

# Networks: An Online Journal for Teacher Research

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Volume 7 | Issue 1

Article 12

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1-1-2004

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### Recommended Citation

Del Río, Pablo and Álvarez, Amelia (2004) "The Global Curriculum: Rethinking School from the Perspective of Education," *Networks: An Online Journal for Teacher Research*: Vol. 7: Iss. 1. <https://doi.org/10.4148/2470-6353.1167>

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# The Global Curriculum: Rethinking School from the Perspective of Education

by *Pablo del Río and Amelia Álvarez*

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## Summary

This paper brings together educational proposals based on a framework derived from the perspectives of historic-cultural and genetic-cultural theory. This framework enables us to specify the goals, realities and alternatives for renewal in the educational task, and to highlight a series of recommended reorientations for tackling education in a changing world. These reorientations imply a switching of attention: from the current emphasis on knowledge as an end in itself, towards a greater attention to the tools and operators of knowledge; from an emphasis on individual tasks to a greater concern with shared activities as the origin of mental operations; and from an emphasis on meaning and knowledge as ends to an emphasis on meaning and knowing as means.

In general the need to adopt a more evolutionary, dynamic and integral vision of the educational process is highlighted here, one in which the development of the person and the functional personality takes priority over the accumulation of repertoires of different forms of knowledge. In the same spirit, we advocate the adoption of a vision of the whole developmental process in culture as a *global curriculum*, in which school should take the role of articulating structuration and meaning.

**Keywords:** global curriculum, genetic-cultural development, meaning, school commitment

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## Introduction

The recent spread of the Vygotskian perspective in the West has been largely read as an interesting epistemic contribution that might allow for a better understanding of human nature based on one's past. However, it is implicit in this view that, whether or not Vygotsky's contribution is considered to be interesting, its relevance is restricted to a certain epistemic level and of limited value with respect to the present and the future, which are highly marked by extreme technological and moral preoccupations and by problems of another nature for which other scientific perspectives are considered to be more "productive".

Undoubtedly, this impression is motivated, in part, by the central role assigned by Vygotsky himself to a genetic explanation, that is to say, an emphasis on phylogenesis and the cultural-

historical genesis of humanity as causal explanations of the ontogenesis of the individual mind. From an evolutionary perspective this emphasis appeared to be totally necessary in the first third of the 20th Century, if psychology was to be pulled away from dualism and fixism. The objective at that time was to understand the slow accumulating changes in the functional system of our mind throughout millions of years of phylogenesis and thousands of years of historical development.

We will try to argue in this brief reflection that the steps taken by the Vygotskian contribution to the understanding of human evolution should be continued beyond the tasks initiated by Vygotsky and his collaborators towards the pressing task of decisively facing the rapidly approaching future. This means rethinking education, and within it the school, not only from a retro-active psychology or genetics, but also from a pro-active genetics that humanity need for its immediate agenda, all the time holding on to an evolutionary perspective that resists a biological or cultural reductionism. This task becomes more urgent the less we think that human evolution is closed; and by the same token, the more we worry about the impact of the profound historical, social and cultural changes that are taking place on the planet in an increasingly accelerated fashion, the more urgent this task becomes.

In the following, we will present an overview of the Vygotskian premises in which the educational proposals of the historic cultural and genetic cultural perspectives are condensed; then we will highlight, on the basis of this framework, a series of reorientations for grappling with the task of education in a changing world.

#### Some Historic Cultural Premises for Reorienting the View of Education

***Education as a functional construction.*** From an evolutionary and historical perspective of the psychological development of every child and of each historical generation, *education is a key tool, which has served our species in the evolution of their historical development.* If we conceive of the transformation of the mind as the fundamental educational objective, adopting the perspective of learning as the construction, restructuring and transformation of competencies, our educational model would focus on human *development*, in seeking to promote the mental development that has been expanding throughout history. If, on the contrary, it is assumed that the mind is already guaranteed by heredity and we adopt a point of view focused on *forms of knowledge* to be acquired, in know-how or the *message* that is to say, one in which the mind is not transformed, but instead incorporates more information -- the educational model would be guided by the encyclopedia or *processing* model, semantic cousin of the information and knowledge society, which is focused on the systematic and complete acquisition of the hypothetical organized corpus of human knowledge accumulated historically until now, that is more extensive and deeper with each generation and educational reform.

***Education as pending evolution.*** Whether it is one or the other, the purpose of education and human development has been defined in the heart of the debate between *homogeneity* and *diversity* of the models and trajectories of development. Education attempts to guarantee that each generation is able to be human in the best possible way in accordance with how this development is understood at a given historical moment and by each social community. On an individual level, of course, a given child may improve or lag behind in his or her ontogenesis

relative to the expected development for his or her age, an idea that underlies the concept of "mental age" from Binet or *décalage* from Piaget. By the same token, we can easily suppose that *historical décalage* can occur on a societal level: a society could hold that their new generations are either behind or ahead of what was expected of others.

This "progressive" vision of human historical progress as a lineal set of stairs that is always heading upwards in which each country could occupy a theoretical *ranking* is what constitutes the ideal of modernity; nevertheless, it has been subject to critique in the light of current evolutionary science. The steps of development can be diverse, and descending as well as ascending, or take us to the dead ends of the Möebius gang or the paradoxical ramps of Escher. Therefore, from the non-evolutionary models, that is, those that maintain the metaphor of the mind as a finished computer, the purpose of education is based more on the processing of quantities and increasing levels of information and knowledge; by contrast, from the evolutionary models -- that is, those that maintain that each person who is born still needs to build him or herself and from his or her birth requires an aided evolutionary program for which society must be responsible -- the main principal is not one of processing the informational content, but instead that of *constructing the processor itself*.

Those who have a healthy understanding of the educational system have avoided being dragged along in this epistemological debate between psychologists, which in fact implies a judgment about the very essence of education and of society. However, parents and teachers have not stopped assuming that education is not only useful, but *necessary*.

From our point of view, which is consonant with the scientific perspective that assumes the premises of the genetic cultural perspective, we believe that it is necessary to adopt an evolutionary position in this debate. This is because the large-scale evolutionary-educational debate -- the old nature-nurture controversy -- underlies the problem of differences and *décalage* in the psychic development of persons and cultures: if the construction of the human mind is facilitated but not guaranteed by heredity, transmitted through genes, it is necessary to attend to this non-guaranteed part, that is to say, it is necessary to educate. Furthermore, each generation will recognize that, in educating its young people, it faces a new and original educational challenge. However, if this construction were fully guaranteed by heredity (a series of stages of development that are totally pre-determined from within and without), the role of education would be more or less valuable, but not essential. In other words, in the human species, *it is only if the model of the development of the human mind that is adopted is an evolutionary one that it can simultaneously be educational*.

***Education as cultural creation and development.*** From the genetic cultural perspective, the construction of the human mind seems to require an ongoing directed intervention, a permanent "cultural and educational experiment". In the same way that inheritance in the genes guarantees an essential part of biological inheritance, social and cultural inheritance plays an equally essential part in the complete development of each person. It is as if the energy potential and the codes needed to make the message of the genes effective were outside of them, in the context. During the last century, the progressive formalization and institutionalization of the process of education-rearing, that has accompanied us since the emergence of our species, has concentrated largely on a system that is quite autonomous and institutionalized school education -- in this way

leading the educational experiment of the species down a road that we should not forget is both recent and a new departure, while recognizing that the results and the momentum that schooling has contributed to human ontogenesis have been very significant. In the last century of the species' history, the school has become normalized world-wide, thus transmitting the great historic and cultural advances in the modes of handling information and knowledge to the majority of the human population.

The role of sociocultural change and that of the school, which for reasons of professional specialization are often considered separately, thus appear united in human evolutionary cultural history. If it remains consistent with the objective initially set, the school, from the very onset, should verify, select, judge, filter, transfer and homogenize cultural advances, never ignore them. Today, sometimes it seems as if the school was considered to have as its obvious task the normalization of technical cultural advances of the historical stage in which it began to spread, a century ago, but not to be really concerned with subsequent advances. It also seems as if the school is somehow uncomfortable when contemplating those advances that have emerged in the recent past and those that are appearing on the horizon.

***Education as historical change.*** It is true that a certain parsimony in welcoming change can be a virtue. As demonstrated by evolutionary ecology, the stability of the context, both biological as well as cultural, is a bio-psychic mechanism that impedes undesirable changes from being accepted or generalized before their value has been demonstrated. To what extent does today's society, called the information and knowledge society, present dangers and offer promises that better challenge development and education? Which changes synergistically combine better with our characteristics as a species and in this way are friendly and constructive and, by contrast, which ones are hostile and unhelpful?

We are suggesting that in order to understand cultural changes we must adopt an integral evolutionary vision. A mind needs to include a cluster of characteristics that can be considered "universal"-- in order for us to be able to consider someone part of the human race. We might think that an adequate genetic inheritance, both on an organic and cultural level, would both demand these requirements and also facilitate them. But what is the basis for this evolutionary friction between change and the need for stability?

From the genetic cultural perspective, the basis would be precisely in the construction of the so-called higher functions and in the correlative development, from the moment of birth, of the internal brain and of the external brain (that is to say, of the personal cultural shell, cf. del R o, 1994). While in many of the most widespread models of development there are not great distinctions between genetic and cortical biology inheritance is replicated in the brain and provides a central nervous system that would therefore guarantee at the same time these human traits the genetic cultural model accepts the role of the genes' inheritance for endowing us with natural functions that would be expressed *in the most basic structures* of the brain, but at the same time it also takes a more flexible and open view about the evolution of the brain, at the interface between what are assumed to be the most stable bases of evolution and the recent cortical development of ongoing evolution that configures the higher functions. The central nervous system would thus be the fruit of an evolution that, in its most decisive aspects, *takes place after birth* through a process of development in which the biological and sociocultural are

integrated. The *epigenesis* (resulting from this integration, in each subject, of the ontogenesis, phylogenesis and historic genesis) is attained thanks to a notable genetic flexibility, as pointed out by Gottlieb (1996) and Donald (1991).

It is the final specific design in which these (universal) traits of the species will be assured by the bio-socio-cultural development *that constitutes the essential work of historical and educational evolution*. Ensuring and optimizing the stamp of the specifically human on the advanced construction of the mind (higher functions) becomes the key to any process of rearing and education that is able to guarantee the *essential traits* of our mind.

***Education as the diverse development of human universals.*** Let us point out some of these essential traits, described both by Vygotsky (1995) in his account of the double formation of mental functions, and by other models based on current research about the distributed and situated mind (del Río, 1990, 2002; Hutchins, 1995; Clancey, 1997; Sneddon, 2003):

-- The higher psychological capacities and functions *are constructions that are culturally mediated on the basis of natural functions*; they are modified extensions of natural modes of operating in response to stimuli and learning, and they transform these modes by taking them to another dimension. These mediated and cultural constructions are supported by the general characteristics of the living functional systems (functional circle, ecology) and by two characteristics of our natural evolutionary past that have been decisive in our phylogenesis as a species: our social character and our manipulative, object-related activity.

-- The *spatially distributed* character of the biological functions of all species (ecological and syncretic basis external to psychic functioning), will be maintained not only in the presentation of stimuli, but also in the presentation of the re-presentations of these; and in addition, it will be maintained not only in the first stages of learning mental operations and modalities of representation and processing (when we have not yet internalized certain operations, like for example calculation, and we depend on a table, paper and a pencil for carrying them out successfully), but also as a functional tendency throughout the whole life cycle, so that the medium and the contexts are not only spaces for executing material actions, but the psychic territory of these same mental operations, presentations and representations.

-- Similarly, the task of all living species is based on the *functional* character of the organic parts and capacities (the premises of bio-psychological functionalism are shared by authors like Piaget, Wallon, Vygotsky, Lewin). That is to say, it is the *activity*, organized by the organs, whether they are physiologically specialized or mental, which endows learning and development with meaning and drive. The *mediational means* of activity (representations, information, forms of knowledge) are not the *ultimate end* of development, but instead they are the operators for the activity and the development itself. It is not life that is a medium for information, but instead, information that is the medium for life; activity is not an excuse for better acquisition of the operators, but instead the operators are the medium for activity.

-- The markedly *social* character of our species engenders a symbiotic and shared mode in the ontogenetic origins of the mental capacities and activities. This implies that the *socially*

*distributed* character (social mediation) of these capacities and activities will be maintained not only in initial education but as a functional tendency throughout the life cycle.

-- The strong *object-related* character of our species favors, at the same time, an *operationally distributed* mode of higher functions (instrumental mediation: "new" and old technologies), that will be maintained not only in initial education, but also as a functional tendency throughout the life span, favoring instrumental symbiosis between the external and internal mind (extra-cortical shells of the mental operators, del Río, 1994).

If this introduction is extended, it is because we believe that the development of the so-called information and knowledge society cannot alone succeed in clarifying the meaning and goals of education, rather it is simultaneously part of the problem that must be clarified. A first reading of the essential human traits, touched on above, that the educational process should preserve leads us to call for much greater educational importance to be given to *social relations with others and with communities*, to the *instrumental operators and technologies*, to the *contexts and scenarios of development and life*, to programs of *real activities*. Such a proposal does not detract from the importance of *information and knowledge*, but it makes them functionally dependent on their social, cultural and technological organization, which would favor diverse modes of individual functioning expressed in very different functional architectures, and in diverse cultural constructions.

#### Some Consequences of the Reorientation

*From an emphasis on curriculum and knowledge to an emphasis on activity and biography*

Daniil B. Elkonin (1993 and Elkonin, B. D., 1994) pointed out that the practices, norms and orientations, and cultural and institutional prescriptions whether they are explicit or implicit with respect to what society does in order to guide the development and education of children and youth have usually been articulated in relatively coherent and consistent models of child-rearing and education that he called "the *ideal* model of development". When this is not clear for a given culture and does not promote an easy agreement between the institutions and "ordinary people", there is, according to Elkonin, a *cultural crisis of development*. The big social, technological and cultural transformations of the 20th Century have brought today's societies to a state of permanent crisis with respect to development and education. Without doubt, overcoming this crisis will require an effort of clarification, constructive debate and analysis of these practices and orientations; it will also be necessary to ensure that this effort is intense and permanent, as new transformations occur every year.

Children and their schools need stability contextual instability is seen by Urie Bronfenbrenner (1989) as one of the factors with the most negative impact on child development and in the institutional inertia of education there is, in fact, a hidden bias toward maintaining stability in child and youth's developmental program. But this advantage can be nullified by the disadvantages when inertia leads to loss of meaning in school activities, which students then reject. For this reason the existence of clearly defined collective educational projects and personal educational projects, which are subjected to an ongoing process of dialogue and consensus, are what is most needed in education. Without knowing the intended direction, neither the individual student nor the educational program can be clear about the path to take.

*From an emphasis on knowledge to an emphasis on knowledge tools*

The growth of cultural tools for the handling of information and knowledge in recent history constitutes a powerful heritage that has accumulated over the course of evolution; but it is also the reason for concern about potential future advances in our functional development. The school must substitute for the old toolbox, whose contents (literacy, calculation, moral education) have historically been of crucial importance, a more up-to-date alternative, in which new instruments and mediational means are included (del Río, 2003); it is of serious concern that the school has limited itself to a small sub-set of the complex array of instrumental mediations that have been developed and shared by humanity. One reason to include a broader range of them in the educational toolbox is to make possible growth and expansion; the other reason is to provide guidance and foresight, in order to avoid a possible problematic and harmful incorporation of new cultural tools in the development of children, leading to confrontation. In this regard, recent research has continued to draw attention to two consequences of this lag:

1) *The syndrome of instrumental opulence*: as the systems of mediation and representation grow, they become more dense and complex in daily life, such that the "minimum curriculum" required for the achievement of proficiency in the system of mediations becomes increasingly larger: the school faces the serious challenge of updating the quantity and structure of what is considered to be the basic toolbox needed by humans for representation and learning.

2) *The syndrome of disconnection from reality*: with the growth of the layer of mediation between mind and reality, and with the increase in the variety of mediations between the perceived world and our possible actions upon it, the ends can become less easily visible and the means, in turn, to become ends; such weakening of the real significance of an activity (that is to say, the end in view) can disrupt the potential and drive of the activity, as well as the capacity for functional integration essential to the functional systems of living beings.

*From an emphasis on individual tasks to an emphasis on shared activity*

One of the characteristics of the theoretical models of development that have been studied recently is the degree of functional individualization of competencies (that is to say, the emphasis on individual adaptation and internalization of mental operations) in the educational models that are proposed. Thus, Greenfield & Suzuki (1998) point out that, in California, in contrast to the dominant White-protestant culture, the Eastern and Hispanic cultures maintain a model of development in which lower levels of adaptation and internalization are considered to be positive (i.e. greater levels of cooperation and external distribution of operations) on the grounds that a structure which is more socially distributed guarantees a greater emotional reinforcement and attention to social aspects like co-responsibility and solidarity.

As the Anglo-Saxon protestant model has benefited from its increased cultural and scientific influence, its individualizing orientation has expanded to all educational systems and has prioritized appropriation and internalization, changing all social mediation into instrumental mediations (artifacts, representations, information, norms). One clear case in which this model is subject to tensions is in the education of handicapped people. For some time the North-American model of *independent living*, which focuses on an ideal living situation for people with



handicaps, has been defended. Without doubt, the bias towards functional individuation is one of the distinctive features of developed societies and one of the unavoidable objectives of education. Throughout Europe, schooling has from the beginning been concerned with the development of discipline, self-control and self-sufficiency, dispositions that should be valued very positively and retained in their most essential aspects. However, we cannot avoid mentioning at this point the lack of self-control and respect for the norms that lead to Latin cultures being characterized as "defective". But the vision of functional independence as an absolute virtue and of the distributed processes as deficits or pathologies if they are maintained beyond the early stages of educational scaffolding, need to be revised when included in the genetic cultural perspective. "Ability as shared disability" and *inter-dependent living* (del Río, 1997 and 1998) appear to be an evolutionary truth complementary to strong individuation and to *independent living*. Apart from knowing which aspects are favored by diverse cultural formulas and architectures, the school should ensure a strong and balanced development of both tendencies: individuation and socialization. Avoiding the extremes of isolation or gregariousness, the individual with a strong internal life and a profound social connection as Unamuno suggested is not an impossible goal, but rather one that is very necessary. The distribution of information and knowledge that the current technological structure encourages reinforces this evolutionary truth: progressively becoming aware is a virtue, but an excessive level of individuation, absolute awareness, is wishful thinking and is far from being an unquestionably desirable goal.

*From an emphasis on meaning and knowledge as an end to an emphasis on meaning and knowledge as a means. The answer through (rather than instead of) commitment.*

The large objectives of education and the questions they raise should be concerned with *learning*, and also with *development*. While the criteria for learning lead to formulating these questions in cognitive terms, the criteria for development require us to adopt a functional perspective. These dimensions are not contradictory; rather, they complement each other. The curriculum of significance should be articulated with the curriculum of meaning, with the life project: who I am, what the world is, where I am going and what I want, can and should do, what the natural and artificial things are that surround me, how they are represented and known.

Satisfying both dimensions in an integrated way allows for a much easier articulation of the objective of attaining competencies and knowledge together with that of making possible personal and social activities and experiences. The same applies to the collective model integration of the cultural and *social* project of development with the *personal life project*. Real-life activity and the personal project are what provide development and education with meaning, motivation, and energy. They, for example, make the activity of study significant (Elkonin, 1974; Álvarez, 1990) thus ensuring that self-directed learning is incorporated as a pervasive mediator of the whole functional system, bringing about convergence between the activities of school and those of life beyond school. An excessive preoccupation with addressing broad objectives of content and knowledge, that is, accumulating information, can clash with the competent and significant management of this information and with a more efficient, wise learning.

One of the most noted characteristics of the impact of the undirected accumulation of information is that it can fragment and trivialize the information; multimedia frequently

generates knowledge of a mosaic and associative character (del Río, 1995), with loose structure and inappropriate semantic reversibility. The informative elements hold mimetic relationships, following the episodic appearance of the surface, and semantic dependencies lack in strength and direction, making them irrelevant and totally random and reversible. In an alarmingly high number of cases, the student's manipulation of scientific or disciplinary concepts, and at times even the didactic texts, have this appearance, corresponding to what Valsiner (2002) calls pseudo-concepts or "complexes". The phenomenon that Perkins (1992) and Salomon (in press) call "fragile knowledge" and "poor thinking" is the accumulated result of influences of today's schooling combined with the media and technologies. This type of knowledge is characterized in this way because students do not understand, remember, nor actively and effectively use the majority of what they supposedly learn -- as educators become well aware when they correct exercises and exams.

### Is the Choice Between Meaning and Significance Inevitable? Towards Live Integration Instead of Inert Accumulation

The increasing lack of commitment and loss of motivation in students (del Río & Álvarez, 2002) arise from the lack of activity in the daily life of today's children and make evident schools' difficulty in providing a substitute or even compensation for this loss. In the computational model of information processing, the capacities and competencies of the system are organized as separate modules and programs that work in a cumulative way with respect to the information that must be processed. Today, the human mind tends to be conceptualized in terms of this model and this is paralleled by a similar organization of the educational enterprise, focused on the accumulation of knowledge presented in a sequence of unconnected packages. However, unlike artificial systems, the human psychological systems develop according to the biological structure of living beings and become organized in terms of functional sets of activities. It is engagement in activity that, in a dynamic and integrated way, orchestrates the development of all the capacities and functions of the mind: the cognitive system and all the functions that guide perception, thinking and memory, and also human purpose, which is to say the whole set of functions that guide action, such as feelings and intentions. Everything that is not integrated into the system of significant activities constitutes a functional burden. But in the school this burden has a distinct market value, and hence a central position in the development of curriculum.

In traditional cultures, where an activity implies a variety of socially distributed functions, one can still see the integration of the activity system with the system of consciousness (see the case of traditional Spanish communities in Álvarez & del Río, 1999, or indigenous communities of the Bora in Peruvian Amazonia in Martínez, 2001 & Gallegos, 2001). By contrast, the educational system does not tend to focus on ecologically bound and socially shared activities, but on individual tasks aimed at the acquisition of knowledge. In this way, instead of serving as a means for living, school activities become ends in their own right, carried out to gain approval; and learning, instead of being oriented to action as the reason for the acquisition of knowledge, is aimed at the acquisition of knowledge for its own reproduction. We do not believe, however, that knowledge should be inert, nor that the challenge of keeping the virtues of the significant integrity of means-ends relationships with analytical rationality with respect to the technical use of means cannot be faced. Indeed, to do so would be precisely the objective of a good educational design.

Thus we would argue that the problems that the information society presents for social and personal development should be faced so that their integration can be achieved in a critical and thoughtful manner. In our view, there are some worrisome aspects of the international educational scene, including that in Spain, where two major errors with respect to learning and development are currently in favor. One is the statistics of failure with regards to literacy learning to which we must add the delay in the learning of "new literacies" (visual representation, new languages, multilingualism, etc.) and the subsequent under-use and poor use of literacy (which gives rise to functional illiteracy or illiteracies). As a result, instrumental knowledge and the tools of representation present a clear challenge to current education. The other problem is complementary and could be analogously termed illiteracy of the imagination: this refers to the increasing failure to construct a "rhetorical frame", that is, a representational structure of general reality, or a worldview, into which to integrate a social and personal project. This universe of narratives and visions about the world is indispensable for situating and making sense of what the great machinery of information and knowledge makes available. In those societies that are poorer both in technologies of representation and in the quantity of content made available, the imaginative rhetorical frame, the stability and coherence of the society's worldview, has generally been reasonably well established. Today, as a result of the flood of content and of proposals for imaginary mosaics that are channeled to them from the global cultural market, the new generations is faced with a noisy world in which, paraphrasing Unamuno and Freire, it is very difficult "to read and write".

To counteract the weakening of the structures of meaning that occurs in reaction to this informational flood it is essential that students dedicate more effort to defining and making explicit the models and projects that are presented to them in the school curriculum, the family and the media so that they can integrate them into their own rhetorical frameworks their worldviews. Today, priority is given in the curriculum to the accumulation of subjects, information, and knowledge "that must not be omitted", and this accumulation has produced a lack of attention to the "whole", the structure of significance and meaning that makes it possible to make information and knowledge functional. To achieve this critical integration of knowledge requires a change of orientation with respect to what should be prioritized.

However, creativity demands something more. If the computer processes information in a neutral manner, living beings do it in a functional and directed manner, guided by their interests and concerns. In human beings, this guided functionality is narrative in nature and requires the support of a symbolic identity, a personal history: in other words, one needs to have a strong and well-defined individual identity and a personal project of becoming that gives significance and value to the information and knowledge that is presented. The human brain does not automatically process and remember every stimulus, as Ebbinghaus's "memory without meaning" model suggested, but rather processes it with respect to its meaning from the perspective of personal interest, as Bartlett (1932) pointed out. If the information and knowledge do not become rooted in these personal projects and linked to personal identity, they have only a superficial and episodic existence.

Thus, not only as a support for his or her development, but also as a motivator of *his or her learning*, the child needs such an "identity project" and a *personal narrative*, that can be integrated in some way, even if through rebellion, with the narratives of the social project. This

requires the dialogic and constructive articulation of "inter-narratives" that juxtapose and integrate diverse identities -- something that the globalized society must also attempt to do in order to create a viable future for humanity.

An excessive emphasis on transmission or an interpretation of constructivism that treats development in terms of a series of plans that are already outlined and written in advance has overlooked one major problem with respect to human development, namely that the relationship between the trajectory of the social future and that of the personal future presents an evolutionary challenge that still has to be resolved. This being so, we would argue that an emphasis on *personal prolepsis* to employ the term that Cole (1996) uses to refer to development that is not yet determined -- continues to be the more essential part of child rearing and education at the level of individual ontogenesis, and that *cultural creation and the model of the world and society* must continue to be emphasized at the level of collective cultural-historical genesis.

Finally, we reiterate that the emphasis that we have placed on activity and meaning does not imply a proposal to exclude information, nor that a knowledge-oriented perspective would necessarily be in contradiction with a perspective oriented to life. In the balance that is necessary between means and ends, and between *having* and *being*, in the debate about the consumer society, development *being* a person must be given priority in order to provide meaning for the learning process and for the appropriation of means that is to say, for coming to *have* many forms of knowledge.

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