“Since wars begin in the minds of men,

it is in the minds of men that the defenses of peace must be constructed.” On 14 September 1999, more than 50 years after these words were written into the preamble of the constitution of the United Nations Educational, Scientific and Cultural Organization (UNESCO), the International Year for the Culture of Peace was launched. It followed resolution 52/15 of 20 November 1997 of the General Assembly of the United Nations. Following in its wake, the period from 2001 to 2010 has been proclaimed as the “International Decade for a Culture of Peace and Non-Violence for the Children of the World” in accordance with another resolution adopted by the General Assembly, namely resolution 53/25 of 10 November 1998. There is no shortage of determination in the discourse at the international political level to replace a culture of war and violence with a culture of peace and non-violence. Yet, while the nations of the world continue to express their aspirations towards a more peaceful world, they largely also continue to either engage in war or to be prepared for it. A decade of dedication to the cause of peace and non-violence should, no doubt, be considered too short a timeframe to bring about so profound a cultural change. Humanity is in for a much bigger challenge. Despite its overwhelming proportion, it is a challenge worth facing.

The underlying motivation to meet the challenge is a simple question. If the human species could have been so clever as to develop a culture of war and violence as an overall set of values, attitudes, traditions and modes of behavior to help it deal with conflict, why should it not be equally intelligent to invent a different set of values, attitudes, traditions and modes of behavior that allow it to interact more constructively with conflict? The question is relevant if at least it can be assumed that peace and non-violence are possible.

The Seville Statement on Violence (Adams, Ed., 1991), written by an international team of specialists in 1986 and subsequently adopted by UNESCO and endorsed and disseminated by various scientific and public interest organizations, argues this point on the basis of five propositions, claiming the scientific incorrectness of the following assertions:

- we have inherited a tendency to make war from our animal ancestors
- war or any other violent behavior is genetically programmed into our human nature
- in the course of human evolution there has been a selection for aggressive behavior more than for other kinds of behavior
- humans have a ‘violent brain’
- war is caused by ‘instinct’ or any single motivation.

The Seville Statement subsequently concludes that “biology does not condemn humanity to war, and that humanity can be freed from the bondage of biological pessimism and empowered with confidence to undertake the transformative tasks needed in this International Year of Peace and in the years to come” (p.30).

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Pinker (1997) opposes the idea that scientific gatherings should “pass votes on empirical issues that one might have thought would be hashed out in the lab and the field” (p.45). He argues that the position expressed in the Seville Statement is irrelevant and counter to the way in which scientists should pursue their quest for truth. He maintains that the issue is a moral one and that it should thus be argued on moral grounds.²

Living at different levels of reality

I suggest that the opposition between the two points of view is an expression of the complexity of the issue under consideration. Fundamental questions about war and peace should neither be approached on the basis of mere scientific argument – which wasn’t the intention of the Seville Statement – nor should they be approached exclusively in moral terms – which was not either what Pinker argued. Nicolescu (1996) calls for “une nouvelle vision du monde” (p.60), a vision that transcends the habitual boundaries between domains of knowledge and the distinct mindsets that govern the various processes of knowledge development as they are embodied in different disciplines. Such a transdisciplinary vision, as Nicolescu argues, is “radicalement distincte” (p.67) from how one would see the world merely on the basis of adding up the knowledge accumulated in the various areas of disciplinary research. At the same time, it is also complementary to such approaches. It seeks to understand the world in terms of “la dynamique engendrée par l’action de plusieurs niveaux de Réalité à la fois” (p.67). In other words, transdisciplinarity “se nourrit de la recherche disciplinaire, qui, à son tour, est éclairée d’une manière nouvelle et féconde par la connaissance transdisciplinaire” (p.68).

Wilson (1998) argues that “the ongoing fragmentation of knowledge and resulting chaos in philosophy are not reflections of the real world but artifacts of scholarship” (p.8). He therefore calls for consilience. The term, he explains, was coined in 1840 by William Whewell and it literally means “a ‘jumping together’ of knowledge by the linking of facts and fact-based theory across disciplines to create a common groundwork of explanation” (p.8).

The idea is similar to Koestler’s (1989/1967) concept of bisociation, the mental act “to live on several planes at once” (p.183), and suggested by him to be “the essence of creativity” (p.184), engendered by the “cross-fertilization – or self-fertilization within a single brain” (p.184) of different conceptual frameworks. The history of the development of science and technology shows no shortage of examples – quite a number of them being cited by Koestler – of how the consilience of different ways of knowing led to fundamentally new visions or inventions that changed the world. Koestler relates the idea of bisociation to the roots of the Latin word cogito, which comes from co-agitare, or shaking together.

Complexity versus linear causation

The Seville Statement on Violence is a refutation of the idea that war is a biological necessity. As such, its argument is grounded in the deterministic views that have propelled the development of scientific knowledge until, at various stages during the twentieth century, that mental framework got challenged. There is a danger that the Seville Statement may be taken to mean that, within the same deterministic frame of mind, we should now start looking for the mechanisms that will bring about a culture of peace and non-violence. As soon as those mechanisms have been identified, they can then be written into UNESCO’s mid-term strategy and a series of biennial programs and budgets so that the world can be changed accordingly (assuming UNESCO’s member states will be more forthcoming than now in providing it with funds). Hence the aforementioned decade. A cycle and a half – each of UNESCO’s mid-term strategies covers a

² To represent Pinker correctly, I should add that he does not imply “that scientists should pursue the truth in their ivory tower, undistracted by moral and political thoughts” (p.47).
period of six years – could get us a long way towards the goal. Indeed, at the launching of the International Year for the Culture of Peace, the recurrent question to a sequence of speakers, was: “What must we do?” With the exception of Abbé Pierre, all speakers came up with some sort of answer. Abbé Pierre’s brief comment was: “I don’t know.” He then refocused the attention on what and who we should be. I contend that Abbé Pierre’s position is one that recognizes the wholeness and complexity of the issue as it calls for a search of human and social ways of being that reflect the multiplicity of levels of organizational complexity inherent in the problem addressed.

**Beyond the minds of men**

In exploring the questions of war and peace, and the cultures that support and sustain them, we need to look beyond the minds of men to what happens between them, how they get organized into collective mindsets, what happens between different collective mindsets, how these are organized in still larger wholes, and so on. We must reestablish the connection between comprehension and intelligent behavior at levels appropriate for our times. Knowledge having progressed to unprecedented levels of rapid expansion and increasing complexity “rend légitime la question de l’adaptation des mentalités à ces savoirs” (Nicolescu, p.61). One can no longer look at that question simply in terms of the minds of individuals. We must seek to foster the development of intelligent behavior at higher levels of mental ability subsumed in the social organization of the human mind in multiple aggregates that are, as aggregates, capable of complex adaptation. Surely, this is a process that goes beyond simply adding up whatever knowledge is present in a group of individuals. “…La somme des meilleurs spécialistes dans leurs domaines ne peut engendrer…qu’une incompétence généralisée, car la somme des compétences n’est pas la compétence: sur le plan technique, l’intersection entre les différents domaines du savoir est un ensemble vide” (p.64). Minds must therefore be brought together in ways that allow them to exploit fully their individuality and, at the same time, fundamentally also overcome their individuality. If this sounds paradoxical, I shall, further on, argue that learning is the key condition to transcend the paradox. Learning is, so to say, ‘le tiers inclus’ (in the sense Lupasco developed the concept; see Badescu & Nicolescu, Eds, 1999) between the individual mind and the aggregate mind at higher levels of organizational complexity. It is in the interlinking of the minds, based on the willingness “to go beyond the boundaries of academic disciplines or ideologies” (as stated in the Vision of the Santa Fe Institute), that consilience must be sought, exploring the wealth of disciplinary, multidisciplinary, interdisciplinary and transdisciplinary approaches, which are, in the words of Nicolescu, “quatre flèches d’un seul et même arc: celui de la connaissance” (p.69).

**The social organization of knowledge and intelligent behavior**

The question of the social organization of knowledge, including the ways in which knowledge is generated, becomes thus crucially important for our times. Some of the major challenges facing humanity call for entirely new ways for the world to govern itself. This is perhaps most clearly visible in the discrepancy between discourse in international and national fora and the limited ability of intergovernmental organizations and national governments to translate expressed political will into practical and constructive consequences. Problems like the overall

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3 I am using the concept ‘aggregate mind’ to denote the capacity of functionally integrated individual minds to develop intelligent behavior at the aggregate level. The aggregate mind is thus a functional whole. If aggregated minds achieve functional integration, then the component parts, i.e. the individual minds, are no longer isolated entities. They then exist both for and by means of the whole. The aggregate mind is an autocatalytic set in the sense referred to by Kauffman (1995). Koestler (1989/1967) has introduced the notion of ‘holons’ to denote aggregates that function “(a) as autonomous wholes in supra-ordination to their parts, (b) as dependent parts in sub-ordination to controls on higher levels, (c) in co-ordination with their local environment” (p.103). The capacity of humanity to develop intelligent behavior at different levels of aggregating minds may be visualized in a similar fashion.
management of the earth’s resources for the shared benefit of all, global warming, rapid growth of the world population, and options for global economic development are typical examples of areas in which existing structures have outlived their usefulness. Their ability to produce intelligent behavior is limited by their inability to conceive of themselves, in addition to their quality of being integral entities in their own right, also as parts of larger wholes.

No longer having sufficiently large resources that would allow them to live with the illusion that they, as such, could have a significant impact on what happens in the world, organizations, such as UNESCO or other entities of the United Nations system, which function at the transnational level, sometimes prefer to formulate their strategies in terms of their role as catalysts of development. The mindset behind such strategies remains one that postulates a world ordered in such a way that particular actions could be predicted to have desired consequences and in which development is moved along by centrally directing (in this case catalytic) agencies. The study in the sciences of complexity (see for instance online the Santa Fe Institute Publications) reveals that in many instances such a mindset is less useful, if not outright unproductive, to deal with the kind of problems these same organizations put on their agenda. If effective in catalytic ways, then such organizations will benefit from conceiving of themselves as parts of larger, functionally integrated, wholes, the various parts of which form so-called autocatalytic sets (see for this concept e.g. Kauffman, 1995). This would mean that these same organizations become themselves as much the object of the catalytic action of others as others take part in processes for which these organizations are the catalysts.

**Learning at different levels of organizational complexity**

The above considerations have implications for how we as individuals, communities, societies, and the world at large should conceive of learning and visualize the environment in which learning takes place. Learning is still often seen merely as a process by which a learner acquires something that may either be defined as information, or a particular skill, an attitude, or even as a set of values. It is a utilitarian concept. Moreover, the assumption is that, whatever is being acquired was not yet present in the learner. So somehow, somewhere, someone must either transmit what is to be acquired or otherwise facilitate a process to facilitate such acquisition involving other sources. It is not difficult to recognize how this idea of learning underlies much of what goes on in schools, during training events, and even in cases where learning takes place at a distance. The overriding perception is that learning is the consequence of instruction. While it is certainly true that some – at times significant – learning is the result of instruction, it is not true that all or most learning results from it. A simple investigation suffices. Ask anyone to describe his or her most profound and significant learning experience. The answer of most people to that question will have nothing to do with any instructional process. In addition, one needs but to observe daydreaming in the classroom to convince oneself that independent mental activity, and thus learning, may often take place despite instruction.

A totally new vision of learning is required if we want to seriously explore the social organization of cognition and intelligent behavior in ways that take into account the diversity of levels of organizational complexity reflected in the reality with which we interact. One such vision is expressed in the following definition of learning, which I have recently proposed (Visser, 1999; Visser, in print): “Human learning is the disposition of human beings, and of the social entities to which they pertain, to engage in continuous dialogue with the human, social, biological and physical environment, so as to generate intelligent behavior to interact constructively with change.” The chapter in the forthcoming International Handbook on Lifelong Learning, in which this definition will appear, discusses it at length. For the purpose of the present paper, I shall limit myself to highlighting only a few aspects that are relevant for our discussion.
Constructive interaction with change:

The vision behind this definition is that we are all part of ongoing change processes. Each of us interacts with the change we see around us. While doing so, we also produce change, which, in turn, becomes part of the change that others see and interact with. Interaction with change does not necessarily mean increased production of change. The aim may often be to minimize change, to stay in dynamic equilibrium with our environment. This is, in fact, what is indicated by the term ‘constructive.’ There is no progress without change, but not all change is progress. Our intelligent behavior should be directed towards producing change wisely.

The definition refers to constructive interaction with change as the ultimate reason why we learn. More than ever before is this an important consideration. Distinct from only a few decades ago, change has become explosive and turbulent. Formerly, successive generations would replace each other faster than most of the things in their environment would change. Typically, therefore, each generation could spend some time at the beginning of its lifespan to prepare itself for its course through life. Should things change, than such change would be gradual and one particular generation could prepare the conditions – such as an adapted school curriculum – that would allow the next generation to prepare itself slightly differently for the changed circumstances. It has only taken a few decades, roughly since the nineteen-sixties for that situation to change fundamentally. In his 1997 autobiography, Pais notes that it is characteristic of our times that the period in which existing information and technology become obsolete is now shorter than the roughly 20-year timeframe that marks the leadership of a particular human generation before the next one takes over. When such a critical point is reached, he suggests, “the experience of the older generation is no longer all that helpful” (p.474).

It is this same period of only a few decades, more precisely of 39 years, in which, after three million years of hominid evolution, the world population grew from three billion (3.10^9) in 1960 to a frightening six billion (6.10^9) by the end of 1999. It is expected to grow to almost 9 billion (9.10^9) by 2050, with most of the newly born people – currently 95 % of them, according to figures of the United Nations Population Fund – living in so-called developing countries. This is exactly the part of the world with the greatest problems in terms of access to clean drinking water, decent housing, medical services, basic sanitation and the kind of learning opportunities that have become essential in order not to become marginalized in today’s world.

Disposition:

To define learning as a disposition is quite radically distinct from the usual ways of looking at learning, which focus on the intention to engage in some specific activity, normally perceived as taking place inside the head. Such views totally ignore a very important area of learning, namely unintended or incidental learning. To assume that learning, as traditionally defined, is lifelong, is quite unnatural. People change specific intentions, including the one to learn, all the time. However, they don’t do the same with their dispositions. In fact, they can be disposed to do many things at the same time and it is therefore perfectly acceptable to assume a lifelong disposition in the sense referred to in the proposed definition. To create the conditions for lifelong learning then translates into the challenge to foster and nurture the above disposition. This is a task much more formidable than what is involved in creating the conditions of learning in particular instructional contexts along the lines so eloquently analyzed and discussed by Gagné (1985).

Dialogue:

The proposed definition emphasizes the dialogic nature of learning. It thus shifts the attention away from the exclusive focus on the individual human brain, thereby breaking with the preferred vision that underlies most of the schooling and training tradition. “Truth is not found inside the head of an individual person, it is born between people collectively searching for truth, in
the process of their dialogic interaction” (Bakhtin 1984, p.110, cited in Shotter 1997). There is no need to restrict the notion of dialogue to what takes place between individuals. It equally involves functionally integrated groups of people, i.e. learning social entities. It also includes the dialogue of individuals – as well as learning social entities – with their biological or physical environment, as several millennia of history of scientific and technological development convincingly demonstrate.

*Beyond the individual:*

As already mentioned above, I refer to the disposition to engage in continuous dialogue in the context of varying levels of social organization, ranging, as far as human learning is concerned, from the individual to humanity at large. It notably includes the idea of organizational learning (see e.g. Senge, 1995) as well as the vision developed by such social entities as entire cities and districts to become learning cities or learning districts. While the term ‘learning society’ is now frequently used, its common meaning is that of a society in which there is a strong focus on the importance of learning. It does not necessarily mean that such a society sees itself as a functionally integrated whole that is as such in continuous dialogue with its environment so as to develop its intelligent behavior to interact constructively with change. I suggest that it is important that such an added meaning of the term ‘learning society’ be urgently developed. Wherever groups of people – however small or large – develop a common vision and functionally self-organize themselves to pursue that vision, there is an opportunity for such social entities to become learning social entities.

To be clear, this does not mean loss of identity on the part of the individuals or the smaller social entities that are functionally part of larger entities. To understand this, it is important to recognize that individuals are not separate from their social context. Individuals and the social entities in which they are functionally integrated are each other’s dialectical counterparts. Similarly, smaller social entities that are functionally part of larger entities are dialectically intermediate between those larger structures and the smaller entities – including individuals – that are its own functional parts. There can be no functional social integration at any level without the concurrent development of a strong sense of identity at the levels of social organization hierarchically subordinated to it. This then leads to a vision of a learning ecology, in which the disposition for continuous dialogue is present at and between all different levels of social organization.

*War, peace, and the social organization of the mind*

The ability to constructively interact with conflict is crucially important for our times. The century that has just drawn to an end has seen unprecedented levels of destruction and annihilation deliberately engaged in by the human species. It has also seen a rise in consciousness about our capacity at self-destruction, either willfully on the part of some or less willfully on the part of us all because of our inability to get functionally organized at all levels to interfere with the gradual destruction of our planetary habitat. Reflection on our past and our visions of who we are and where we want to go should now lead us to a serious reconsideration of what it means to be learning, not only as individuals, but at all different levels at which we socially organize ourselves.

War and peace are not to be seen in isolation. They are phenomena that co-evolve with how we evolve socially, economically, technologically, spiritually and in a whole lot of other respects. These co-evolutionary phenomena are reflected in how we behave as individuals as well as how we behave at different higher levels of social organization. To deal with them effectively we must realize our learning potential at all these different levels of organizational complexity and undertake the huge task to start developing our dialogic efficacy at all these levels, aiming at sustained intelligent behavior to interact constructively with conflict. This is no small order, but it

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4 See for instance Jain and Jain (1999).
is one worth the material and intellectual resources currently spent on the development of war and peace by military means.

References


