

# Vygotsky's „Lectures and articles on pedology” – An interpretative adventure<sup>1</sup>

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*Vygotsky was professor in pedology. Almost half of his writings were in pedology as we will see. But in the huge literature on Vygotsky these facts not only are almost never mentioned; most researchers simply ignore them. We are currently working on the relationship between Vygotsky and pedology with three interrelated questions: why was Vygotsky so involved in pedology? What is the importance of this fact for the interpretation of his writings? What are the deep reasons – above the evident fact that the term „pedology” was systematically cancelled in all editions, including the 1986 *Собрание Сочинений* [Sobranie Sočinenij] – for not taking systematically into account Vygotsky’s pedological engagement in the reception of his works? Our research, still in progress, is a real interpretative adventure and almost a detective novel. Of course, in this paper we will not answer all these questions in depth.<sup>2</sup>*

## 1. Pedology: rise and fall in Europe – survival in USSR

In the beginning of the last century, pedology (Barnes 1932, Depaepe 1985, 1993, 2001, Rückriem 1996, Trombetta 2004) is a quite strong, short living movement resulting from many others, baptized as such by Chrisman, a student of Stanley Hall. Chrisman (1886, p. 5) said that pedology aims at „alles Wissen zu sammeln was das Wesen und die Entwicklung des Kindes betrifft und es zu einem systematischen Ganzen zu vereinigen.”<sup>3</sup> Claparède (see 1911) has probably read all pedagog-

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<sup>1</sup> Some parts of this text will be published in Clot, Y. (in press), *Le diagnostic de la crise en psychologie de Vygotski en 1926 est-il encore juste?* Paris: Dispute. The reproduction and translation is made with the permission of the editor and the publisher.

<sup>2</sup> The questions are treated in all detail in the forthcoming doctoral thesis of Irina Léopoldoff-Martin.

<sup>3</sup> “To collect all knowledge concerning the nature and the development of the child and to combine it in a systematic whole.”

ical texts of his time and wanted to build, in Geneva "a temple" for the knowledge of the child (Hofstetter 2010). He defines pedology as following: it "implique une connaissance parfaite de l'enfant, de sa mentalité, de l'évolution de ses facultés de ses penchants, de ses aptitudes, de sa force de résistant physique ou psychique, de sa puissance d'attention, surtout des divers tempéraments, des divers types intellectuels et moraux que nous offre le monde des enfants" (1906, p. 366-367).<sup>4</sup> The genesis of pedology leans on the rising of the experimental research on the child at the end of the 19<sup>th</sup> century. Pedology appeared with the ambition to be the science of the child in general. It aimed at an interdisciplinary knowledge of the child. The discipline had the same fate in the West and in USSR: a spectacular expansion and a rapid decline. But the stakes were different, as the causes to die out.

The movement has its climax in Brussels, at the 1911 first congress of pedology that is also the last. Schuyten, general secretary of the congress exclaimed at the opening session: "And if I look at this auditorium, full of enthusiastic workers, I only can repeat, this time as resounding as possible: 'The science of the child today receives its coronation as the queen of the sciences'" (1911, p. 22; our translation). The second congress of pedology that should have taken place in Madrid could not be organized: war was coming. After the war it disappeared completely, also in the writings of most of its promoters, like Claparède. Psychology of the child takes its place: an interesting dynamic of disciplinarisation.

In one country nonetheless pedology survived. It was already quite strong there from the beginning on, as show the witness Claparède (1911, pp. 36-38), giving some commentaries about the discipline in Russia. The revolutionary situation, the strong social needs for knowledge on the child and perhaps also an overt context for a new discipline based on dialectical thinking that tries to define the links between the different aspects not in formal-logical terms, as pure correlations, but as an ever changing whole; and this means at the same time to have a real idea of development.

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<sup>4</sup> "It implies a perfect knowledge of the child, of his or her mentality, the evolution of abilities, tendencies, aptitudes, strength, physical or psychological resistance, power of attention, above all of different dispositions, different intellectual and moral types that the world of children offers us."

In his text on “Pedology and the other sciences” Vygotsky analyzes the reason of this stillborn discipline.

*“Pedology should be based on the objective reality of the unique process of development which is its object. It can’t be build on the field of the metaphysical, logico-formal point of view of child development which only allows a mechanical association of the different aspects of development, nor on the field of a dualistic point of view of human nature, closing the way to the study of the real unity represented by the process of child development. It is exactly for this reason that pedology as particular science is almost dead in the West and in Amercia” (1931, p. 57) our translation).*

In 1928 took place the first congress of pedology in USSR, introduced by Krupskaya, member of the influential Committee of the people’s commissariat of education, she proclaims that this discipline plays an essential role for the development of the educational system. A scientific journal was created. Hundreds of publications were produced in this new discipline. Vygotsky was most active in this movement and even thought that this is the discipline that would allow founding education on scientific bases, much more than psychology or other sciences.

## 2. Vygotsky’s commitment in pedology

Vygotsky’s commitment in pedology seems to start in 1924, just after his arrival in Moscow, leaving Gomel to work with Kornilov’s team at the Experimental Institute of Psychology which will change its name in 1930, to take the one of 3 P (Institute of pedology, psychology and psychotechnics). We find some tracks of his teaching in pedology in his curriculum vitae for 1924.<sup>5</sup> However, it is since 1927 with his major theoretical and epistemological work on “The significance of the crisis in psychology” (1927<sup>6</sup>/1999) when we can distinguish a notorious bend in Vygotsky’s

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<sup>5</sup> We found this source in the RAO Archives of Moscow.

<sup>6</sup> This text was unpublished before 1982 in Russian, 1999 in French. We situate the manuscript in 1927, this date remains vague as in some bibliographies, the date is 1926 (in *Thinking and Speech*, 1934, p. 321) or 1927 (in *Vygotskaja and Lifanova bibliography*, 1996, p. 396). In our opinion, it is important to situate the date of the manuscript, even roughly, as we consider it as a turn in Vygotsky’s research, where he started to elaborate new epistemological basis.

work. In this text, he considers very explicitly the development of pedology as a possible way in answering to problems posed. He indeed writes:

*“In practice, pedology cannot only speak about the psyche of the child, it takes out limits of the psychology and includes physiology and anatomy; and even if at the moment, it is reduced to unify three different sciences under the same name; as task, as principle, as idea – pedology has to create a new realistic concept which will take place in the foundation of the science and which – we can already assert it – will have nothing common with the sterile concept of introspective perception” (Vygotski, 1927; citation in Zavershneva and Osipov, 2010, pp. 97-98).*

This passage cannot be found in the excellent translation published by Bronckart and Friedrich (Vygotski 1927/ 1999, p.236). As almost all other references to pedology, it was censored, including in the Russian edition of 1982. We owe to Zavershneva and Osipov (2010) to have carefully listed the differences between the published version and the manuscript of *The Crisis* preserved in the family archives. Grace to their work, we know today that Vygotsky spoke about pedology in his manuscript. Meccaci (1983), an Italian scholar translating Vygotsky’s texts into Italian trying to use the original sources, noticed already the quantity of Vygotsky’s pedological works and underlined that even in the Collected Works the word „pedology” has still been systematically erased.

In “The significance of the crisis in psychology” (1927/ 99), the diagnosis of Vygotsky is explicit: between the idealism of the ones, which certainly approach the conscience but by a subjective way, and the “mechanicism” of the others, who reduce the psychological phenomena to the biological ones, the question is to find a monist and dialectical way, which takes account of the material base of the psychical processes without reducing them to simple biological processes. One major element of the crisis was the difficulty of articulation between theory and practice. Vygotsky chooses the way offered by pedology to build the foundations of a general science. For Vygotsky, the child’s developmental process has its own specific logic and must be considered in all aspects by a science totally dedicated to it. Quoting Rousseau, Vygotsky (1933-34/ 1996) defines the child with particularities that pedology has to consider in all its researches:

*“The child is not just a small adult; the child is a being which is distinguished from the adult not only by his smaller size or his more reduced capacities of reasoning, or less developed in certain fields, but it is a being which differs qualitatively from the adult by the structure even of its organization and its personality” (p. 24).*

Vygotsky’s strong engagement in pedology appears when one analyzes his publications and the way he classifies them. Referring to the edition of 1934 of *Thinking and Speech*<sup>7</sup> (pp. 321-323) there is a classification of Vygotsky’s works. A clear distinction between psychology and pedology is done. Concerning articles, we can find in psychology, 24 items, in defectology, 9 items, in scientific vulgarization, 11 items, and in pedology, 28 items. For books, the same division appears. Ten books are presented as belonging to psychology:

- The psychology of art (manuscript 1925)
- The pedagogical psychology (1926, ed. Rabotnik prosvetšenija)
- Studies on the history of behavior (with Luria, manuscript 1930)
- Tool and symbol (with Luria, manuscript 1930)
- Research on higher mental functions (manuscript 1930)
- Imagination and creativity at school age (1930, ed. Akademii im. Krupskaja)
- The signification of the crisis in psychology (manuscript 1926)
- Thinking and Speech (1934, Socekgiz, in press)
- Lectures on psychology (1934, stenograms)

Eight books are categorized in pedology:

- Pedology of the school child (ed. BZO, 1929)
- Pedology of the adolescent (ed. BZO, 2 MGU, 1929)
- Pedology of the youth (ed. Cipkno 1929)
- The difficult child (Cipkno 1929)
- Studies in pedology and pedagogy on abnormal child (1930, manuscript)
- History of the cultural development of the normal and abnormal child (1929, manuscript)

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<sup>7</sup> We give the references as they appear in the book of 1934. In the bibliography, we give the references which (in case of doubt) correspond to the bibliographical references of G. L Vygodska-ja.

- Teaching/learning and development in school age (ed. Loučgiz 1934)
- Lectures on pedology (1934, stenograms)

This list of pedological writings is not exhaustive; we find several articles in the journal "*Pedologija*" on the matter that are not mentioned in this index. Vygotsky was a member of the editorial board of the journal *Pedologija* from 1929 to 1931. Six articles of his and one review were published between 1928 and 1931. Among them, the famous article "The cultural development of the child" (Vygotsky 1928), which is the unique of Vygotsky's article published abroad during his life, and two methodological texts (1931, 1931a) discussing the place of pedology among other sciences. In the lectures of pedology he gave in 1933-34, Vygotsky showed precisely his will already noticed to establish a discipline by the determination of a clearly defined object. The core is the concept of development, and the creation of an adapted methodology, a classical way of defining a discipline. To expose Vygotsky's point of view about pedology, we refer essentially to his lectures of pedology transcribed in stenograms by his students and published in 1934 in Moscow, and in 1935 in Leningrad under the title of "Основы педологии" [Foundations of pedology]. Through seven lectures, Vygotsky describes the process of development in details and with the specific pedological point of view to observe it. After having defined the object, he puts in relation each aspect of development with the two factors having an influence on its progression: heredity and milieu. The original stenograms published in 1934-35 had no titles, just a number from one to seven. The ljevsk publication of 1996, 60 years later gave a name to each lecture which are the following, giving a precise overview on the contents of the lectures.

1. The discipline "pedology"
2. Characteristics of the method in pedology
3. The study of heredity in pedology
4. The problem of environment in pedology
5. General laws of child's psychological development
6. General laws of child's physical development

## 7. Laws of nervous system development<sup>8</sup>

### 3. Pedology – A science: its object and method<sup>9</sup>

In his lectures given at the Herzen Institute in 1933-34, Vygotsky exposes pedology in a very synthetic way and starts by a short definition of the object of pedology “The development of the child is the direct and immediate object of our science” (1933-34/1996, p. 12). The process of child development is characterized by four general laws carefully described:

- Cyclical temporalities and non-linearity: The rhythms and the contents of the development change at different child ages. The rhythms are irregular, with accelerations and decelerations and Vygotsky describe it visually as “*an undulatory curve*” (1933-34/ 1996, p. 17).
- None proportionality: The development is not proportional; each aspect of development has an optimal period. Each development of an aspect will change the proportionality between all parts. However, the irregularity of the development will form a regular internal link between the different parts.
- Evolution and involution: Vygotsky speaks of a “*regressive development*” to allow functions to grow and to have a leading action where before they had a second role or no role at all.
- Qualitative change: Vygotsky called it poetically the law of “*metamorphosis*” giving an example in analogy with the butterfly metamorphosis. At each stage of development, some qualitative changes reveal something new that Vygotsky calls “*novyje obrazovaniya*” [“new human characteristics and new formations (structures)”].

But a link remains between the future stages of the development and the passed stages, that the past has a direct influence on the appearance of the present for the future. Vygotsky expressed it this way in “The pedagogical analysis of pedagog-

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<sup>8</sup> In our translation we consider the 7th lesson as a part of the physical development as well as the 6th one dedicated to the endocrinal development.

<sup>9</sup> Our description of Vygotsky’s point of view on the matter and our comments here are mostly focused on the translation into French we made of “The foundations of pedology”. As far as we know, it is the first integral translation of the seven lectures. Vygotsky’s quotations into English are our free translation.

ical process” a text written according to a stenogram of a lecture he gave the 16 of March 1933:

*“The task of the pedological study is to determine not only what the present day brought as fruits but also what having been sowed, is still blooming and will bring certain fruits tomorrow, that is a dynamic approach of the determination of the level of development” (1933-35/ 2006, pp. 484-485).*

These general laws exist for all the systems in interaction with other systems but with some specific organization and independent functioning.

A science must have its own methods. For Vygotsky, the method in pedology has 3 main aspects:

- *An integral method:* By integrality, Vygotsky means to study and observe all aspects of the development (organism and personality) integrating them in a whole, and allowing an analysis by decomposition in units and not in elements. The constituents of a system are never studied alone but always in connection with internal and external systems. Vygotsky demonstrates that an analysis considering elements is not proper to explain anything in pedology and gives the example of two main factors on which development depends: heredity and milieu (environment). “An analysis which breaks up into elements characterizes by the fact that each element does not contain the properties of a whole, while each unit, even in embryonic form, contains all the properties of bases of a whole” (1933-34/ 1996, p. 37). If one tries to explain a concrete and complex aspect of the development like language by hereditary predispositions and by the influence of the milieu, it is impossible to break it up, because the hereditary predispositions in themselves do not include necessarily the appearance of the language as an obvious fact; and the milieu being an external factor for the child, does not contain the essential elements to the emergence of language.
- *A clinical method:* By the clinical method, it becomes possible to pass from the study of external symptoms to the investigation of the processes which are hiding behind them and which condition/ causing their existence. To study these processes and understand their nature, the method classifies those according specific stages and considers their different aspects.



- *A comparative method of the genetic nature*: If the clinical method is used to compare the different processes of development, the genetic observation is not often used by other disciplines. In pedology it belongs to its researches. The genetical-comparative method operates kinds of comparative sequences or cuts at various periods of age. By means of this comparison one can understand by which specific way of development the child went through.

#### **4. An example of pedological reasoning: dialectics at work**

The third lecture, dedicated to heredity is a nice piece of monist, anti-reductionist and dialectical approach to a most controversial topic, perhaps more than ever today with the rise of neurosciences: heredity. In a hermeneutic way, let's consider now how Vygotsky works on this matter, without forgetting, in doing this that he is speaking for future teachers and students. We do not observe his thinking in progress like in some other texts. His ideas were systematized and simplified for certain. But he wants to show and transmit the main features to others – just as they are important for himself, for his own thinking.

How then does he proceed? The chapter has three main parts:

- A description of the specific pedological point of view on heredity compared to genetics or biology.
- Four laws on the impact of heredity on child's development.
- Two theses or caveats one has to take into account in thinking about heredity in pedology.

#### **The pedological point of view on heredity**

Four differences characterize the pedological point of view:

- Whereas biology takes simple characteristics that are more or less stable in order to determine laws of heredity, pedology has to do with complex characteristics that modify and develop and in function of which the impact of heredity is defined.
- Pedology is not interested in characteristics that represent heredity in its pure form, but precisely in those that above all have a common influence of heredity and environment.

- Pedology is not interested solely in characteristics that differentiate one child from another, but in characteristics that define predispositions of human beings and that lead all children to a certain type of development.
- Pedology, if it takes into account the influence of heredity on child development, is above all interested in dynamic characteristics, in characteristics that appear in the course of child development, and not in those that are independent of development.

In other words, biology and genetics are interested in heredity as such and look for characteristics that represent it in pure form, that is which are stable and do not change. Pedology studies the role of heredity in development and looks therefore for mixed, not stable characteristics that are changing in the developmental process. Vygotsky gives two examples of mechanical application of genetic laws, mainly the general formula of Pearsons showing that the more blood relationship is strong and the more there is resemblance on certain characteristics, the more these latter depend on heredity. This can lead to non-sense when mechanically applied, like for instance by Bühler who showed the relationship between delinquency of parents and their children and concluded on heredity. This is not the way to look at the impact of heredity on development because, precisely, the point of view is wrong.

### **Four laws**

But how the point of view of pedology can be applied? The reasoning of Vygotsky here is based upon twin studies, comparing homozygous and heterozygous twins, the essential factor being not the correlation between pairs of twins, but the divergence of the factor comparing pairs of homozygous and heterozygous twins in statistical manner on a great number of pairs, assuming that the only factor differentiating both types of twins being precisely heredity. In using this method on different characteristics, Vygotsky affirms to establish four laws of the impact of heredity on development.

1. The first has to do with the type of psychical functions: the more complex they are, the less divergence one can find between both types of twins. Elementary functions that exist since the beginning of development and are necessary conditions of higher functions are more dependent on heredity.

2. If one establishes a series of correlations between functions, one never can observe a regular diminution of divergences of correlations. On the contrary: there is a leap. On one side, the „inferior“, „elementary“ functions, biologically determined, genetic heritage of mankind; on the other, the superior functions, elaborated by mankind through history. The first shows an important, the second a small divergence between the two twin types. This difference, says Vygotsky referring by these words explicitly to a very common way of dialectical wording, is not quantitative, but qualitative.

*„Consequently, this brutal change, this rough demarcation between functions in their development shows that it cannot be reduced to a simple quantitative distinction in a hereditary perspective that could allow to distinguish between higher and inferior functions. It also shows that the group of higher functions has a qualitatively extremely different relationship to heredity“ (Vygotsky, 1933-34/ 1996, pp. 67-68).*

These two first „laws“ have two important theoretical consequences:

- Development does not only change given hereditary dispositions, but brings something totally new on the basis of the predispositions that are hereditary given
- The predispositions are certainly hereditary strongly determined, but they enter into the higher functions only as conditions, as necessary predispositions.

We come back to these two essential consequences. But let us look before to the two other laws.

3. Heredity does of course not change during development; it remains the same the child being three or thirteen. But what changes is the relative importance of heredity. The relative weight of heredity strongly fluctuates. The more so as novelty appears that is not hereditarily programmed. But, again, this process is not mechanical and unilateral. By sure, when novelty appears, the importance of heredity diminishes strongly. But some hereditary factors can appear quite lately, like for instance the psychosexual constitution where little divergence exists between the two twin types; this divergence grows strongly in adolescence.

4. More generally, this means that there is no general law of the relationship between heredity and development. The influence of heredity on development has to be studied separately for each aspect, and each aspect in function of age: the relationships are most complex and changing.

### **Two considerations**

Vygotsky then comes back to two more general considerations he has already prepared in defining the general pedagogical point of view. First, divergence is smaller in what concerns general human characteristics, common to all human beings. Second, and most important, in each aspect of development, there is a part of heredity that the divergence can show; the influence may be more or less important, and even almost invisible.

*„Development is always a dynamic process; a unity of hereditary influences and of environment, but this unity is not constant, not permanent, not immutable, and not explicable in a simple way. The unity is differentiated, constructed in many ways and has to be each time studied in concrete way” (Vygotsky 1933-34/1996, p. 74).*

### **Comments**

In a certain sense, this brief chapter is not only part of an introduction into the science called “pedology”; it is also an introduction into a way of thinking, of analyzing reality; an introduction into methodology in the large sense of showing how an object of knowledge is constructed so that at the same time it is one way of looking at it among many others and a way that allows to reproduce mentally essential aspects of the real: subjective and objective at the same time; objectively subjective and subjectively objective as Sève (1998) puts it in his text on science and dialectic of nature.

This explains probably that in Vygotsky’s text dialectical figures are present in several formulas like:

- The unity of contradictory aspects: heredity and environment.
- The leap from quantitative to qualitative.

- Newness as an essential dimension of development, this newness being built on predisposition that enters in the new, but only as necessary conditions that do not determine nor constitute the new.
- The concrete study of the material, specific, differentiated object of the real.

This way of thinking is deeply monist and anti-reductionist. Deeply monist, as strongly shown in this chapter, by taking into account the material determination of any human function that is based on genetic predispositions that constitute the necessary conditions and predisposition up to the highest psychic functions in many variable ways. Higher psychic functions are made of this material basis. At the same time, they are new in the very deep sense that they are governed by other laws. This changes for instance fundamentally their relationship to heredity that nonetheless remains present in various ways that has to be determined. The higher psychic functions are made of the same material world and nonetheless cannot be explained by the same laws that govern the material they are made of. This is exactly what “newness” means. They can’t be reduced to, explained by the laws of the material they originate from.

“Materialism explains the superior by the inferior” as Comte it said to have written critically. This can be understood in two ways, due to Sève. In a strong way one would think that the inferior is sufficient to explain the essential of the superior: this is reductionism. Nothing new appears. In a feeble way however, each level of material organisation is conditioned by the inferior level which is its condition; and the study of this level is necessary to understand the superior level. Vygotsky shows this, in this third chapter, on a quite general level. What is most interesting in his demonstration is that the manifestation itself of heredity functions as a proof for the newness, of the difference of organisation of the material basis. Or as Sève (1998) puts it:

*“As a new complexity of organisation becomes autonomous, its starting point regresses to a role of support, continuing certainly to impose its conditions of possibility and existence, but over determined in return by the qualitatively different laws of what is supported which tends to transform it into its proper base – henceforth the methodological irreducibility of one field of science to another” (p. 218; our translation).*

## Conclusion

For Vygotsky and for most of the scholars involved in the discipline the institutional refuge of pedology seems to find its limits in 1932. However, Vygotsky will persevere in this way until his death in 1934, while refining and by affirming his conception of the dynamic process of development through his pedological work. In our view – we think we have given some proves in the present text supporting this argument – pedology was a way for him to conceive what always was a very important aspect for him, the profound and dialectical interrelationship between biological and psychological aspects of development which form, in his real monist approach, a contradictory unity. Our research will continue to explore this line together with the other one that characterizes his work deeply, the one of semi-otic tools as condition and result of human development.

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**Sachregister**

Child Development

Crisis in psychology

Dialectics

Environment

Heredity

Method

Pedology

**Personenregister**

Barnes

Chrisman

Claparède

Depaepe

Espasa-Calpe

Ioteyko

Meccacci

Osipov

Schuyten

Sève

Trombetta

Vygotsky

Zavershneva