Chapter 2
The Problem of Age Periodization in Child Development

Outline of Chapter 2: The Problem of Age Periodization in Child Development

In Vygotsky's *Collected Works*, this is not a single chapter but only the first section of a multisection chapter called "The Problem of Age," which, with some substantial alterations, covers roughly the next three chapters of this book. Because some of these alterations (e.g., omission of the word "pedology," cutting references to testing, and the insertion of the word "dynamics" in the title of Chap. 4) seem counterproductive and/or politically motivated, and because we concur with D.B. Elkonin that this material was designed to be part of a book, we will instead follow the divisions given by G. Korotaeva, the editor of *Lectures on Pedology* (2001), and present this material as a separate chapter.

It is a lengthy one. So as we did in the last outline, we first present it as a short summary of four "moments" and then expand each of these points into a more detailed outline. First, Vygotsky argues that there are many ways of periodizing childhood, but they are all metaphoric, metonymic, or eclectic. A truly scientific periodization of childhood will require new concepts, and Vygotsky proposes the rather algebraic terms "neoformation" and "social situation of development" to describe novel structures in the child's patterns of feeling, thinking, and doing on the one hand and the relationship between the child and the environment on the other.

Vygotsky then argues that crises must be considered valid periods of childhood in their own right, because they have age-specific neoformations (even though these

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This chapter was published in abridged form in the Russian journal *Вопросы Психологии* (Выготский, 1972), and there is a version in the Russian (1984: 244–268) and English (1998: 187–196) *Collected Works* which was apparently taken from the Vygotsky family archive. But the most complete version seems to be the chapter found in the *Lectures on Pedology* (Выготский, 2001). This version is the basis of our translation. Where there are differences between this version and the one to be found in the *Collected Works*, we will explain the differences in footnotes.

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are not long-lasting) and because they involve unique forms of relation with the environment: any historical crisis is part of history and not outside it. Finally, Vygotsky proposes his own scheme of periodization, one that can historicize each crisis and reveal the uniqueness of each period of childhood.

I. **There are many ways of periodizing childhood, but they are all metaphoric, metonymic, or eclectic**. Vygotsky divides extant theories of periodization into three groups, but there are really four groups, if we include the Binet theory of simply counting off calendar time from birth, as parents and children themselves do when giving their age in years and months. This folk theory he dismisses at the very outset of the chapter.

The first group of theories that Vygotsky considers worth criticizing, however, is a group we may call "metaphoric" theories, because they compare child development to some external process which is not child development but which is more or less comparable to it. For example, there are theories that compare child development to phylogenesis or sociogenesis, as well as some more adequate theories that compare child development to the periods we find in public schooling. Vygotsky points out that all of these theories are not simply wrong theoretically (because they impose external time categories on what is essentially a process of internalization) but they put the cart before the horse in practice (because instead of giving teachers guidelines for when certain forms of cultural behavior should be taught, they instead trail along behind the guidelines that parents and teachers already have).

The second group of theories that Vygotsky considers worth criticizing is a group we may call "metonym" or "synecdoche" theories, because they compare child development to some internal process which is a small part of child development itself. For example, there are theories that compare child development to teething, to puberty, or to psychosocial activity. Vygotsky points out three flaws common to all of them:

1. They are subjective: they choose a single criterion, often simply because it is suggestive to the researcher of some more important function (e.g., eating or sexuality or labor), or because it is conveniently observed (dentition or puberty or social behavior), or because it is objectively measurable. Although the criterion itself may be objective, the selection of the criterion is not, because it is up to the observer. Vygotsky notes that observers tend to choose criteria that are easy to observe rather than intrinsically important; a little like looking for a lost object where the light is better rather than where it is likely to be found.
2. They are monosymptomatic: they try to explain the whole complex process by a single line of development. But, as Vygotsky points out, the meaning of any line of development will change a lot as the child matures: eating is a central line of development for a newborn but not for an adolescent, while friendships with the opposite sex may be highly charted for the adolescent in a way they are not for the toddler.
3. They are empiricist, and they dwell on the visible symptoms of development rather than the hidden causes.

The third group of theories that Vygotsky considers worth criticizing are a group of theories we may call "eclectic," because they try to get around the weakness of the metaphorical theories by choosing a basket of different factors both internal and external, and to get around the weakness of the metonymic theories by switching from one symptom to another as the child grows. In this way, teething can be held to be important for the infant but not the adolescent and other-sex friendships can be important for the adolescent but not the infant. Vygotsky applauds the idea that each period has its own central line of development and its own age-specific symptom. But he notes that some scholars (e.g., Gesell and Kroh) who have taken this road tend to find that development slows down after the first year, while other scholars (e.g., Bühler) still depend on empirically measurable symptoms and as a result find it hard to explain moments when development apparently comes to a halt.

II. **Scientifically periodizing childhood requires new concepts: the neoformation and the social situation of development.** Vygotsky now sums up the lessons learned from his critical review of theories of periodization. First, he notes that all theories must conceptualize development as:

1. Nondevelopment: the metaphysical realization of some whole potential given in its entirety, once and for all, at birth (e.g., Nazi theories of racial psychology, Pearson's biological determinism, Stern's theory of personalism, and, in our own time, Steven Pinker's "language instinct").
2. Self-development: the partial realization of some partial potential given at birth which in turn creates new, greater psychological potential. Vygotsky further subdivides this idea of self-development into:

   (a) An idealistic conception, where the self-development of the personality is simply self-realization by a vitalistic "life force," just as nondevelopment was the unfolding of a whole potential given "once and for all."
   (b) A materialist conception, where the self-development of the personality is a complex step-by-step unification of the social and the psychological, just as the person is a complex unity of the biological and the psychological.

If we take up the last point of view, we can trace development through changes which define the child's consciousness in relation to the environment, changes which Vygotsky calls "neoformations." Neoformations include new forms of consciousness, and for Vygotsky consciousness explains and is realized by a structure of behavior. Human consciousness is both formed by the environment and forms it in turn. Vygotsky proposes that each period may be identified with a specific neoformation, just as periods of geological development may be identified with rock formations, periods of biological development are identified with the rise of new forms of life, and periods of historical development with the emergence of new relations of production. Vygotsky also proposes that periods of child development may be subdivided into stable and critical periods, just as geological change, biological evolution, and social progress may be either gradual or catastrophic.

III. **A historical crisis is part of history and not outside it.** Vygotsky considers the studies on crises. First, he notices that, unlike stable periods of development, the crisis has not been analyzed, explained, or theorized at all; in theory, many scholars deny that it is a necessary part of development, although they admit it as an empirical fact. Vygotsky then describes a number of features which explain the undertheorized status of the crisis in the literature on development.

1. The crisis often has a clear peak, but the beginning and the end of the crisis are much more difficult to determine.
2. The crisis is often associated with children who are difficult to teach and therefore difficult to study. What is more, some children do not seem to experience a crisis at all, and these children receive a good deal of attention, to the point where they are sometimes considered the rule and not the exception. Vygotsky, however, argues that variations in the environment mask the crises, that crises are intrinsically necessary to development, and that if we make a diachronic, longitudinal comparison rather than a synchronic, cross-sectional one, as Vygotsky suggested in Chapter 2 of *Foundations of Pedology*, we will see immediately that every child in a critical period manifests a certain difficulty in teaching in comparison with his or her noncritical periods.
3. The crisis is characterized by negative content, which masks its positive content; that is, adults tend to focus on what the child is not doing during the crisis rather than what is new and revolutionary (e.g., we notice, when the child produces autonomous speech, that he or she is failing to communicate rather than that he or she is differentiating vowels and consonants, or mastering intonational patterns).

Despite these features, Vygotsky says, there is considerable empirical material that supports the existence of the crisis. However, the material has emerged haphazardly, in no particular order, for the reasons given above: first the crisis at 7–8, followed by the crisis at 3, then the crisis at 13, and finally the crisis at 1. Vygotsky then proposes that birth should also be considered critical (although the peak of birth is clear, the earliest moment of viability for premature infants and the latest safe moment for delivery are still not entirely clear to doctors). With each crisis, Vygotsky shows that although when they were first noted, the negative content alone was remarked, each crisis discloses a certain positive content as well: expanded autonomous discovery at 7, new elements of affect and volition in the personality at 3, a change from visual to conceptual modes of understanding at 13, proto-walking and proto-talking at 1, and physiological independence at birth. As Vygotsky remarks, it is precisely the emergence of these complex forms of consciousness and their competition with the older forms which appear to be responsible for the crisis.

IV. **Pedology needs a scheme of periodization that can historicize each crisis and reveal its uniqueness.** In the final part of this chapter, Vygotsky outlines his proposal. He now has three ways of periodizing childhood that are intrinsic to development, multivariate, and noneclectic, each with both an empirical and a theoretical component. First, he has the various neoformations that emerge in

the consciousness with all of their symptoms in behavior, speech, and thinking. Second, he has the relatively stable periods in which these nontransitional, lasting neoformations seem to be formed. Third, he has the crises, in which the child's relationship to the environment, transformed by the emergence of a transitional, nonlasting neoformation, is decisively altered. The stable periods have a two-part (early stage-late stage) structure and crises can be subdivided into prepeak, peak, and postpeak phases. He next lays out four key points in which his own scheme differs from preceding ones.

1. The theorization of crises and their inclusion as an indispensable, immanent, inherent part of development
2. The exclusion of embryology, on the grounds that it is not a moment in the development of a social personality
3. The exclusion of the young adult, on the grounds that young adults are better understood socially as immature adult personalities rather than as senile children
4. The inclusion of puberty as a stable period, on the grounds that the neoformations of puberty (e.g., friendships with the opposite sex) are not transitional but permanent in nature.

This yields the six crises and five stable periods.

Chapter 2: The Problem of Age Periodization in Child Development

We have seen that the development of the child as a historical process is divided into distinct epochs or stages, which we call ages. Self-evidently, a first and basic task in the study of child development is the establishment of the basic periods, or stages, that constitute the process as a whole, or, in other words, the periodization of child development. We have also seen that the basis for the periodization of child development cannot be taken from a simple chronological division of the whole period of childhood into equal intervals of time such as a month, a year, a 3-year span, etc. The periodization of child development must be built upon the basis of the internal division of the process of development according to its own laws. Just as some historical epochs differ not on the basis of randomly selected chronological periods of time—by century or by millennium—but on the basis of the internal laws of their own historical development, so too child development requires, self-evidently, a periodization of the same kind.

Although all of this is firmly established and absolutely indubitable truth, there have remained, nevertheless, some vestiges in pedology of a prescientific stage of development in the shape of attempts to periodize child development in purely **chronological** terms. So, for example, we can still find attempts to study the growth and the organic development of the child as equal chronological periods of time (in years), regardless of ages. This includes one of the oldest but still commonest

methods of researching and measuring the mental development of the child, the method of Binet[1] that separates intellectual age into chronological units of time, assuming that one year of development is always equal to another and forgetting that the meaning of each year of development is determined by its position in the cycle of life.

However, pedology has long since rejected attempts of this sort and put forward the problem of periodizing the development of the child on the basis of the study of the course of development itself. There exist a number of attempts to divide the course of child development into separate periods on a variety of traits. All of the proposed scientific schemata of periodization for child development may be divided into three groups if we attend to their theoretical bases.

The **first** group are the attempts at the periodization of childhood not by the path of dividing the course of development of the child itself but on the basis of the step-by-step formation of other processes which are in one way or another closely linked with child development.

By way of example, we might name the efforts to periodize child development on the basis of biogenetic principles. As we have already said in one of the preceding chapters, biogenetic theory claims that there exists a strict parallelism between human development and child development, and that ontogenesis in a short and concise way repeats phylogenesis. It is completely obvious that from the point of view of this theory, it is natural that all childhood may be divided into periods formed not on the basis of the development of the child himself but on the basis of the periods of human history. In this way, the basis of periodizing childhood is taken from phylogenetic development. Into this group of periodizations of childhood fall the works of Hutchison,[2] Stern,[3] and other authors.

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[1] Alfred Binet (1857–1911), a psychologist who invented the IQ tests we still use today (for Vygotsky's critique of these tests, see 1997, Chapter 14). Binet trained as a lawyer, and then self-educated as a psychologist, working as a researcher in the neurological clinic in Paris, the Salpêtrière (where Charcot and Freud were also working). Under Charcot he became interested in hypnotism. His early work on intelligence involved studying how expert chess players could play chess blindfolded, and his approach to testing mental development was actually quite similar—a good example of the purely descriptive, empirical approach that Vygotsky criticizes in this chapter. These tests were later used by Goddard and others in the USA (e.g., Stanford University) to measure a "general" factor supposedly common to all intelligence. Such was never Binet's intention—his tests were only designed to help teachers place children in mainstream or in remedial classes (see Binet et Simon, 1905, 1907 in the references).

[2] Sir Robert Hutchison (1871–1960) was a Scottish pediatrician, author of many books on diet, childhood diseases, and child development. As a medical student, Vygotsky would have studied *Hutchison's Clinical Methods*.

[3] William Louis Stern (1871–1938), a German child psychologist and founder of the philosophy of personalism, which included the idea that rocks, plants, animals, and humans are born with free will. Vygotsky was a harsh critic of Stern, whom he apparently met in Germany. He created the notation we use for child development today (e.g., "1;6" for one year and six months) and also the notation for IQ (Stern 1924). Along with his wife Clara he carried out one of the first well-documented longitudinal studies of his own children's speech development, and also wrote a mono-

However, not all classifications of this group are untenable in equal measure. In this group are placed, for example, attempts to periodize childhood according to the steps of the enculturation and education of the child, according to the divisions of the public education system adopted in a given country. So in this scheme, the periodization of childhood is done not on the basis of inner divisions of the course of development itself, but on the basis of the stages of enculturation and education.

In this lies the error of these schemata. But since the process of child development is tightly linked to the process of enculturation of the child and the division of enculturation into separate stages is based on vast practical experience fitting the stages of education to the corresponding ages of the child, it is natural that such a division of childhood according to pedagogical principles often brings us extremely close to a true and practical division of childhood into different periods. To this day, pedological periodization has retained the pedagogical designation of individual ages, which are named according to the stages of public education which take place for the child at given ages: preschool age, primary school age, etc.

Nevertheless, such a periodization turns out to be not only false in its theoretical basis, but practically unfeasible, since it does not take into account the differences in grades of public education in different countries, or even within the same country for different classes of the population (under the capitalist regime). To speak of the essence, the levels of enculturation and of education ought to be constructed according to the age periodization of childhood. Pedology, by taking these levels as the basis for the division of childhood into separate ages, not only does not give the clear answer required by pedagogy to a number of pressing pedagogic questions—when teaching-and-learning may commence, what the stages of teaching-and-learning ought to be, etc.—but instead bases itself on current pedagogical practices.

In the **second** group of classifications into ages should be placed the most numerous attempts, which are made on the basis of the selection of one trait or another in some segment of child development as the conditional criterion for dividing development into separate periods. The attempts by Langstein[4] and by Blonsky to divide childhood into epochs on the basis of dentition, that is, the emergence of and replacement of teeth, may serve as a typical example of this group of theories. The trait on the basis of which we distinguish one epoch of childhood from another ought to be (1) very indicative for judging the general development of the child, (2) easily accessible to observation, and (3) objective. All these requirements are satisfied by dentition. Dentition processes are intimately related to substantial

graph on lying and fiction in children (see Stern and Stern, 1909/1999 in the references for this chapter).

[4] Leopold Langstein (1876–1933) was a German pediatrician who founded nonprofit hospitals and nursing homes throughout Germany and wrote extensively on child development. His death a year after Hitler came to power was suspected to be a suicide by his widow (they were Jews). The *Collected Works* version does not mention Langstein, although Blonsky is mentioned in the previous paragraph. Blonsky had a rather physicalist, vulgar-Marxist, view of the periodization problem, and believed that teeth were comparable to means of production. For example, the eating of meat produced a surplus of energy which accounted for crises in childhood.

constitutional features of the growing organism, especially to calcification and to the activity of the glands of internal secretion.

At the same time, they are easily accessible to observation and can be stated in indisputable terms. Dentition is a clear symptom of aging. On the basis of dentition, postnatal childhood is divided into three epochs: toothless childhood, the childhood of milk teeth, and the childhood of permanent teeth. Toothless childhood lasts until the eruption of milk teeth (from 0;0 to 2;0 or 2;6). The childhood of milk teeth lasts until the beginning of tooth change (approximately six and a half years). Finally, the period of permanent teeth ends with the appearance of the third rear rooted teeth (wisdom teeth). In the emergence of milk teeth, in its turn, we may distinguish three stages: absolutely toothless childhood (the first half a year), the stage of teething (the second half a year), and the stage of eruption of the first molar and the canines (the third year of postnatal life) (Blonsky).

Another, analogous, attempt to divide childhood into ages on the basis of one or another facet or trait of development is the schema of Stratz,[5] which selects sexual development in place of dentition as the central qualitative criterion. Stratz distinguishes between the following periods: the age of nursing (0–1 years), (2) the age of neutral or asexual childhood (2–7 years), (3) bisexual childhood (8–15 years), and (4) the period of sexual maturation (15–20 years).

Other schemata constructed by the same principle select **psychological criteria** instead of dentition or sexual development as the criteria for separating childhood into ages. Such a periodization is that of Stern, who differentiates between early childhood, during which the child displays play activity (up to 6 years), (2) the period of conscious entrainment and the division of work and play, and (3) the period of juvenile maturation (14–18 years) and the development of an autonomous personality and plans for subsequent life.[6]

We will not dwell upon a critique of all of these theories but will instead attempt to distinguish the principle common to all of them—according to which they are all constructed—and to determine the limits of its soundness. Already the presence of a plurality of these types of schemata, each not excluding another, many partly

[5] Carl Heinrich Stratz (1858–1924) was born in Odessa in Russia but became a German citizen. He trained as a doctor and traveled through Africa, China, and Indonesia treating women and children (he was a gynecologist). He had an extensive collection of photographs of both children and women from many different countries and races. This became the basis for a theory of ideal proportion that is still used in art schools today (unfortunately, a good deal of his collection is now banned as child pornography, although it was seen as entirely innocent in Stratz's own time). Vygotsky uses Stratz's notion of alternating periods of "stretching out" and "rounding out" in child growth in Chapter 5 of *Pedology of the Adolescent*, and this is undoubtedly one of the forerunners of Vygotsky's own theory of crises and stable periods.

[6] Vygotsky earlier placed Stern in the first group of schemata, the ones based on a single external process such as the biogenetic principle; now he places Stern in the second group, the ones based on single trait of growth. Which is it? It is both: the "single trait" selected by Stern is the growth of the personality, but Stern's idea of the growth of personality is seen as biogenetic. We noted earlier that Stern was a philosopher. As a philosopher, Stern was a German idealist: he conceived of the world as a hierarchy of personalities (adult, child, animal, plant, and crystal). The key trait of an adult personality is judgment—that is, the ability to value and be valued.

overlapping with and partly diverging from another, indicates the flaw in all of them: the criterion chosen to divide childhood selected in all of these schemata is chosen quite conventionally and arbitrarily. In essence, it follows from the requirements which are formulated by Blonsky in the passage above—the criterion should be indicative, easily accessible to observation, and objective. But it is obvious that many such traits exist, and therefore the choice of one of them cannot help but be conventional and arbitrary.

In this way, the schemata of this group are purely subjective schemata. Although they put forward an objective trait as the qualitative criterion for dividing into ages, this trait they choose on a subjective basis, depending on which processes seize more of our attention and believing that the milestones which differentiate ages can be placed at various points on the path of life. In this lies the gravest fault of this group of theories.

Child development, like any objective process that exists in reality independent of our consciousness, can be scientifically understood only if we can establish the stage periods of its course as **they exist objectively in the course of its own development**, no matter where we turn our attention to. Age is an **objective category** and not a conditional, arbitrarily chosen, fictitious value. Therefore, the landmarks which delimit age cannot be placed at just any point on the life path of the child, but only at those at which objectively one age ends and another begins.

The second drawback of all of these theories is that they put forward a single criterion consisting of one trait (a monosymptomaticity) in order to outline all ages, forgetting that in the course of development the value, meaning, indicativity, symptomaticity, and importance of the trait changes. A trait, highly indicative and essential for judging the general course of development of the child in one epoch, loses this indicative value in the following, thanks to the basic fact that in the course of development those aspects that were at one stage standing in the first plane or in the center were relegated in the next stage to the second plane. It is not difficult to see, for example, that the trait of sexual maturation is essential and indicative at the age of puberty but does not have this meaning in a preceding stage—in infancy and in early childhood.

It is equally clear that if the teething on the border of infancy and early childhood can be taken as indicative sign for the overall development of the child, the replacement of teeth at about seven years and the emergence of wisdom teeth cannot, in their significance for overall development, be likened to the **first appearance** of the teeth. These theories do not account for the reorganization of processes themselves in their forward progress, by virtue of which the importance and signification of any trait changes continuously from age to age, so as to rule out the possibility of dividing childhood into separate epochs using a single criterion for all ages, if this criterion covers one or another trait or one or another isolated aspect of child development.

In addition, when we attempt to keep any trait, such as the trait of **dentition,** as the unitary quality for distinguishing all the ages, we inevitably come up against the fact that from the point of view of the same processes (chemical and endocrine) some traits may be more important and more indicative, but then projected upon later ages it is necessary for them to undertake a secondary, subordinate role, junior

in meaning in relation to this basic criterion, grossly violating the objective hierarchy of traits and delineation of ages. So, sexual maturation, having no doubt infinitely more symptomatic significance from the point of view of the restructuring of the endocrine system, only delineates one **stage** of permanent teeth in the child from another when the replacement of teeth is taken as a boundary separating one age **epoch** from another.

Theories that bring up a broader trait which is more directly linked to the development of the child's personality, such as, for example, the degree of development of the central nervous system (Zalkind[7]) or the delineation of the basic types of activity proper to each age group (Stern) and so on, are richer and closer to the facts, but they fall behind the former theories in the sense of that selected trait's practical applicability, which is often difficult to the highest degree. But the gravest drawback consists in their monosymptomaticity, which is still inherent in them just as it was in the former theories. In place of a narrow trait they bring in a different, broader one. In place of one aspect of development they bring up another. But despite that, they do not go beyond making one single trait of development represent every single aspect of it.

Finally, the third and most important of all of the faults of these theories is the principle of establishing a study of external symptoms of child development and not the inner essence of this process. All sciences at an early stage in their development begin with a static and external approach to the description of phenomena, without analyzing the inner dynamics of the processes under study. Phenomena are systematized on the basis of a purely empirical analysis, and their study is of descriptive or phenomenological character. The scientific study of the inner links of phenomena and their causal relationship is replaced by a classification based on purely external traits. In the biological sciences, this period took place in botany and zoology before Darwin, before the establishment of the evolutionary theory. Such a period in the development of all the medical sciences took place in the period dominated by so-called symptomatic medicine. At the time, diseases were distinguished and classified purely on the basis of external symptoms, so that one group took in all patients suffering from coughs, headaches, fevers, etc. The inner essence of the pathological

[7] Aaron B. Zalkind (1888–1936), a psychiatrist and an earlier Soviet follower of Freud. Zalkind was also the founder editor of the journal *Pedology*, which Vygotsky took over in 1930. Zalkind fell out with Blonsky over the issue of periodizing childhood; Blonsky believed in a scheme that emphasized dentition, while Zalkind was interested in sex education and in group activities. Both of these criteria are essential schemes for periodizing growth and not development in the sense of differentiation. It might be argued that a scheme based on sexuality is at least potentially a scheme that takes in social development.

Zalkind was a party activist, but, as Vygotsky points out, a vulgar materialist rather than a Marxist. In the 1920s, he was criticized for mechanically transferring Freudian theories of sex development into Marxist psychology, and the criticism actually has some truth to it. So, for example, in his "twelve sexual commandments," Zalkind says that falling in love with a member of an enemy class is a sexual perversion like falling in love with a crocodile or an orangutan! He died suddenly, apparently of a heart attack, at the very meeting when the Communist Party abolished pedology. Foul play has not been ruled out.

process was unknown, and the outward signs were mistaken for the essence itself of the disease process. External forms were confused with for the essence proper of things.

In practice, the inner essence of things and their external forms of manifestation do not coincide. "All science would be superfluous if the outward appearance and the essence of things directly coincided (Marx)." Indeed, if things were in fact what they appear to us in direct experience, then simple registration of phenomena, simple empirical establishment of their connection, direct experience, and common sense would be perfectly sufficient for knowledge. Scientific research is therefore a necessary means of understanding reality where forms of manifestation and the substance of things do not directly coincide[8].

Pedology is at the present time undergoing the same transition from a purely descriptive, empirical, phenomenological analysis of the study of phenomena to disclosing their inner essence, just as the biological and medical sciences once did. In the same way that botanists of old used to systematize and classify plants according to the similarity of external traits (the form of the leaf, the color of the flower), pedology not too long ago announced that its main objective was the study of symptoms, of external traits, and of the different individual epochs, stages, and phases of child development. A symptom signifies a trait.

To say that pedology studies the symptomatic complexes that distinguish epochs, phases, and stages of child development (Blonsky) means to say that it studies the traits of child development. If the study of external features directly coincided with the study of child development itself, then pedology, as a science, would be unnecessary. In essence, there can be no science in general which studies traits of a process as such, in themselves. In the end, pedology studies child development, benefitting from the analysis of separate traits, symptoms, and their complexes, but the task of pedology consists of this: exploring what lies under these traits and what causes them, that is, the very process of child development in its inner laws.

In relation to the problem of periodization of child ages that interests us, this means that we should move away from all attempts at symptomatic classification [of age and proceed to classification[9]] based on the inner nature of the process under study.

With this, we may complete the consideration of the second group and proceed to the **third**, which is something like a stage of transition toward a truly scientific periodization of child psychology. The essential trait that distinguishes all of the

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[8] The *Collected Works* version of this text ends this paragraph with the following sentence: "At present, psychology is moving from a purely descriptive, empirical and phenomenological study of phenomena to disclosing their essence." (Vygotsky, 1998: 189). But in the *Lectures on Pedology*, this sentence appears at the beginning of the next paragraph, and it is about "pedology" not "psychology." It is fairly easy to understand why the Soviet editors of the *Collected Works* would change the banned word "pedology" into "psychology," but it is not easy to see why, having done that, they wished to transfer it to the previous paragraph.

[9] G. Korotaeva, the editor of the *Lectures on Pedology*, adds a footnote: В стенограмме отсутствует, that is, "left out in the stenogramme."

theories in this group is an attempt to break away from symptomatic and descriptive divisions of childhood into separate epochs and to make a division based on the essential characteristics of child development. However, all of these attempts correctly set out the task rather than carry it out. They always appear to hesitate over the decision, never going through to the end with it, and show their inadequacy when they attempt to address thoroughly the problem of periodization. The fateful obstacle in the path turns out to be for them the methodological difficulties that arise from an antidialectical and dualistic conception of child development, which does not allow them to consider the process of child development as a unified process of self-development.

One example is Gesell's attempt to construct a periodization of child development from the changes in the internal rhythm and tempo, from determination of the "current amount of development." Starting from the mostly correct observation outlined above of the changes in the dynamic rhythm of development with age, Gesell proceeds to the division of childhood into separate rhythmical and dynamic **periods or waves of development**, internally united by **a consistent tempo** persisting through this period and delimited from other periods by a clear change in tempo.

Gesell presents the whole dynamics of child development as a process of continuous **slowing** of growth, so that it is joined to that group of modern pedological theories which, in his words, make early childhood the supreme authority for the understanding of the personality and its history. The most important and significant development of the child, for Gesell, is in the early years and even in the first months of his life. All subsequent development, taken as a whole, is not worth the very first act of this drama, rich in content to the utmost extent.

Where does this delusion come from? Evidently, it must arise of necessity from the evolutionary conception of child development upon which Gesell depends. If it is true that in development nothing new appears, that development does not proceed through qualitative changes but only through growth and through increase of what was given at the beginning, then there is no other conclusion to draw than this one upon which Gesell bases his conception. In fact, development is not confined to the scheme of "more or less" but is characterized in the first place by the presence of qualitatively new formations, which are subordinated to their own rhythm and which require their own specific measurements in each case. It is true that in early ages we observe the maximal tempo of development of those premises which bring about all the further development of the child. We know that the basic organs and functions mature earlier than the higher ones, but it would be incorrect to assume that all of development is limited to the further growth of these basic elementary functions constituting the prerequisite for the maturation of higher aspects of personality. If we take the higher aspects of the personality, the result would be the opposite: the rhythm and tempo of their development will be minimal in the first acts of the drama of development and maximal in its finale.

We have brought up the theory of Gesell as one instance of those halfway attempts at periodization which we have assigned to the third group, those which stop halfway in the transition from a symptomatic to an essential separation of ages. Also in this group is a scheme proposed by Kroh, which distinguishes between two

main periods of child development (before and after three years of age) from the point of view of the relationship in which the development of child and his upbringing and learning-teaching are found. At three years, the child becomes amenable to teaching, and he enters his first school. The type of child development and its inner structuration depend upon this change. But while Kroh, having doubtlessly put his finger on an essential moment in child development, accepts a change in the very type of the interrelationship between the child and the surrounding milieu in the transition from age to age, he still remains entirely on the ground of evolutionism and therefore turns out to be helpless to solve the problem as a whole, just as throughout the period of child development after three years he cannot find an equivalent value for the changes in the type and internal structure of development which might serve to further periodize child age.[10]

To this group belongs the theory of Bühler,[11] which handles child development as a process which is unified and linked, but divided into phases. What is valuable in this theory is the attempt to distinguish between individual phases from the point of view of something new that occurs in a given period of development and that which cannot be reduced to a simple change from a previous level. In this way in the schema the abstract and formalistic character of the purely quantitative conception of Gesell is overcome. But this theory also divides the phases of child development empirically, mainly on the basis of the statistical evaluation of the various traits which are not present in each phase.

We have not, I think, undertaken this long journey into a critical analysis of the main theories in the periodization of childhood in vain. Our aim was to study the history of the scientific understanding of the problem in pedology, to show how it has unfolded scientifically, and to show how a correct division might be attained.

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[10] Gesell's periodization was empiricist: it was based on measurable features of the very young child, and that is why it orients so heavily to early childhood. Kroh's periodization is, in some ways, the very opposite: it is teleological, based on the future trainability of the child. But Kroh's trainability is gradualistic and his theory of development is evolutionistic, so he cannot further differentiate the period after the key turning point at three that he has correctly identified. Both Gesell and Kroh are "half-hearted," but their hearts belong to different halves of the child's development.

[11] Karl Bühler (1879–1963) was a student of Oswald Külpe and later a teacher of Karl Popper. He was a major influence on Habermas and also, to a lesser extent, on Halliday. Bühler was a central figure in the Würzburg school of psychologists that arose in rebellion against the idea, of their teacher Wilhelm Wundt, that only lower psychological processes could be studied in a laboratory. The Würzburgers recognized that a successful psychology could not fail to study higher processes, including thinking, and they denied that these higher processes could be reduced to mental images. All this they shared with Vygotsky. However, unlike Vygotsky, the Würzburgers (including Max Wertheimer, Kurt Koffka, and Wolfgang Köhler) saw no special role for language in thinking and no qualitative distinction between verbal thinking and other kinds. Vygotsky says that Bühler's theory divides development into phases, but nevertheless is able to take the process as a unified whole. Even better, it can characterize the phases according to what is qualitatively new, and not simply according to what has quantitatively grown. So, what is missing from Bühler's theory? Vygotsky says that it is empirical—once again, it is based on observations and statistical regularities rather than directly upon comparing the phases and stages of development itself. Because of this, Bühler's theory cannot distinguish between critical and noncritical periods of development.

We can now, summarizing all that has been said, formulate the basic components of the important requirements for a scientific classification of ages.

As we have seen, it cannot be based on a chronological division of child development. Nor is it possible to construct a child development scheme by borrowing from neighboring fields, no matter how closely they may be linked to the development of the child. This classification, moreover, cannot be arbitrary, conventional, or subjective if it is to meet scientific requirements. It must abandon all attempts to secure a single criterion for distinguishing the segments of all ages. It cannot, in general, rely on any single trait. More broadly speaking, it must abandon the principle of symptoms fully and completely. Nevertheless, based on the objective internal laws of the development process itself, it cannot find the correct solution of the problem without abandoning evolutionistic and dualistic conceptions. Otherwise, it will inevitably run the risk of sharing the fate of those theories which we reviewed at the end of our analysis.

What are the basic principles for constructing this classification?

We already know where to find the principal bases of a periodization of childhood. Only the internal changes in the course of development itself, only the breaks and turns in its direction of flow, can give us a sound basis for determining the basic epochs of constructing the personality of the child which we call ages. We have already discussed in the chapter dealing with the problem of development of how all the theories of child development at present may be reduced to two conceptualizations. According to one of them—and this is the metaphysical conceptualization—development is nothing other than realization, modification, and combination of propensities. In development, nothing new emerges. Throughout its duration, there arise only growing, bifurcating, and regrouping of all of those moments that were already given at the beginning.

According to the second conceptualization, development is an unceasing process of self-propulsion, characterized in the first instance by the process of constructing a personality through the unceasing emergence and formation of what is new and did not exist in previously undertaken steps. This point of view includes in development something which is of the utmost importance for the dialectical understanding of this process. In its turn it allows the development of both an idealistic and a materialistic theory of the construction of the personality. In the first case, it finds its incarnation in theories of creative evolution directed by an autonomous, internal, *élan vital* which is committed to the self-development of personality, a will to self-establishment and self-perfection. In the second case, it leads to a materialist understanding of the dialectical process of development characterized by the unity of the physical and psychological aspects of child development, a unity of the social and the personal in the ascent of the child through each stage of his development.

Evidently, with this last point of view, there is and there can be no other criteria for identifying the concrete epochs or ages of child development, besides those **neoformations** that characterize the essence itself of each age as a new epoch or a new stage in child development. By these age **neoformations, we understand a new type of construction of the personality and its activities, the physical and social changes which occur in a given stage for the first time and which in an**

important and basic way define the consciousness of the child in relation to his environment, his interior and exterior life, and the course of his development during a given period.

Applying this criterion, pedology responds to all of the requirements that we have listed above as historically prepared by the course of development of scientific knowledge. It is not difficult to see that in this case the resolution of the problem of dividing the process of development into individual epochs is methodologically solved exactly as it is in other sciences which have as their object one or another form of development. So, each new historical epoch is determined by a new social structure which occurs in this epoch for the first time and which yields up a qualitatively distinct expression by the general laws of historical development (feudalism, capitalism, socialism). So too biology defines each epoch of evolutionary development from the point of view of an organic species that first arose in this period.

But for the scientific definition of the principles of periodization of child development this was not enough by itself. Included as well must be the dynamics of development, the dynamics of the transition from one age to another. Going by the path of purely empirical investigation, pedology established that age-related changes can take place acutely and critically, or they can also take place gradually and lytically. We shall use the terms epochs and stages for times of the child's life separated from each other by crises which are either more (epochs) or less (stages) acute. We shall likewise use the term phases for the times of the child's life that are separated from each other one from each other in a diffusive way (Blonsky). [12]

In reality, the factual study of child development and the observation of its course inevitably lead to the conclusion that development in different periods takes on different characteristics. In not a few epochs or ages, development is characterized by a slow, incrementally evolutionary, diffuse course. These ages are predominantly those of smooth, gradual, often imperceptible, and internal changes in the child's personality, brought about by way of accumulating apparently insignificant "molecular" motions. Here over a more or less extended period of time usually lasting several years, no fundamental or catastrophic shifts or alterations reconstruct the whole personality of the child. More or less significant changes in the child's

[12] The term Vygotsky uses here and in the next paragraph is литический liticheskiy ("lytic"). This term comes from the ancient Greek word λυτικός which means a purging of poisons or a laxative for constipation. It is variously used in chemistry to mean soluble or degradable and in biology to mean the breaking up of an organism (e.g., the breakup of a cell which has been attacked by a virus). It is sometimes (e.g., in Vygotsky's English *Collected Works*) translated literally as "lytic." But none of this seems to convey Vygotsky's meaning here.

Vygotsky appears to mean that in some epochs (infancy, preschool, school age, and adolescence) change is diffuse, and changes are diffused throughout the whole system of physical and psychological functions. For this reason, these changes do not appear to have a clear focal moment as they do during a crisis. So for example, infancy does not have a clear peak as the crisis of birth does. Less obviously, preschool does not have a peak like the "terrible twos" we find just before it or the sudden transition to primary school we find after preschool age. Similarly, puberty appears to have a clear critical peak at or around thirteen years of age, but adolescence itself is a more diffuse set of changes involving general-anatomical changes in weight and height, psychosexual maturation, and above all sociocultural coming of age.

personality occur in these ages only through or as a result of an extended course of a "molecular" development process. They emerge and become accessible to direct observation only as the conclusion of an extended process of latent development. "As this process takes place entirely in a hidden form, the moment of detection often produces impressions full of surprise for the observer. The child can do something which does not yet, apparently, fall within the circle of his interests; it simply occurs to him." (Stern)

In these ages, which could be called, due to the inherent character of their development, relatively steady or stable ages, development takes place in the main due to microscopic changes occurring daily in the personality of the child which accumulate to a certain point, and then, in a single leap, appear as a given age neoformation. These ages take up, if we judge purely chronologically, the major part of childhood. This is the age of maturation in the sense that it is in these ages that the child acquires the aspects and properties of his personality that bring him to maturity. If, then, within these ages development goes on as if by some underground path, it is no wonder that when we compare the child at the beginning and at the end of these clearly stable ages, the vast change that has taken place in the personality, the significant progress in its maturation, clearly stands out and even strikes the eye.

These ages and this type of child development have been studied more completely than ages characterized by a different course of child development. These latter were discovered by empirical paths, one by one, in a haphazard manner, and many have still not been shown by the majority of investigators in systems and are not included in the general periodization of child development. Many authors have even doubted the inner necessity of their existence. Many are inclined to take them as "maladies" of development, as deviations of the process from the normal path, rather than as internally necessary periods of child development. Almost none of the bourgeois investigators have realized their theoretical significance, and the attempt in our book at their systematization, at their theoretical interpretation, and at their inclusion in the general scheme of child development for this reason should be seen as perhaps the first attempt of this kind.

However, no researcher can deny the fact of the existence of these unique periods in child development and even the most nondialectically oriented authors acknowledge the necessity of allowing, at least as a hypothesis, the presence of crises in the development of the child, even in early childhood (Stern).

These ages are characterized by a purely factual aspect of the matter, the inverse of the relationship we have just described as steady or stable age. Here, in these periods, in a relatively short time of several months, years, or at most two years, there are sharply concentrated changes and alterations, shifts and breaks in the personality of the child of capital importance. The child changes the main features of his personality as a whole before our very eyes and in a very short period of time. Development takes rapid, speedy, alterations of its course that are sometimes catastrophic in character. There occurs in a short period, a radical and fundamental restructuring of the whole interior aspect of the personality of the child and the whole system of its relationship with the surrounding environment. Development in these periods resembles a revolutionary rather than evolutionary course of events,

both in the tempo of changes taking place and in the significance of the events that occur. This—the age of fractures and ruptures—takes place at turning points in the history of child development. The flow of development takes the form of acute crisis.[13]

These ages, which are usually called, because of the intrinsic character of development, critical ages, in contrast to the **stable** ages, have a series of features that make the correct theoretical understanding of them extremely problematic.

The first of these features consists in this: that the borders separating the beginning and the end of the crisis from the ages that are adjacent are delineated in a manner that is vague to the highest degree. The crisis grows imperceptibly; it is difficult to define the precise moment of its beginning and its ending. It simply flows imperceptibly forth or shades into the subsequent age as it did from the preceding one. On the other hand, it is characterized by a sharp intensification of the crisis usually occurring around the middle of the age period. Such a culminating point, at which the critical course of development reaches its apogee, characterizes all critical ages without exception and sharply distinguishes them from the stable epochs of child development.

Next, the second feature of these ages consists in what is the starting point for their empirical study. A significant number of children, undergoing critical periods of development, appear to be difficult to teach. Children are apt to drop out of the system of pedagogical influence which up to now has provided the normal course of enculturation and teaching-and-learning. At the age of schooling, during critical periods, a decline in school performance is apparent, alongside a slackening of interest in school tasks and generally decreased work productivity. With all critical ages, development is often accompanied by more or less sharp conflicts with the milieu. With all critical ages, the inner life of the child is often linked with disorders and painful experiences, with internal conflicts, and with the overcoming of previously unencountered problems. As with teething, crises of child development are often accompanied by pain and not a few general disorders in the life activities of the child.

It is true that it is far from always that this happens. In different children, the critical age will unfold differently. There exists far more variation here in the unfolding of the crisis, even among children who are most similar in developmental type and in the social situation of their development, than in stable periods. In many children, there is never any clearly expressed unteachability or reduction of school achievement at this age. The large range of variation in the unfolding of these ages

[13] There is some disagreement between the Korotaeva version, which we use here, and the version in the *Collected Works*. The Korotaeva version has Это – возраста перелома и перехода, повторные пункты в истории развития ребенка ("This—the age of fractures and ruptures, repeated points in the history of child development," 2001: 172). But the *Collected Works* version is Это поворотные пункты в детском развитии ("These are turning points in child development" 1984: 249). It is quite possible, as the editors of the Soviet *Collected Works* appear to have thought, that there is a transcription error here and that the word повторные ("repeated") should actually be поворотные ("turning"). But it also seems possible that Vygotsky wants to stress the repetitive nature of crises.

in different children and the striking influence of external and internal conditions on the unfolding of the crisis itself are so significant and large that it gives rise to many authors raising the question of whether or not the general crisis of child development is purely the product of adverse external effects upon the child's condition alone and whether or not they should therefore be considered an exception rather than a rule in the history of child development (Busemann, etc.).

External conditions, it stands to reason, determine the concrete character of the appearance and unfolding of critical periods, differing in different children; they are responsible for all of the varied and multiform pictures of the various options in the critical age which we discussed above. But it is not to the presence or absence of any specific external conditions but rather to the internal logic of the process of development itself that the necessity of the critical, crucial periods of child development is due. Of this, we are convinced by the study of comparative indices.

Thus, if we move from an **absolute** standard of unteachability to a relative one, based on a comparison of the ease or difficulty of bringing up the child in the stable period before the crisis or the one after the crisis with the degree of his unteachability during the time of crisis, it is impossible not to see that each child in this age is **relatively difficult** when compared **with himself in the adjacent stable age.** In the same way, if we move from **an absolute evaluation** of school success to a relative one based on a comparison of the tempo of progress of the same child during the course of teaching and learning in different age periods, it is impossible not to see that each child in a period of crisis becomes a **relatively** poor student, that is, reduces the tempo of his progress in school learning in comparison to the tempo which characterized his progress during the stable period. The reliability of these relative indices can hardly be seriously placed in doubt: after all, we can only form a correct appraisal of the changes which come with this or that age if we compare the child at a given age with himself at another segment of his development.

Thirdly, and this is perhaps, the feature of the critical ages that is most important in relation to theory, the most obscure, the most unclear, and therefore the most difficult for the correct understanding of nature of child development during these periods, there is the negative character of the development which distinguishes these ages. All who write about these unique periods of child development have noted in the first place as their most striking and most eye-catching feature the circumstance that development in this period, in contrast to the stable ages, accomplishes more destructive than constructive work. The progressive direction of development, pushing forward the formation of the child's personality, pushing him up the ladder of development, the continuous and unbroken construction of the new which was so distinctly carried forward in all of the stable ages as the basic content of child development, now, in the period of crisis, seems to fade away and be shut off, temporarily suspended, quitting the stage, and disappearing from the sight of the observer. In place of these constructive processes of development in the first plane are processes of dying away, withering, and decay of what was formed in the preceding stage and which distinguished a child of that age. The child in these periods does not so much acquire as discard much of what was previously acquired.

These ages are not marked by the advancing of emerging new interests in the child, new aspirations, new types of activity, and new forms of inner life. The child coming into these periods is instead characterized by the contrary; he loses the interest which yesterday still provided the guiding influence for all of his activities. The very activity that not long ago still absorbed the greater part of his time and attention appears to be frozen: the forms of external relations and inner life established previously appear as if abandoned. Tolstoy referred figuratively but precisely to one of these critical periods of child development as "the desert of adolescence."

All of this is what we have in view in the first place when we speak of the negative character of the critical periods.

By this what is intended is to convey the idea that the development in these periods appears to change its affirmative, positive, constructive meaning, making the observer characterize these periods in a predominantly unfavorable and negative manner. Many authors even hold that this negative content completely exhausts the sense of development in its critical periods. This conviction is expressed by the very names that have been laid down for the critical ages: one—the negative phase; another—the phase of obstinacy, etc.

As was already stated above, the conception of the separate critical ages has been introduced into science in an empirical way, at random, or, rather, in disarray, in isolation from general development and in one form or another. Before all of the others came the discovery and description of **the crisis at 7–8** years. It was noted in practical work and in scientific observation that the seventh year of life in the child consists of a transition between the preschool and juvenile periods. A child of 7–8 years of age is already no longer a preschooler but is not yet a youngster. The seven-year-old is an utterly unique being, distinct from a preschooler and from a school child. In view of this, the seven-year-old is difficult, in relation to enculturation. The negative content of this age is manifest first of all with respect to a disruption in psychological equilibrium, with respect to volatility in volition, and in a reduced ability to defer, and instability of mood (Vasileysky[14]).

Later came the discovery and description of **the crisis at three**, referred to by many authors as the phase of obstinacy and stubbornness. In this period, the child's personality undergoes abrupt and drastic changes in a limited period of time. The child becomes difficult to teach. He displays obstinacy, stubbornness,

[14] Serafim Mikhailovich Vasileysky (Серафим Михайлович Василейский, 1888–1961) was a student of Wilhelm Wundt and the philosopher J. Vokelt (the Nazi psychologist Hans Volkelt's father). Returning to Russia during the war and the revolution, he became a professor in Samara and then in Vitebsk. In the 1920s, he worked in "psychotechnical selection" (that is, looking for gifted children) and thus became involved in pedology, becoming Dean of the School of Education in Nizhny Novgorod Pedagogical Institute. In 1939, he was fired for smuggling "pedological distortions" into courses in child psychology. He went into linguistics instead, and became a professor at the Kirov Pedogogical Institute in Leningrad. In 1941 (i.e., during the war), he was Dean of the Faculty of Languages there. When he later tried to take his Ph.D. examinations, he was failed, probably because of his history in pedology. After the war he continued to work in testing, but when he tried to publish his dissertation on the psychology of scientific invention as a book, it was refused.

capriciousness, and willfulness. Internal and external conflicts often accompany this whole period. A strong emphasis on his own "I" leads to an almost asocial character to this child, and the child may consciously set himself apart from other people and be antagonistic to them (Stern).

Still later, the crisis at **thirteen years**, which was described as the negative phase of the age of sexual maturation, was discovered and studied. As indicated by the very name, the negative content of this crisis appears in this period in the first plane and due to a superficial observation seems to exhaust the sense of development in this period. Achievement decreases, efficiency drops, disharmony in the internal structure of the personality, collapse and death of the established system of interests, negative, protesting character of the whole of behavior—all this was characterized by Kroh as an entire period of disorientation in the internal and external relationships, leading to this: hardly ever in the entire process of development is the human "I" and the world more separated than in this period. This is what gave rise to Tolstoy calling this period "the desert of adolescence."

Finally, what has been theoretically acknowledged comparatively recently is the proposition, which for a long time has been well studied from the factual aspect, that the transition from infancy to early childhood age that occurs around one year of life is, in essence, also a critical period of development characterized by all of the distinguishing features which are familiar to us in the general description of this particular form of development.

In order to obtain a completely finalized chain of the critical ages, we would propose to include in it as the initial link what is, perhaps, the most unique of all the periods of child development, which is known as **that of the newborn**. This long-known and well-studied period stands apart from other ages in the system and is, by its very nature, perhaps, the most striking and indubitable crisis in child development. Catastrophic changes and leaps in the whole course of development in the act of birth, when the newborn, rapidly, enters critically into a completely new environment (Blonsky), transform the whole structure and the course of his life and delimit the beginning period of intrauterine[15] development as one of the most acute and undoubtedly critical ages.

All of the critical ages, listed above, occupy a very specific place in development, strictly regularly located between two stable periods of development and constituting something like epochs of transition between one period and another. The crisis of the neonate divides the embryological period of child development from the period of infancy. The crisis at one year divides infancy from early childhood. The crisis at three years constitutes the transition from early childhood to preschool. The crisis at seven years constitutes a connecting nexus between preschool and school age. Finally, the crisis of thirteen years coincides with the break in development with the transition between school age and the age of puberty.

[15] This appears to be a mistake, either by the stenographer or by Vygotsky himself. Vygotsky appears to mean "extra-uterine," or perhaps he meant to characterize the crisis of birth as the ending period of intrauterine development.

In this way, we have revealed a completely regular, profoundly meaningful, and clear picture. Critical ages are interleaved with stable ages. They constitute watersheds, turning points, once again confirming that the development of the child is a dialectical process in which the transition from one state to another is carried out not in an evolutionary but in a revolutionary way. Even if the critical ages had not been discovered empirically, the concept of them should be introduced into the schema of development on the basis of theoretical analysis. But now it is only left to the theory to acknowledge and interpret what has already been established through empirical research.

Critical ages do not have clear and well-defined borders; they emanate imperceptibly from the preceding age and just as imperceptibly flow into the subsequent one; they most vividly emerge only in the culminating point or peak of the crisis. This is due to the very nature of these age periods, as well as to the circumstance that in these crucial moments of development, the child becomes relatively difficult to teach due to the fact that the change in the educational system applicable to the child has not kept pace with the rapid changes in the child's personality, and the fact that the pedagogy of the critical ages is least developed in practical and theoretical relation to major all science about enculturation.

The negative content of these critical ages comes out very clearly in these periods. We know, however, that there is a general law, according to which any development is closely intertwined with a process of reverse development. In the expression of Bal[dwin],[16] every evolution is at the same time an involution, as all living is at the same time dying (Engels), and so it is precisely development, as one of the very complex forms of life, which must necessarily include in itself the process of decay and dying. Any appearance of a new in development must imply a dying away of the old. The transition to a new age is always marked by the twilight of the former age. These processes of involution and reverse development, and the demise of the old are concentrated precisely at the critical age.

Yet, it would be a colossal delusion to suppose that this exhausts the value of the critical ages. Development never ceases its permanent work of creation nor does it

[16] In some places, either the stenographer or Vygotsky himself apparently abbreviates. So, the name of Baldwin in the manuscript appears as "Bal", which is completed by Korotaeva as "Baldwin." Vygotsky refers to *Mental Development in the Child and the Race*, a 1906 book by James Mark Baldwin, in which Baldwin discusses the idea that Vygotsky was later to develop an "analysis into units" in this way:

"Instead of a fixed substance, we have the conception of a growing, developing activity. Functional psychology succeeds faculty psychology. Instead of beginning with the most elaborate exhibition of this growth and development, we shall find most instruction in the simplest activity that is at the same time the same activity. Development is a process of involution as well as of evolution, and the elements come to be hidden under the forms of complexity which they build up."

Vygotsky also refers in passing to a favorite quotation from Engels' unfinished *Dialectics of Nature*, p. 295:

"Life and death. Already no physiology is held to be scientific if it does not consider death as an essential element of life (note, Hegel, *Enzyklopadie*, I, pp. 152–53),[246] the negation of life as being essentially contained in life itself, so that life is always thought of in relation to its necessary result, death, which is always contained in it in germ."

replace it with nothing but destruction and devastation. In the critical periods, we observe not only the constructive work of development but, more than that, the processes of involution, so clearly expressed in this age, are themselves subordinated to the processes of establishing a positive personality, found from them in direct dependency, forming an indivisible whole. The destructive work of development occurs in these periods only in response to the need for and to the extent of the development of new properties and new traits of the personality.

Factual studies show that the negative content of development in these ages constitutes only the reverse, or the shadowy, side of **positive changes in the personality making up the main chapters and the basic sense of each critical age.** Thus, in relation to the seven-year crisis, it has been noted by all researchers that, alongside the negative symptoms of this age there are found a series of great achievements. In this period, the activities of inner construction are found: the child dreams, imagines, and resolves questions about being and the origins of life. What is changed in this period is the internal structure of the child's personality. It is predominantly concerned with works that originate within him, the cause of which is found within the self. The autonomy of the child expands; his relations with other children are transformed. There are increasing instinctual contradictions of direct and immediate impact upon the child, there are new forms of relationships being outlined in his relations to the phenomena of nature, and in his work there begins to prevail study of an independent character and autonomous discovery of truth (Schleger).[17] It is easy to see even from this brief and short list that during the crisis at seven years, there is a complete restructuring of the child's personality, full of positive meaning, and of the relationship to the external reality and to the social environment.

We see the same thing in the crisis at three. The positive meaning of this age in relation to the development of the personality has the effect that during the process of the crisis there arise new characteristics and elements of the personality unseen before. "The child is aware and feels himself a personality in a world of objects." (Köhler). It has been observed and factually established that wherever the crisis at three years is for any reason weak or unexpressed, it leads to a grave delay in the development of the affective and volitional side of the child's personality in subsequent ages. This constitutes another proof of the positive meaning of this crisis.

The same may be said of the crisis at thirteen, in which, as a rule, according to Sterzinger[18] and Kroh, the biggest reduction in the capability and productivity of mental work in the student has its reason in the circumstance that here arises changes

[17] Louise Karlovna Schleger (Шлегер, Луиза Карловна. 1863–1942) was a pioneer in early childhood and elementary education in prerevolutionary Russia. She founded popular kindergartens and an experimental primary school in Moscow with E.Y. Fortunatova, which specialized in discovery learning, especially scientific discovery.

[18] Othmar Hugo Sterzinger (1879–1944), an Austrian psychologist, a student of Oswald Külpe. He wrote very widely on subjects as different as right-handedness and left-handedness in amputees, the human response to musical intervals, the ability to create poetic images, and the problems that teachers have teaching 14- and 15-year-olds. Vygotsky mentions his work in *Pedology of the Adolescent* in connection with the decline in productivity in the crisis years.

from the fixation[19] upon visuals to that upon understandings and deductions. This transition to a new, higher form of intellectual activity is accompanied by a temporary decline in performance. What Kroh notes in relation to this decline in achievement is confirmed by all the other negative symptoms of this crisis: in every negative symptom, some positive content is hidden, usually consisting of a transition to some new and higher form.

Finally, no doubts exist about the positive content of development in the crisis at one year. Here, negative symptoms are so obviously and directly linked to positive achievements which the child accomplishes during the crisis—learning to stand on his feet and mastering speech—that pointing out the reductions of all this crisis to only the destructive work of development would be to break down an open door, so obviously do the positive functions of this crisis appear revealed.

The same thing entirely may be attributed to the crisis of the neonate. In this first period, the child is degraded even in relation to his physical development. In the first few days after birth, a physiological decline in the average weight of the neonate is observed. The catastrophe of birth and the difficulty of adjusting to a new form of life make such high demands on the viability of the child and such a complete change in the whole of his life activity that "(n)ever does man stand so close to death as in the hours of his birth" (Blonsky) and in the newborn. Nevertheless, this period, more than any of the subsequent crises, reveals the fact that development is a process of the formation and appearance of the new. We can say without any exaggeration that all with which we meet in human development during these days and weeks is one continuous neoformation.

The very symptoms of an adverse character that characterize the negative content of this period flow from the difficulties arising from the first appearance of new higher, increasingly complex forms of life.

The most significant content in the age of crisis consists of the appearance of neoformations. But the neoformations of critical ages, as the concrete research of each similar individual period reveals, are highly distinctive and specific in their formation. The main and most substantial difference from neoformations in the stable ages consists in their **transitional** character. This means that they are not preserved as they appear, as they emerge in the critical period, in subsequent ages, and are not included as a necessary addendum in the integral structure of the future personality. They are not preserved as such in the next age, not linked by any direct link to subsequent development, and do not constitute a basis for its subsequent direction. As such, they die off, as if subsumed by the neoformations of the

[19] Vygotsky writes changes in установки (ustanovki), which means something like an "installation," or a "fixture." We have chosen to translate it as "fixation," which in English suggests both and can also refer to a focus of attention. Vygotsky probably has in mind the work of his contemporary Uznadze, a Georgian psychologist who he references elsewhere (e.g., Chapter 5 of *Thinking and Speech*). Uznadze was a student of the Leipzig school of Ach and Reimat who returned to Russia to work in pedology: his major contribution was the idea of "fixations" which acted as "determining tendencies" in tasks that had definite developmental value (e.g., the transition from learning by seeing to learning by thinking).

subsequent stable age, included in them as a subordinated instant,[20] not having an independent existence, dissolved in them, altering them and transforming them, so that without a special or profound analysis it often proves impossible to detect the presence of this transformed formation of the critical age in the accomplishments of a subsequent stable age. As such, these critical neoformations die with the beginning of the subsequent age, but continue to exist in a latent form inside it, not living an independent life but merely participating in a subterranean path of development which in the stable age, as we have seen, leads to the sudden appearance of neoformations.

The concrete content filling these general laws of the neoformations of the stable and critical ages is not included in the tasks of the present chapter, as it should constitute the content of each of the subsequent chapters of the present book,[21] devoted to consideration of each individual age. The task of this chapter is only the preliminary sketch and overall scheme of the periodization of child development, an acquaintance with the basic and most general laws of construction, and the unfolding of ages as determinate, concrete epochs in child development. All that has been said above allows us to proceed directly to the exposition of this scheme.

The general features of this scheme have already quite clearly been sketched out before us in the course of our exposition; it is only necessary for us to bring them together in order to then be able to formulate the basic scheme of periods of child development itself. We already know that the neoformation shall serve as the basic criterion of the division of child development into separate ages in our scheme. We know, furthermore, that the sequence of age periods should in this scheme be determined by the alternation of stable and critical periods. We must still point out the defining characteristics of the one and the other. The stable ages possessing a more or less distinct range are defined by moments of commencement and ending; it is correct, as is customary in pedology, to define precisely this range as established by periods of commencement and ending of a given age. Critical ages due to their different character and passing could be more correctly defined by the principle that from the different culminating points or critical peaks we allow for the beginning of the crisis a period of half a year into the previous age and an ending point of around half a year into the subsequent one.

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[20] A "subordinated instant" means a moment that cannot be separated from the following moment. Take, for example, the independent, but largely instinctual, mental life that is the transitional neoformation of birth; it does not disappear in infancy, when the child begins to learn through imitation. But the feeding instinct which drove behavior in birth are now subordinated moments of a learned routine. Similarly, the proto-speech of the crisis at once does not entirely disappear when the child learns speech properly: it continues as the subordinated instant of intonation and stress. But there is no intonation or stress in speech proper without vocabulary and grammar.

[21] This is a clear reference to the fact that the present text was not simply intended as part of a course of lectures but did indeed form the "problem and approach" chapter of an unfinished monograph. Given the criticisms that Vygotsky has of the extant textbooks on pedology by Blonsky and Zalkind, and his insistence on carrying out positive, constructive work rather than simple negation and destruction, this should not surprise us.

Next, detailed features within the division into stable and critical ages should be pointed out. Whereas the stable ages, as it has been established by empirical research, have a clearly expressed two-part structure, first and second (or early and late stage of a given age), the critical ages, due to the specificity of their course, have a pronounced three-part structure, made up of three logically interconnected transitory phases: precritical, critical, and postcritical.

Finally, the substantial differences, those which distinguish the scheme of ages in child development proposed below from other schemes for determining the basic periods of child development that are near to it, must be pointed out. New in this scheme, in addition to the basic child development concept of using the principle of the emergent neoformations as a criterion for the division into ages, are the following moments: (1) the introduction of critical ages in the scheme for periodization, (2) the exclusion from this scheme of the period of embryological development of the child, (3) the exclusion from the period of development usually called youth, covering the ages from 17 to 18 years of age up until final maturity, and (4) the inclusion of sexual maturation among the number of stable, steady, and not in the critical, ages.

We exclude embryonal child development from our scheme of ages in child development according to the simple principle that it, first of all, cannot be considered of the same order as the extra-uterine development of the child as a social being, as one of the age periods in the history of the development of the child's personality along with the other periods, because it represents in itself a completely distinct type of development subject to completely different laws other than those which begin with the moment of birth and the development of the child's personality; and, secondly, because it is studied by itself in the developed science of embryology, which cannot be regarded as a component chapter in pedology. Pedology must take into account the laws and data of embryological development of the child concerning the course of this period and the way in which they affect the course of postuterine development, but pedology does not include in itself an embryological viewpoint, just as it is necessary to take into account the laws and data of genetics, that is, the science of heredity, but this does not transform genetics into one of the chapters of pedology. Pedology does not study heredity or uterine development as such (these are the subject of special sciences) but only the role and influence of heredity and uterine development in the course of the social development of the child. Therefore, knowledge of elements of genetics and embryology, along with knowledge of the elements of general biology, anatomy, physiology, and psychology, are prerequisites for the study of pedology.

In addition, youth is removed by us from the scheme of age periods in child development on the grounds that a theoretical study has also made us reluctant to extend the period of child development excessively to include the first twenty-five years of life (Blonsky). The age of youth should be seen rather as the infancy of the mature age than as the senility of the childhood periods of development. By the basic laws and by the very sense of the age period from 18 to 25 years, it is, rather, the initial link in the chain of mature ages than the final link in the chain of periods

of child development. It is hard to imagine that human development which has reached the age of legal majority may be subject to the laws of child development.[22]

Finally, the inclusion of puberty among the number of stable ages[23] is a necessary logical deduction from all of what we know about this age and what characterizes this period as a period of enormous increase in the development in the adolescent of higher syntheses which occur in the personality at this time. This follows as a necessary logical deduction from the whole critique in Soviet pedology that theories that reduce the period of sexual maturation to "normal pathology" (Homburger[24]) and to a profound internal crisis have been subjected to.

Thus, we may imagine a periodization of age periods in child development in the following form:

A scheme of periodization for child development

1. The Crisis of the Neonate
   (a) Precritical phase
   (b) Critical phase
   (c) Postcritical phase

[22] We have seen that Vygotsky has been quite critical in this chapter of the work of his friend and colleague Blonsky. At the period when Vygotsky was writing this, Blonsky was leaving pedology and arguing for a much more biological approach to childhood, as Vygotsky pointed out earlier. At the same time, Blonsky, who was closely allied with Lenin's wife Krupskaya, defended the idea of labor schools, and therefore, the continuity between childhood and working life. Vygotsky was changing too, but in the other direction. For Vygotsky, the great drama of adolescence is a drama of speech and thinking, not simply sexual and work activity. This is why Vygotsky's periodization scheme is much closer to the periods of schooling as it existed in prerevolutionary Russia and in the later USSR of his time (with primary school beginning around 7 years old and high school finishing at 17).

[23] Vygotsky tells us that puberty is a stable period, not a crisis. He has several reasons for this. First of all, the period he is talking about lasts for four years (14–18). Secondly, it is a profoundly constructive period, since it sees the formation of true concepts (the "higher syntheses" that Vygotsky refers to here). But the third reason is the one he stresses in this paragraph, and it is more theoretical. In the early years of the Russian Revolution, Freudian theories were very popular with artists and intellectuals, even at the vanguard of the arts (e.g., Chagall's fascination with Freud's theory of dream) and in the Bolshevik Party (Trotsky was very sympathetic to Freudianism and believed it provided materialist foundations for psychology). Many psychologists, including Luria and Spielrein, became convinced Freudians. Not Vygotsky. Vygotsky found Freud's theories of child sexuality adult-centered—a projection of (male) adult interests back onto childhood. So, the idea that every male child suffered an Oedipal complex or a castration complex or some other form of "normal pathology" was heavily criticized on theoretical grounds: it was teleological, pansexual, and male centered. The justice of these criticisms is widely recognized today, even though hardly anyone remembers that they begin with Vygotsky, Blonsky, and Soviet pedology.

[24] August Homburger (1873–1930) was a German child psychiatrist. Born in Frankfurt, he studied the Babinski reflex and became interested in battle shock during the First World War. After the war, he began to study psychopathology in children. He wrote several books, including *Psychopatholgie des Kindes und Jugendalter*, and he was a theorist of play. Vygotsky credits him with the idea of "serious play."

2. The Age of Infancy (2 months to a year)
    (a) First stage: Early infancy
    (b) Second stage: Late infancy
3. The Crisis at One Year
    (a) Precritical phase
    (b) Critical phase
    (c) Postcritical phase
4. Early Childhood (one to three years)
    (a) First stage
    (b) Second stage
5. The Crisis at Three Years
    (a) Precritical phase
    (b) Critical phase
    (c) Postcritical phase
6. Preschool Age (3–7 years)
    (a) First stage: Early preschool age
    (b) Second stage: Late preschool age
7. The Crisis at Seven Years
    (a) Precritical phase
    (b) Critical phase
    (c) Postcritical phase
8. School Age (8–12 years)
    (a) First stage: Early school age
    (b) Second stage: Late school age
9. The Crisis at Thirteen Years
    (a) Precritical phase
    (b) Critical phase
    (c) Postcritical phase
10. The Age of Puberty (14–18 years)
    (a) First stage: Early age of puberty
    (b) Second stage: Late age of puberty
11. The Crisis at 17 Years
    a. Precritical phase
    b. Critical phase
    c. Postcritical phase

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