, continuous and permanent evaluation is indeed a most valuable instrument”.

Finally, it is appropriate to reproduce the concepts included in the Declaration on Science and the Use of Scientific Knowledge<sup>21</sup> that have to do with the ethical dimension of knowledge:

“The nations and the scientists of the world are called upon to acknowledge the urgency of using knowledge from all fields of science in a responsible manner to address human needs and aspirations without misusing this knowledge.”

[Considering] “that some applications of science can be detrimental to individuals and society, the environment and human health, possibly even threatening the continuing existence of the human species, and that the contribution of science is indispensable to the cause of peace and development, and to global safety and security”, “that scientists with other major actors have a

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<sup>21</sup> Declaration approved at the World Conference on Science, Budapest, Hungary, 26 June-1 July 1999.

special responsibility for seeking to avert applications of science which are ethically wrong or have an adverse impact”.

The Conference advocated “the need to practise and apply the sciences in line with appropriate ethical requirements developed on the basis of an enhanced public debate [...]. Each country should establish suitable measures to address the ethics of the practice of science and of the use of scientific knowledge and its applications. These should include due process procedures for dealing with dissent and dissenters in a fair and responsive manner. The World Commission on the Ethics of Scientific Knowledge and Technology of UNESCO could provide a means of interaction in this respect”.

### **3. FIVE YEARS AFTER THE WORLD CONFERENCE ON HIGHER EDUCATION (PARIS, OCTOBER 1998)**

#### **3.1 The World Declaration on Higher Education for the Twenty-first Century as a compass for the transformation processes**

To analyse the impact, five years on, in Latin America and the Caribbean of the World Conference on Higher Education (WCHE), it is fitting to present a synopsis of its main lines of emphasis. The tasks for higher educational institutions are set out below, as drawn up by F.K. Seddoh, Director of UNESCO’s Division of Higher Education.<sup>22</sup>

- (a) Develop a higher education equally accessible to all on the basis of merit.
- (b) Reconfirm the fundamental missions of the national systems of higher education (educating, training, conducting research, contributing to sustainable development and the promotion of society as a whole).
- (c) Provide opportunities for higher education and for lifelong education.
- (d) Reinforce the prospective and critical function of higher education.
- (e) Offer these activities with due regard for ethical standards.
- (f) Promote academic freedom and the autonomy of higher educational institutions, while maintaining their responsibility and accountability to society.
- (g) Promote a system of higher education that is relevant and adapted to the needs of society.
- (h) Strengthen ties with the world of work and base their long-term orientations on societal aims and needs, including respect for cultures and environmental protection.
- (i) Promote the contribution of higher education to the education system as a whole.
- (j) Diversify the models of higher education and student training methods to meet demand without impairing quality.
- (k) Strengthen the research function in higher education.

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<sup>22</sup> Summary reproduced in: López Segrera, Francisco (in cooperation with Grosso, José Luis and Muñoz, Manuel Ramiro): *Educación Permanente, Calidad, Evaluación y Perinencia*, UNESCO – University of San Buenaventura, Cali, Colombia, October 2002, pp. 191-193.

- (l) Promote a culture of evaluation.
- (m) Promote the training and experience of personnel in accordance with the 1997 Recommendation concerning the Status of Higher-Education Teaching Personnel.
- (n) Promote the participation of students as the main partners and responsible participants in the renewal of higher education.
- (o) Ensure the participation of women in higher education, particularly where decision-making is concerned.
- (p) Take advantage of the potential available in the new information and communication technologies for the renewal of higher education, by extending and diversifying the circulation and construction of knowledge and information within the reach of a broader audience.
- (q) Reaffirm the public-service status of higher education, although the participation of the private sector may sometimes be necessary.
- (r) Reaffirm the international dimension of higher education as an essential ingredient.
- (s) Reaffirm the importance of applying regional and international norms for the recognition of studies and diplomas.
- (t) Promote a sense of belonging to a shared enterprise among participants when they frame national policies.

### **3.2 The impact in Latin America and the Caribbean of the conclusions of the World Conference, five years on**

The most recent and comprehensive study on the impact of the guidelines of the World Declaration on Higher Education in Latin America and the Caribbean is that carried out, at UNESCO's behest, by Francisco López Segrera (April 2002).

In this section we shall confine ourselves to reproducing the main findings of López Segrera, on the basis of the answers he received to the questionnaire of 17 key questions on the follow-up to the conclusions of the World Conference. We had a hand in preparing the questionnaire, which was addressed to specialists in Latin American higher education and the leaders of the main networks and UNESCO Chairs on higher education. López Segrera also consulted the web pages of numerous universities of the continent, besides sounding out the best-known "think tanks" in higher education of the region, such as CESU (UNAM), RISEU (Mexico, UNAM), CINDA (Chile), CEPES (University of Havana) and the members of the higher education research group of CLACSO.

We shall merely reproduce a summary of the conclusions of López Segrera, incorporated in his book *Educación Permanente, Calidad, Evaluación y Pertinencia*, written in collaboration with José Luis Grosso and Manuel Ramiro Muñoz (Colección Sapientia No. 8, published by UNESCO and the University of San Buenaventura, Cali, Colombia, Cali, October 2002), and which make clear the impact of the WCHE, following its guidelines outlined by Seddoh, as set out above.

- (a) "Partial gains have been achieved in the search for equality of access – the establishment and strengthening of the indigenous universities, percentages of the student intake accounted for by fellowships in private universities, fellowships in public

universities for low-income sectors – but there is a general deficiency in State policies, as a rule, to correct the existing rift between rich and poor regarding access to higher education.

- (b) The WCHE had a substantial impact on clarifying and strengthening the key missions of higher educational institutions. However, most of these academic entities are concerned with teaching and not with research and the production of knowledge.
- (c) In the replies to the questionnaire there was unanimity that lifelong education has not really been taken up in the region, even though it is mentioned in many specialist articles and in lectures by Ministers of Education and rectors, and despite its being a key task of higher education. While there is scant opportunity for access to higher education for the poor, it is even more difficult to secure education throughout life with traditional or virtual methods.
- (d) The critical function has been highlighted owing to the fruitful debate triggered by the WCHE and its background documents. In the questionnaire, several specialists and leaders stated that the paradigm of UNESCO and its agenda had overcome and replaced in Latin America and the Caribbean the hegemony of the theoretical paradigm of the World Bank and its followers; while others said that the agenda of UNESCO, at least, introduced a body of alternative concepts questioning the role of privatization as the panacea for this level of education.
- (e) The clarifications provided by the debate in the quantitative and qualitative aspects of higher education contributed to greater transparency and a consolidation of ethical norms; we cannot affirm, however, that ethical norms always prevailed.
- (f) According to several replies to the questionnaire, the process led by UNESCO in Latin America and the Caribbean between 1996 and 1998, and in the period of application of the WCHE principles and, in particular, the documents and conferences of UNESCO have had a positive effect regarding the accountability of universities and the shifting of traditional autonomy towards autonomy with social responsibility. The merely market orientation in many private universities, on the one hand, and the traditional concept of corporate autonomy, on the other, are regarded by many authors as some of the main obstacles to this qualitative change towards modernization of traditional autonomy. The appropriation by the higher educational institutions of corporate logic is a perversion of the concept of academic autonomy and freedom. The university ceases to be an institution of and for society, becoming an institution of and for the members of the academic community. On the other hand, many pseudo-universities have developed as private universities. Worse still, some corporate universities with excellence in their areas lack training in values.
- (g) Relevance, regarded as the capacity of higher education systems and higher educational institutions to respond to the various local demands and the demands of the regions, of the countries and of the whole world, and pertinence have been achieved in some higher educational institutions, but there is a general lack of adequate national policies to foster these principles.
- (h) According to some authors (García Guadilla, 1997), the debate on the social function of universities is evolving towards the question of how to establish close ties between universities and the world of work. The author nevertheless considers that relations between the university and society should go beyond the university/productive sector

relationship and further the university's mission of production of knowledge and the training of professionals and specialists, extending the services of universities to all sectors of society – including those excluded for economic or other reasons – for the purpose of fulfilling their mission. The UNESCO-CARICOM Consultation Meeting on Higher Education in the Caribbean emphasized the need for a proactive approach extending university curricula with a broader focus than simple market orientation. The lack of adequate national policies and the concept of traditional autonomy, among other factors, result in the advent of corporate universities with earnings and profits – and not values – as the goal of teaching. This new type of university has good ties with the world of work, and also some private non-profit universities (such as the Catholic universities); but, as a general rule, the ties of the traditional public university with the world of work remain rather weak, despite achievements in some cases.

- (i) The WCHE helped to boost the key role of higher education in promoting the education system as a whole.
- (j) This diversification and promotion of the entire education system is now an objective of the national systems of higher education and of many higher educational institutions.
- (k) In the replies to our questionnaire – and in the data in our possession – it was clearly established that our higher educational institutions are mainly teaching and not research institutions. However, the WCHE has strengthened the conviction regarding the importance of research in higher educational institutions.
- (l) Perhaps the most important phenomenon regarding State policies on higher educational institutions in Latin America and the Caribbean is the introduction of general rules for securing a percentage for the funding of public universities, coupled with assessment rules introduced in private education, as distinct from the situation in the 1980s where higher educational institutions had the benefit of a deregulated market. The growing complexity of the national systems of higher education – their volume, the accelerated growth of the private sector, their characteristic variability – as the key to the development of nations and the limitations for keeping abreast of the information and knowledge society have caused Latin American governments to abandon their laissez-faire positions typical of the 1980s (where privatization was regarded as a palliative for quantitative expansion, without quality controls) and to adopt a new attitude with respect to the framing of policies to control quality, via assessment and certification, for the purpose of reconciling expansion with quality without interrupting the process of the development of private higher educational institutions, but on the contrary designing sound policies and devising instruments for their control. Many of these changes in government policy have been particularly influenced by UNESCO conferences and documents, and also by the World Bank.
- (m) Higher education teaching personnel have had the benefit of an increasing variety of traditional and virtual courses, although the economic situation of university teachers in many countries impedes the achievement of this key objective.
- (n) The WCHE had a positive influence on the regional trend – since the 1918 Cordoba Reform – towards promoting the participation of students as principal co-responsible partners. Teachers and students are indeed the main actors in higher education.

- (o) Gender equality exists in the distribution of students, with a majority of women in many cases. In leadership positions, however, such as those of rectors, deacons and heads of department, men predominate.
- (p) The impact of the WCHE in this field – among other factors – has taken place through programmes implemented jointly by IESALC and the Communication and Information Sector (CI). The advent of web pages and virtual distance education have also been encouraged by IESALC-RIBE and by the main think tanks and networks.
- (q) This is one of the areas where the WCHE has most made itself felt. Before the process began, the dominant thinking – sustained by the studies of the World Bank and its regional followers or by studies along the same lines – in the debate on higher education was that, in view of its return rate lower than in primary and secondary education, it should be privatized as a blanket solution for the quantitative expansion in this level of education. The main arguments for privatization were: part of the resources for enrolment and other services can go to fellowships for low-income students; payment for studies will have a positive effect on students, who will attach more importance to the fact of being at university; higher educational institutions will be more alert to satisfying students' needs and will make an additional effort in order to offer a higher education of quality and relevance; payment from students will complement funds from other sources of a public nature. Nevertheless, in many cases, public funding of private universities has enriched them at the expense of the State.
- (r) A dialectical synthesis is being reached in part as a consequence of this new paradigm of the WCHE, which reinforces the role of the State in the process of transforming higher education, as a key strategy for the development, modernization and *aggiornamento* of society as a whole. This does not mean eclecticism but learning from past experience. The World Bank is evolving in its position and now affirms that investment in higher education is crucial to development. On the other hand, the State – together with higher education leaders in Latin America and the Caribbean – is convinced of the need for evaluation and greater diversification of funding sources.
- (s) The international dimension of higher education, with the extent of its internationalization, has been promoted by the WCHE since this process provided the main actors of the region with a multidimensional forum for debate on the chief topics of higher education at the world, national, regional and subregional levels.
- (t) Recognition of degrees and diplomas was also furthered and emphasized by the above process, especially in the countries of Mercosur and Central America.
- (u) The WCHE contributed to the creation, development and strengthening of the higher education networks in the region and in the UNITWIN-UNESCO Chairs programme.”

It is fitting to mention in conclusion that, in June 2003, UNESCO called a consultation meeting on the follow-up to the WCHE five years later, for which the UNESCO International Institute for Higher Education in Latin America and the Caribbean (IESALC) drew up a report entitled: *Reforms and innovation in higher education in some Latin American and Caribbean countries, 1998-2003*. In the report the conclusion is reached that, in the five years since 1998, several substantial changes have taken place in Latin American higher education directed towards its modernization; in addition to which there has been greater sensitization of academic communities, governments, the business world and other organizations to the part that higher education should play in transforming the societies of Latin America and the Caribbean.

The main aspects present in the processes of modernization of higher education in the region, influenced by the WCHE, according to that report, are the following:

- (a) development of national systems of evaluation and accreditation;
- (b) increase in the number of higher educational institutions and diversification of their forms;
- (c) increase in and diversification of academic networks and associations of universities as a means of cooperation;
- (d) use of the new information and communication technologies to improve teaching and research;
- (e) internationalization; and
- (f) projects for cooperation between higher education and the productive sector.

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