

## **Unlimiting human development: back to Vygotsky and forward**

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While Newtonian physics was “in a sense timeless and reversible” (Hess, 1997, pp.130-1), in the 19th century the concept of irreversible time entered physics and scientific discourse through thermodynamics. Although thermodynamics negated a static state of sameness, it did not challenge the concept of identity. Thermodynamics describes a stable, predictable behaviour of systems which tend towards the minimum level of activity possible. Change is not considered as random but follows an order and leads to sameness – not to difference or diversity, which would implicate a higher level of activity as in the case of sameness. In this way time has been conceived of as irreversible and symbolically depicted as an arrow – which is the concept underlying the evolutionary theory of Darwin and all developmental-psychological theories.

In philosophy, a very similar concept of change has been introduced by Hegel, who was, however, unaware of thermodynamics. Hegelian dialectics is dynamic but leads ultimately to universal sameness. According to Hegel, through the application of intelligence and will, humanity encompasses more history and more awareness of alternatives and thus a consensus is achieved. The best example illustrating the convergence of the abovementioned ideas, the irreversible time of thermodynamics i.e. of the theory of evolution and the Hegelian concept of change that leads to identity – is Marx’s political economy. The concept of irreversible time can be regarded as the cornerstone of modern science and philosophy.

A different concept of time can be found in the philosophy of Nietzsche. As he wrote: “Progress’ is a modern idea, which is to say it is a false idea.” (1988). Nietzsche introduced the notion of “eternal return”, meaning the repetition of that which differs-from-itself. In this way, he not only considered change but also introduced the concept of difference, and thus opposed “being” to “becoming”. “The subject of the eternal return is not the same but the different, not the similar but the dissimilar, not the one but the many . . .” (Deleuze, 1994/ 1968, 126). According to Nietzsche, one does not speak about progress but about process. If one views all substances only in terms of their relation to other substances, then it can be said that two substances are no longer the same after being related to each other. There is no enduring substance, only relations and processes (Whitehead, 1978).

The questions which may present itself at this stage are: What kind of developmental psychology or pedagogy would we have without the concept of irreversible time? What would be the social and political implications of a developmental psychology and pedagogy which emphasize not sameness but difference? Although it is well-known what human development looks like in terms of irreversible time towards sameness – inasmuch as this is how modern education functions (s. Wulf, 2002; Hedegaard, 2005) – it proves difficult to imagine a concept and a practice of human development in terms of process and difference. Has there ever been such a psychology?

The answer to this query is positive: following the interpretation of Papadopoulos (1999) and critically distancing myself from the U.S. American Vygotsky, I would argue that Vygotsky is non-modern in the same way in which Latour “has never been modern” (Latour, 1993). The Zone of Proximal Development (Chai-

klin, 2003). This is the field of immanence where difference is generated. There is no arrow of time leading from the past, to the present and then to the future. Development by Vygotsky is not the realisation of potentialities but the realisation of virtualities (s. Stengers, 1996; Latour, 2005, Deleuze & Guattari, 1987/1980). ‘Dramatic events’ take place (Veresov, 2005) after which nothing is as it used to be.

However, Vygotsky never fully developed this aspect of his work. In his theory, both concepts of time, that of irreversibility and that of the eternal return, coexist – which has been mainly ignored not only in post-vygotskian theory and research but also in the secondary literature on his works. All over Vygotsky’s work, both the tendency to conceptualise human development towards sameness and the tendency to conceive development in terms of difference were present side by side – from the very beginning till the very end. It is well known that Vygotsky studied Nietzsche and had affiliations with Trotsky, as well as was deeply influenced by evolution theory and Hegel.

Posing the question: “How can students’ development be conceived of in terms of difference?”, I have engaged in ethnographical fieldwork for one year in an experimental School for Individual Learning. Paying particular attention to materialities, I documented the circulation and production of documents and the use of artefacts (e.g. mobile phone, file etc.), studying the qualities of connections among actors and/or actants in the school institution and examining how they relate to the students’ development. My main questions were: “Is there an expression of limitation and conflict?” and conversely – “How can this situation reflect and generate freedom, imagination and movement?”

In my presentation I will demonstrate empirical material from this research to support the following positions:

- 1) Difference always emerges in development – the only question is how it is treated or conceived of in the context of educational institutions. From such a perspective one could argue about ‘politics of development’. Scientific practices are part of these politics, and for this reason it is vital to render visible the entire translations researchers (i.e. we) make.
- 2) Difference does not emerge on the ground of the actions of children/ adolescents or adults/ teachers but stems from agency which is distributed between actors and actants i.e. subjectivities and objectivities. The alignment of materialities (e.g. documents, files etc.) mediating the communication between actors is here of primary importance. (This has also been a problem which, to some extent, concerned Vygotsky as well – s. also Serres, 1982; Latour etc.)
- 3) There are different kinds of materialities and different alignments of materialities and humans. On the basis of their temporalities and the way, in which different sites are connected, particular connections are created between children/ adolescents and adults/ teachers.
- 4) In the experimental school in question, particular forms of control emerged through the alignment of adolescents, teachers and materialities. However, it was exactly the organisation which aimed at the exclusion of difference which also enabled its emergence.

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