

Ontogeny and history The leading theories reconsidered

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In the period between 1800 and 1945 or 1970 leading scholars across the sciences based their theories on societal evolution on the comparison ontogeny / history and children / primitives. Although today's leading ideologies seem to have replaced the older approaches, there are some authors who assume that the older theories, widely spread over 150 years and supported by so many great scholars who are famous still today, have been more or less appropriate, whereas the currently leading ideologies tremendously block the advancement of sciences. In the same period when those philosophies as are leading today were conquering the spirit of our time, empirical research actually backed the cognitive-evolutionary theories and falsified both relativism and universalism. To my opinion, the recovery of humanities and social sciences has to be based on appropriate developmental approaches. Therefore I present and discuss the leading scholars who have most comprehensively earmarked the central argumentations, thus also reflecting the history of the developmental approach.

Keywords: anthropological stages, mental age, primitive mentality, historical psychology, Piagetian theory.

Introduction

The comparison between ontogenetic and historical developments goes back at least to scholars from the period of enlightenment. Georg W.F. Hegel resumed this idea in his "phenomenology", and one his most famous disciples, Ludwig Feuerbach (1985), in 1841 built his well-known theory of religion on it, maintaining that a childlike psyche, characterizing all pre-modern peoples, may have caused religion, whereas the industrialized populations surmount religion and establish the atheistic worldview due to their anthropological maturation and their entering of the stage of psychological adulthood.

The founder of sociology, Auguste Comte (1840), attributed childlike anthropological structures to all pre-modern populations and by the recent rise of adult psycho-cognitive structures identified the motor behind the emergence of modern society. The last representative of classical sociology, Norbert Elias, completely adhered to this idea, mainly following Comte's approach. His theory of civilization, published in 1937, based on the distinction between psycho- and sociogenesis, assumed that the history of interactions and institutions might be linked with the history of psyche, fostering each other to originate more civilized nations. Elias completely understood psychogenesis as an evolution of humankind from childlike anthropological structures to adult ones, suggesting that the rise of adult anthropological structures may have caused the modern civilizations.

Leonard Hobhouse (sociology), Karl Lamprecht (history), Hermann Schneider (ancient studies), Emma

Brunner-Traut (Egyptology), Edward Tylor (ethnology), Ernst Cassirer (philosophy), and others more or less followed this prime idea of psychogenesis. Many representatives of early developmental psychology such as Stanley Hall, James Mark Baldwin, Heinz Werner, William Stern, Jean Piaget, Wolfgang Zeininger, Felix Kruger, and others shared views in favour of the comparison ontogeny/history and child/ancient man. Many early psychoanalysts such as Carl Gustav Jung or Erich Neumann supported these ideas, too. In the past decades especially Christopher Hallpike (1979), Laura Ibarra (2007), Jurgen Habermas (1976), Georg Oesterdiekhoff (1997–2013), Charles Radding, and some others made corresponding contributions.

The comparison mentioned was not born but strengthened by the evolutionary theory of Charles Darwin. Developmental psychology and the idea of parallels between ontogeny and history partly originated from evolutionary theory, especially represented by scholars such as Ernst Haeckel, Pierre Janet, and Édouard Claparède. In the period especially between 1850 and 1950 (to a lesser degree until 1970 or even later) some scholars from numerous disciplines referred to this idea. Not all scholars but some of them understood that this idea might imply the recognition of the similarity of ancient man and children. In the era mentioned it was common or widespread to understand greater parts or all pre-modern populations as so-called "primitives" or some of them even as "savages". There was hardly any ethnologist or sociologist who denied using these terms. However, only minor parts of scientists identified primitiveness with childlike stages or primitives with children. Scientists spoke about primi-

tive thinking, primitive religion, and primitive societies but usually did not reduce primitive structures to childlike structures. Only some of them identified the core structures of primitives with childlike structures. Only this smaller section used child psychology as a basis to describe the thinking and behavior of primitives.

"The topos of the childlike nature of savages runs as a constant thread through 19th century literature and continues well into the 20th century. Numerous writers held to this assumption, among them early writers on child psychology such as Preyer, Sully, and Stern, who often made comparisons between savages and children" (Jahoda 1999: 229).

The ideological landscape changed dramatically especially after 1970 or 1980. Ideologies of "cultural relativism" and "unity of mankind" replaced the previously leading theories of evolution, civilization, and psychogenesis. This change originated from anti-colonialism, student revolt, and damaged self-esteem of the West due to the World Wars, not from empirical falsifications of the older approaches. Whoever studies contemporary humanities and social sciences cannot even imagine how differently scholars understood history, pre-modern societies, and modern civilizations 50 or 100 years ago. Some authors contend that today's leading ideologies have led to a dramatic loss of scientific notions and foundations regarding these coherences (references in Oesterdiekhoff 2011 b, 1997, 2000). Data collected in the course of the past decades strongly support the older approaches but have been ignored because they do not suit the leading ideologies.

There are only two scientific approaches capable of examining the comparisons ontogeny / history and primitives / children, namely the developmental approach and psychometric intelligence research. Intelligence research found out that massive gains of intelligence have taken place over the past generations in modernizing nations around the world. All pre-modern nations achieve scores much lower than those characterizing modern nations. There is not one pre-modern nation to achieve scores beyond 75. Even educated European, American, or Japanese populations, a century ago or even somewhat later, had mean scores below 75, although they scored better than any other population worldwide at that time (Flynn 2007, 2008; Rindermann 2008; Oesterdiekhoff 2009 a).

Intelligence psychologists use to measure the "mental age" or "developmental age" of tested persons. Adult humans achieving scores between 20 and 70 have the "mental age" of children aged between 4 and 13 (Vernon 1969: 19). Intelligence testers usually have been attributing to pre-modern populations, no matter from which race, culture, and region, a "mental age" of children in this range (Maistriaux 1955: 415; Vernon 1969: 77, 142; Porteus 1937). Correspondingly, the Flynn effect describes the cognitive maturation of greater parts of humankind in the past generations. Thus, psychometric intelligence research seems to be obliged to regard the cognitive abilities of pre-modern populations as childlike.

The developmental approach, moreover, leads to the consideration that not only the reasoning abilities but the whole psyche and personality of pre-modern peoples are engaged in childlike structures. In the same period when cognitive-evolutionary theories declined in favour of relativism and universalism, empirical research produced proof that the evolutionary assumptions are right and today's leading ideologies are wrong. In the period between 1930 and today Piagetian testers conducted more than 1.000 empirical surveys in different social settings around the world, in order to examine the stage theory. They found out that all humans around the world develop at least the first two stages in more or less the same way. However, not all adult humans develop the third stage, the stage of concrete operations. Pre-modern populations entail greater parts of adults who stay predominantly on the pre-operational stage. The final peak of pre-modern populations is spread between pre-operational and concrete operational stages. If pre-modern populations develop concrete operations, then only partially, incompletely with regard to the successful percentages and to the tasks and fields of world experience as well. Pre-modern populations scatter therefore partially on pre-operational structures and partially on half-developed concrete operations. They do not establish the fourth stage, the stage of formal operations. This adolescent stage unfolds between the tenth and twentieth year of age, but only in modern, industrial societies. The lack of formal operations among pre-modern populations covers their entire world experience, the cognitive development regarding all logical, physical, social, and moral phenomena. Therefore, this fact does not only concern reasoning abilities but the entire development of psyche and personality. There has not been one related empirical study that did not verify this main conclusion of 80 years of Piagetian cross-cultural psychology (Dasen & Berry 1974; Dasen 1977; Poortinga 1977; Mogdil & Mogdil 1976; Flynn 2007; Hallpike 1979; Oesterdiekhoff 1997–2013). "In particular it is quite possible (and it is the impression given by the known ethnographic literature) that in numerous cultures adult thinking does not proceed beyond the level of concrete operations, and does not reach that of prepositional [formal] operations, elaborated between 12 and 15 years of age in our culture" (Piaget 1974: 309).

The empirical results of Piagetian cross-cultural psychology thus confirm the findings of intelligence approach, nay, they enlarge and deepen them. James Flynn meanwhile sees his insights regarding the real nature of IQ gains supported by developmental approach. "I want to say that Georg Oesterdiekhoff brought a Piagetian interpretation of the past to my attention" (Flynn 2007: 82). Adult humans on pre-operational and concrete operational stages more or less stay on anthropological stages of children between 5 and 13, whereas humans on the formal stages reach anthropological summits beyond ten, therefore staying on adolescent stages. This implies that adult humans from different cultures attain anthropological peaks that are spread between those of small children aged 5 via older chil-

dren aged 10 and adolescents some years older. The anthropological peak of modern humans can differ between 0 and 15 years of development from that of pre-modern humans; the usual differences amount between 3 and 10 years.

Both approaches obviously come to the same conclusion regarding the comparisons children / primitives and ontogeny / history. Maistriaux (1955: 416), basing his insights on classical intelligence tests, concludes: "En tout cas, le comportement des primitives semble en tous points semblable à celui des enfants". Gellathy (1987: 37), starting out from Piagetian tradition, defines: "In this respect the performance of traditional peoples is closely paralleled by that of young children in industrial societies".

Christopher Hallpike (1979) determines that primitives and children share the same qualitative development (cognitive stages) but differ in their quantitative development (life experience and knowledge). However, the impact of the qualitative development on reasoning, worldview, and behavior is extraordinary.

This essay here does not present the related empirical findings and is not meant to discuss them. I have written ten books and numerous essays on these data, where the reader can find these data and conclusions comprehensively presented and considered. The objective of this essay is rather or exclusively to present the leading scholars who earmarked the comparisons mentioned and to work out their appropriate core argumentations. The questions are how close they really came to a proper theory regarding the comparisons and to define and to comprehend the anthropological nature of primitive (and modern) man. If the empirical data, won by both traditions in the past decades, actually give evidence to the older theories and falsify today's leading ideologies (the tacit basic assumptions and the mental spirit of our time), then it is useful to resume the evolutionary theories in order to check them. Here I am going to examine only their way of basing the comparisons mentioned. I have chosen James Mark Baldwin, Heinz Werner, Jean Piaget, Christopher Hallpike and Georg W. Oesterdiekhoff as those who have worked out the central approaches to the matter. Of course, one might as well present Stanley Hall or others, but most of them did not sufficiently focus their central argumentations. I dare contend that in the past 50 years only Hallpike and myself came close to the central point of the matter. In the prior decades Baldwin, Werner, and Piaget were the most illuminating scholars in this regard. Thus I think that my selection is justified.

James Mark Baldwin (12.1.1861–8.11.1934)

Baldwin, who had studied psychology under the guidance of Wilhelm Wundt in Leipzig, followed ideas of Leonard Hobhouse regarding the relationship between ontogeny and history. He coined not only the term genetic epistemology but also many other terms, concepts, and ideas Jean Piaget took over when unfolding his stage theory later on. Baldwin (1915) divided human ontogenesis into three stages of development. The first is the pre-logical stage during which the child

makes no differences between subjective and objective ingredients of experience. The child is subjected to the concrete perception of things; he or she acts intuitively and pragmatically. The next stage is the logical stage, where ideas and representations gain superiority over acting. Assumptions, ideas, and hypotheses conquer the mind of the child. At the third stage, the hyperlogical stage, the interpretative mode of action becomes contemplation and the erection of values and ends.

Baldwin assumed that these ontogenetic stages shape the possibilities for the start of societal developments. The stages humans of a given society go through allow for the development of social structures. Thus he surmised the existence of strong correspondences between ontogeny and ethnogenesis or history. Therefore he maintained the existence of three stages of the development of culture in history, which correspond to the three ontogenetic stages. The development of law, customs, institutions, and rites unfolds on the basis of certain stages which emerge from the ontogenetic stages. Societies cannot develop beyond the possibilities humans have at hand in their minds. Institutions and customs show characteristics that directly emerge from one of the three stages, namely that certain stage on which the humans of a given society are staying respectively. Social progress is possible only when humans advance toward the next higher stage. Then institutions, customs, and procedures unfold the possibilities that are embedded in this certain stage. This way Baldwin contends the causal and logical priority of ontogeny: it is always ontogenetic advancements that cause historical and societal progress. Thereby he already recognized a dialectical development: The societal stages may feed back to ontogenetic developments and support them.

Heinz Werner (11.2.1890–14.5.1964)

Heinz Werner, in Hamburg until 1933, then working in the USA, published an influential book in 1926. The last German edition is from 1970; the American edition from 1948 was also very successful for some decades. He understood all psychological life as being under the common law of development. Development starts from instincts via primitive forms of behavior and cognition to higher stages. Every form of life is therefore attributable to certain stages and therefore comparable to other forms. An overall theory thus encompasses animals, mentally handicapped humans, children, primitives, and educated adults. Similar to Lurija (1982), Werner (1959/1948) dedicated his above mentioned main work to all these five groups. All chapters, covering the entire development of psyche and personality, systemically include descriptions of these five groups and corresponding comparisons. The chapters deal with (1) developmental theory, (2) perception and representations, (3) space and time, (4) actions, (5) reasoning, (6) worlds of experience, including magic, and (7) personality. With regard to humans, he gave evidence to very far-reaching parallels between children, mentally handicapped persons, and primitives according to all dimensions mentioned. Only modern humans differ

from these three other groups, due to the higher developmental stages they attain.

Children and primitives share a substantial and material understanding of functions and features (Werner 1959: 26, 98), an animistic interpretation of reality (Werner 1959: 38–66), emotional responsiveness and spontaneity (Werner 1959: 67–70), color categorization (Werner 1959: 80–83), traditionalism (Werner 1959: 100 f), an eidetic organization of perception and memory (Werner 1959: 112–118), a tendency to fancy and peculiarities regarding to narrate (Werner 1959: 121–131), categories of space and time (Werner 1959: 140–150), modes of action (Werner 1959: 158–167), a lack of abstractions and deductions (Werner 1959: 230–270), a close relationship between subjective and objective parts in cognitions (Werner 1959: 295–299, 305), an understanding of dreams, myths and plays (Werner 1959: 298 f, 304–315), an adherence to magic (Werner 1959: 284–316), and beliefs in metamorphosis of beings and the humanlike mind of animals (Werner 1959: 387–391).

Only modern humans have surmounted all these features due to cognitive growth, whereas children and primitives share these features because the latter are only manifestations of primitive forms of psyche and cognition. Werner actually does not leave any domain to primitives that children do not occupy. Conversely, he does not describe any features of children which are not found among primitives, no matter he is aware of this argumentation and procedure or not. One should conclude that the roots of primitiveness are lower stages of psyche, characterizing both children and primitives to the same degree. Logically, one might expect that Werner would consequently maintain to be the first to have proven the childlike anthropological stage of pre-modern man with regard to every aspect. Werner seems to go some steps in this direction, but he does not draw this conclusion because he does not really recognize it. He says that there exists an inverse relation between the rate of early development on the one hand and the extent of later and adolescent development on the other hand. Therefore, primitives would develop faster at the earlier stages of their lives but would then not attain the higher stages typical to modern humans (Werner 1959: 20–36). This implies that with primitives he identifies an earlier stop of ontogenetic development. If this was not so, it would be inexplicable how the described parallels between children and primitives could exist and persist.

Building on his data one might conclude that all primitives are staying on anthropological stages of children of an age of more or less 5 to 10. One might conclude that only modern man attained anthropological stages beyond the tenth developmental year and therefore typical adolescent stages of psyche and cognition. In fact, Werner's book was the first in the history of sciences that produced sufficient proof of the childlike psyche of primitive man, covering all central aspects and dimensions of psyche and cognition. However, there is a gap between the results he actually presented and the awareness of them in his mind. In his book he never

writes "primitives are staying on anthropological stages of children aged 5 to 10 and share with them all relevant psycho-cognitive structures, apart from some forms of knowledge and life experience". Thus, he did not find the right formula and overall interpretation of the data.

Werner (1959: 18–20) obviously backs off from starting a serious theoretical consideration upon the relationship children / primitives. He dedicates only a few pages to this central point, missing any relevant and comprehensive reflection and conclusion. He actually failed with understanding the decisive coherences. As a summary he only says that there are functional parallels between these two groups. But, in fact, there are no parallel developments. There is only one developmental path from infancy to adulthood. If primitive adults share all central features with children, then their ontogenetic development stops at childlike stages. Thus Werner has delivered some decisive data, sufficient to draw groundbreaking conclusions, but refuses to draw them or to develop a theory capable of interpreting the data collected. Furthermore, he missed clear expositions regarding the groups, nations, and cultures belonging to the classification of primitives. He did not describe the causes for the anthropological advancement of modern man. Additionally, he totally missed the reflection on ontogeny / history and on the role of his theory for social change and the history of humankind, which Baldwin had already started. Nonetheless, to my opinion, his book is one of the most important books ever written in the history of sciences.

Jean Piaget (9.8.1896–16.9.1980)

Jean Piaget is the most influential and most sophisticated developmental psychologist in the history of sciences. To my opinion, he is the greatest scholar in the whole realm of all humanities and social sciences in the entire history. I dare contend that not one economist, ethnologist, psychologist, or sociologist delivered such groundbreaking contributions as he did. Piaget is something like the Newton or the Darwin of all "soft" disciplines. Some decades ago, the *TIMES* chose him to be one of the most influential persons worldwide, out of a selection of hundred other persons. However, according to the books he wrote, he is largely only a child psychologist. Instead he preferred the designation to be a genetic epistemologist and not only a child psychologist. But this designation depends on the seriousness and the success of having transferred the notions won in child psychology to other domains and especially to the history of consciousness, reason, and culture. If he had completed this task or if he had conducted it more successfully as he actually did, it would be more appropriate to call him a genetic epistemologist, thus transcending the limits of being only a child psychologist. Additionally, it would be easier to understand Piaget as the Newton or the Darwin of all humanities and social sciences. Other authors carried out the transfer work he had already started but never seriously worked out or completed.

Piaget followed core concepts and ideas of Baldwin. He worked out the most influential stage theory up to

now. He divided the ontogenetic development in four stages. The sensory-motor stage of the small infant covers the first 18 months of life. The second stage, the pre-operational stage, creates language and reasoning. The third stage, the stage of concrete operations, enables logical co-ordinations regarding objects when they are given to the senses. The fourth stage, the formal-operational stage, starts the evolution of abstract, logical, combinatorial, experimental, and theoretical thinking, and surmounts the childlike view at the world. Often Piaget has the tendency to maintain or at least suggest that all humans worldwide develop the four stages against an inherent and more or less automatic program. However, his books are full of remarks that show his opinion that by no means every adult person reaches the two higher stages. He often writes that the so-called primitives do not reach the operational stages.

Piaget saw himself as a genetic epistemologist because he used the study of children only as a medium in order to understand the history of mind, consciousness, reason, culture, and sciences. Child psychology was a laboratory in order to reconstruct the psyche of Pleistocene man, primitive man, and ancient man. Thus, he followed similar ideas as Baldwin had done. He always referred in his books to the primitives, presented by ethnology, and to antiquity, especially to the classical Greek philosophers, when he applied his concepts to historical phenomena. The identification of certain historical and childlike structures is found in probably all of his books and in many of his articles. His books on causality (Piaget 1969) and chance (Piaget 1975 b) are full of corresponding remarks. His book on the worldview of children (Piaget 1959) entails indications that all four main features of children's philosophy, conceptual realism, animism, magic, and artificialism, disclose the same phenomena in primitive societies and therefore their worldview and religion. His book on morals (1932) shows that every phenomenon that characterizes the morals of children accounts for the morals, laws, and legislations of pre-modern societies, too. Objective responsibility, belief in immanent justice, belief in eternal status of rules, and adherence to severe punishment refer both to children and pre-modern nations.

In sum, the list of correspondences between children and primitives then entails all logical, physical, social, and moral phenomena. The list of common structures covers all aspects of psyche and personality and all understandings of logic and reality. Thus, there are no psycho-structural differences between children and primitives. Consequently, there is no difference between child psychology and historical psychology.

The usual procedure is that Piaget writes his books on children and inserts sometimes very short sections or only some sentences regarding the resemblances to the corresponding historical phenomena. He did not write books on the historical evolution of psyche, reason, morals, law, arts, religion, politics, economics, cultures, etc., based on the insights won by developmental psychology. Only with the reconstruction of the history of sciences he makes an exception. He dedicates some

books (1975 a, vol. 8-10; with Garcia 1989) to the history of sciences, using the study of children as a theoretical basis. I would like to say that Piaget had realized his core ideas and his actual targets when he had completed to reconstruct the history of culture and society to the same degree as the reconstruction of sciences. The hints in his books indicate already that he believed in the possibility of explaining the evolution of legislation, law, democracy (1932), the decline of religion and magic, and the process of disenchantment and secularisation (1959), and the rise of industrial society (1975 a, vol. 10) in terms of developmental psychology.

However, he did neither complete the transfer from child psychology to history nor the research into the psycho-cognitive structures of primitive or pre-modern man. The neglect of the latter question is especially embarrassing because he had all the tools available in order to develop a psychology of primitive adults. He never established a stage theory of adult humans, something like a Historical Psychology or Anthropology, ranging from primitive to modern humans, covering tribal societies, ancient civilizations, and modernizing nations. Additionally, he never even wrote such a comprehensive book in this regard as Werner had accomplished. Based on Piagetian cross-cultural psychology, it would have been possible to execute such a work. This research industry conducted more than 1.000 empirical surveys among numerous ethnicities, social milieus, classes, and nations on all five continents, from the Thirties up to now. Their results point into a clear direction and are applicable to deceased populations, having lived in tribal and ancient societies as well. All humans develop the first two stages more or less the same way. There are primitive tribes where the adults remain predominantly bound to the pre-operational stage. Usually pre-modern populations, no matter from what race, region, and continent, develop concrete operations only partially, with regard to successful percentages among the population and with regard to tasks as well. Thus, pre-modern populations consist of humans staying either on pre-operational or on half-developed concrete operations. All related surveys have proven that the establishment of formal operations is exclusively connected to modern populations, due to school education and other cultural enhancements, affecting brain and psyche since birth (see the samplers edited by Dasen & Berry 1974; Dasen 1977; Poortinga 1977; Eckensberger 1979 and the overviews in Hallpike 1979; Oesterdiekhoff 1997, 2000, 2009 a, 2011 a, 2012 a, b).

According to this empirical evidence, it is clear that pre-modern populations, both in contemporary and past societies, are mainly staying on anthropological stages of children between 5 and 10 or 12 years. Only modern populations attain anthropological peaks between 10 and 20. When modern peoples develop sub-stage A of formal operations, then their peak is spread between 10 and 15. If they climb up to sub-stage B, then their developmental age goes beyond that limit, which concerns 30–50 % of modern populations (Schröder 1989; Mogdil & Mogdil 1976, vol. 3: 149). Thus, Piagetian cross-cultural psychol-

ogy has fully confirmed the core targets of Piaget, compelling his whole work on children. Furthermore, these cross-cultural results have also largely given empirical evidence to the approaches of Baldwin and Werner, additionally the related assumptions of the classical authors of sociology, ethnology, and other historical disciplines mentioned in the first chapter.

But Piaget was as incapable as Werner of developing an anthropological theory regarding the relationship children / primitives. He never devoted any essay or any chapter to this task which was the driving force of his whole life work. He never wrote a comprehensive book on the psychogenesis of humankind, on the anthropology of primitive man, on stage theory with regard to adult primitive and modern man, or on the development of culture based on the cross-cultural psychology his approach was dedicated to, whose empirical results he could study over several decades. He even did not follow the related endeavours of Werner and Baldwin. He always only found some sentences regarding the relationship children / primitives. He repeatedly formulated that all humans have to go through the same stages; therefore the identical structures of ontogenetic and primitive adult phenomena would be quite normal (Piaget 1975 a, vol. 9: 253). This conclusion on the subject remains completely insufficient. Piaget stops thinking at a point from where it should start. He did not formulate that "populations of pre-modern societies in world history are staying on anthropological stages of children usually aged 5 to 10, and differ from them only in life experience and knowledge". Although he had actually given evidence to this summary, as Werner had already done, he did not formulate it. I summarize that Piaget backed off from the decisive conclusions to the same degree as Werner. Furthermore, apart from the history of sciences, he ignored the transfer from psychology to historical phenomena such as law, religion, politics, customs, and cultures more or less in the same way as Werner had done.

Christopher Hallpike (19.4.1938)

The ethnologist C. Hallpike was the first author who delivered a groundbreaking summary and interpretation of Piagetian cross-cultural psychology, approximately 40 years after its beginning. The test psychologists were not able to develop a theory capable of interpreting, of understanding and using the data they had collected. Usually the left hand did not know what the right hand was trying. They had no idea of the far-reaching possibilities their data offered to them (see the samplers edited by Dasen & Berry 1974; Eckensberger 1979; Dasen 1977; Poortinga 1977). Hallpike (1979) was the first to apply these data to the interpretation of phenomena known in ethnology, sociology, and history on a sophisticated level. His first achievement was to accept the data and not to ignore or belittle them. Then, he understood that primitive populations are staying predominantly on pre-operational stages and only partially, if at all, on concrete operational stages. Furthermore, he realized that only modern populations

are staying on formal operational levels. That was what the data had actually revealed – and he collected and assigned these data. He showed these things in his book "Foundations of primitive thought" especially with regard to logic and physics, with regard to symbolism, classification, numbers, measurement, conservation of volume, space, time, conceptual realism, causality, chance, and probability.

Therefore, he was the first who delivered a masterpiece of transferring Piagetian child psychology on the social sciences. There were some others before who delivered such transfers, especially to sociology, namely Jürgen Habermas, Jean Ziegler, and others. But their books had not the high quality as Hallpike's book had. Thus, Hallpike was the first who reached the actual objective of Piaget of interpreting history and culture, and he was the first to establish a groundbreaking link between child psychology and ethnology. His book was the first great breakthrough in ethnological theory since the days of Lucien Lévy-Bruhl, who wrote his outstanding books between 1910 and 1940, being more or less the most influential ethnological thinker between 1910 and 1970. It is by no means difficult to understand the ethnological data in the light of child psychology. If child psychology did not exist one would have to create it in order to have a theory capable of illuminating and explaining ethnological phenomena. The structural identity of children and primitives causes the full correspondence between ethnographic data and developmental theory. Hallpike displayed that from now on ethnology had a true theory to explain thinking, worldview, and behavior in primitive societies.

25 years later he wrote the second book related to this topic, "The evolution of moral understanding" (2004), not as breathtaking as the first one. He ignored many decisive fields, both with regard to psychological theory building and with regard to ethnological and historical data. Nonetheless, it is one of the few great books on moral development in history.

Hallpike's first great book (1979) has nearly the relevance of the book of Werner (1959). It is also useful to say that it is the first great breakthrough regarding the research into the relationships children / primitives and ontogeny / history since 1926, when Werner's book was published, if we consider that Piaget did not write a central book on the subject. It is 53 years from 1926 and 1979. Furthermore, it delivered decisive material in order to develop an anthropological theory of primitive and modern man, thus elaborating Piaget's main objectives.

However, regarding the decisive anthropological conclusions Hallpike is not much more aware and considerate than Werner and Piaget had been. He dedicates a chapter (1.4) to the comparison children / primitives which has a length of less than five pages. There he writes that primitives share with children the same pre-operational and concrete-operational stages but differ in life experience and knowledge. But he estimates life experience and knowledge very high, so that he seems to deny the psycho-structural identity of children and primitives. He is by no means clear in the chapter (and in the

rest of the book) and backs off from thinking about the comparisons nearly the same way as Werner and Piaget before him. He does not formulate "95 % of pre-modern populations having lived in the whole history of humankind stayed on anthropological stages of children of modern culture aged 5 to 10, with regard to every aspect and peculiarity, apart from their different knowledge and life experience respectively". Obviously he is not of the opinion that he has the most important knowledge of humans at hand as social sciences have ever found in the 300 years of their history. This is because he does not grasp the depth and the scope of this breathtaking discovery. He does not realize that primitives have a completely different personality and psyche, due to their lower anthropological stage. He does not recognize that they experience all things in life differently in comparison to modern humans. He seems to think that primitives differ from modern humans only by some cognitive techniques or by some additional features (see chapter 1.3). He does not regard that the differences have a complete character and that primitives live in totally different mental worlds and therefore in completely different cultures. He does not earmark that primitive humans differ from modern ones by 3, 5, 10, and sometimes more developmental years. He has no idea that the determination of the pre-formal structure of the primitive personality provides a structural equation of primitives and children. The common anthropological peak or developmental age is the decisive point, not life experience, and knowledge. He does not conclude that this discovery has at least the same importance for all humanities and social sciences as the evolutionary theory of Charles Darwin for biology or the theories of Isaac Newton and Albert Einstein for physics. Furthermore, Hallpike's transfer of child psychology to ethnology does not include that he grasps the necessity to reconstruct all humanities and social sciences on this basis. Moreover, he does not conceive of the possibility and necessity to reconstruct the whole history of societies, religions, customs, law, philosophy, technologies, and everyday activities against this new theoretical foundation. However, he was the first to elaborate the link ontogeny / history in the Piagetian tradition on a high level, thus realizing Piaget's actual research interests.

Georg W. Oesterdiekhoff (21.10.1957)

Among the 25 books I have written there are ten books alone dedicated only to the combination of Piagetian theory on the one hand and humanities and social sciences on the other. I have done more than anybody else in the history of sciences to accomplish the transfer from child psychology to humanities and social sciences, from Piagetian theory to history, sociology, and ethnology, and to understand the relationships ontogeny / history and children / primitives. Thus, the ten books and numerous articles are dedicated to completing Piaget's actual research interests and life work. The transfer is a part of Piagetian theory itself. Accomplishing this transfer implies the execution and completion of Piagetian theory and developmental psy-

chology as well. The theory program, called "structural-genetic sociology", intends to reconstruct the history of societies, social change, rise of modernity, religion, philosophy, sciences, law, morals, and reasoning. Furthermore, it envisages the development of new foundations of humanities and social sciences, based on a new Historical Anthropology. It is in the heritage of early developmental psychology (Hall, Baldwin, Piaget, Lurija, Stern, Werner), classical sociology (Comte, Elias), classical ethnology (Lévy-Bruhl, Tylor), and related approaches (Cassirer, Feuerbach).

In my first book, finished in 1987 (English version 2009 a), I gave an overview of all relevant logical, physical, social, and moral phenomena as developed by peoples all over the world, according to the data of Piagetian cross-cultural psychology. I collected the empirical data and assigned them to the four areas mentioned, thus finding an overview of the relations between cultures and anthropological summits. I also compared these data with the data won by the historical disciplines regarding ancient China, India, the ancient Mediterranean, and other world regions. Thus, I could conclude that really all pre-modern populations have been staying on the lower anthropological stages with regard to all four areas respectively to all dimensions of personality development. Conversely, I have proven that modern populations, according to these data, have surmounted the lower stages in these four areas. Consequently, the book drew the decisive conclusions of decades of Piagetian cross-cultural research in a comprehensive way as yet unknown.

In the book I showed that children's logical and deductive competences are appropriate to primitive ones. Children and primitives share animism, magic, artificialism, conceptual realism, concepts of number, space, time, causality, chance, and other physical and logical concepts. I demonstrated that they share core elements of worldview and religion, concepts of social relations and self-awareness. I worked out that the reconstruction of the history of law and morals is possible only against the background of Piagetian tools. Children and primitives share a belief in rule understanding (legislation), immanent justice (judicial procedures by ordeals), objective responsibility (punishment law), and other judicial features. Conversely, the evolution of modern forms of morals and justice, legislation and trials, correspond to adolescent stages, as described by Piagetian authors.

Some other books (1997, 2000) confront classical approaches of sociology, ethnology, and philosophy, following the program of "structure-genetic sociology", showing that only this new program can base, improve, extend, and confirm the classical theories. Especially the civilization theory of Norbert Elias came very close to the program but totally missed any empirical evidence that can now be given on the above mentioned new basis. Some other books deal with the transfer to pedagogic, socialisation theory, economics, development policy, etc. The recent books (2011 a, 2012 a, b) are devoted to reconstruct the history of magic, religion, philosophy, sciences, literature, morals, law, and violence.

Last but not least my book on religion (2013) is the first book that explains religion and religiousness only in terms of developmental psychology, thus following Ludwig Feuerbach's approach. The core concepts of religion 1) belief in the divine creation of cosmos, 2) divine government of the world, 3) gods punish or reward people, 4) communication with divinities by sacrifices and prayers, 5) belief in life after death, preferably in paradise, 6) belief in personal gods based on myths that tell their biographies, and 7) belief in ancestor gods and gods as fathers are found in tribal religions and world religions as well. All these religious ideas are parts and dimensions of pre-formal anthropological stages. The belief in divine creation and government of the world is topmost childlike, as already Piaget (1959) himself had shown. Children up to their ninth year believe in this, according to their staying on magical and artificialistic stages. The belief in a personal communication with the creator of the universe on the basis of prayers, the belief in the necessity of confessing sins and showing repent, the belief in animal sacrifices to feed the gods — all these forms of social relationships between believers and gods express childlike expectations towards parents. The belief in the immortality of the soul manifests childlike forms of egocentrism and a childlike wishful thinking in the deepest sense possible. The mythical belief in biographies of gods is the basis of all world religions; the peoples know about their gods due to their knowledge of myths in which they believe. But the belief in myths is something that corresponds to children in their mythical time between 4 and 8 years, as numerous psychologists had described. Finally, the belief in ancestor gods (dead parents and grandparents especially) and in gods as fathers is topmost childlike, without any comment necessary.

Thus, the vivid, archaic, and full religion is only possible among people that stay on lower forms of psyche and cognition. The rise of agnosticism and atheism in the era of enlightenment matches the rise of formal operations. People on formal operational stages go through a stage of doubt before their religiousness weakens and disappears. 50 % of Europeans and 65 % of Japanese are atheists nowadays. Furthermore, 97 % of the members of the Royal Society of London are atheists. The empirical data of the past 100 years reveal a continuous loss of religious substance among modern peoples from generation to generation (Oesterdiekhoff 2013, 2007 b). Thus, the surviving believers in modern societies have only a remnant religion that is weaker, thinner, and more superficial than the archaic and "full religion" (Mircea Eliade).

Next to the theory of psyche, reasoning, worldview, magic, religion, philosophy, and sciences, the study of social change and cultural development belongs to the main subjects of my theory. I have demonstrated that this theory is relevant for understanding both the Pleistocene age and ancient civilizations. There are deep connections between the rise of modern, industrial societies and the rise of formal operations and anthropological peak. Piaget (1975, vol. 10), Habermas (1976), Ziegler, and others maintained the decisive role of for-

mal operations to the emergence of industrial society. The emergence of modern societies (initially the rise of the West) mainly consists of at least five evolutions, the rise of "industrialism", "sciences", "enlightenment", "humanitarian revolution", and "democracy". All these evolutions originated approximately at the same time, in the past 300 years, and in the same world region. Thus, the five evolutions are deeply interconnected. "Enlightenment", "sciences", and "humanitarian revolution" are purely cognitive advancements, additionally they are psycho-cognitive progresses which correspond completely to the emergence of formal operations and adolescent anthropological stages. Therefore it is quite improbable that the rise of "industrialism" and "democracy" might not be explainable in terms of stage theory. Piaget himself (1932) gave evidence to the connection between democracy and the adolescent stage. Without the rise of physical sciences the emergence of industrial society would have been impossible. Piaget (1975, vol. 8–10, with Garcia 1989) worked out that the rise of formal operations account to the rise of sciences. Consequently, the increase of formal operations caused the evolution of "democracy" and "industrialism", too. I have comprehensively described the relations between rising anthropological peaks and the emergence of industrial society. Thus, the rise of anthropological peaks is the hand, whereas the five evolutions mentioned are only the five fingers of this hand (Oesterdiekhoff 1997, 2000, 2011 a, b, 2012 a, b, 2007 a, 2009 b). My structure-genetic sociology then claims to have found the key to explain the rise of modern society. This is by no means astonishing if one considers that especially Baldwin and Piaget thought more or less in the same direction and that my theory program shares decisive assumptions with the sociological theories of Comte, Elias, Weber, and Habermas.

Conclusions

The leading ideas of the five authors are more or less similar or identical. Primitive or pre-modern populations share with children common structures of psyche and cognition, worldview and logic. The common things concern all ingredients, characteristics, and features ever found among children. Although not all authors presented gained full awareness of the total character of the structural identity between primitive man and child, they actually gave evidence to this fact by delivering the decisive material. When exposed to the same intelligence tests, children and primitives reach the same low scores. The Piagetian tests reveal the same psycho-cognitive structures among children and primitives, covering the whole world understanding in logic, physics, social affairs, and morals. Thus, primitives are adult humans who do not reach the adolescent stage but remain connected to childlike structures. They reach "anthropological summits" or "developmental ages" which correspond to those of children.

Modern humans have gained higher intelligence scores and cognitive stages as well. They differ from

pre-modern humans by some standard deviations (IQ) and one or two developmental stages, that is, usually by 3 to 10 developmental years. Of course, humankind is by no means divided into two groups of humans only, but into numerous groups, covering all intermediary stages possible, as all empirical data have displayed.

These theoretical conclusions are completely congruent with the ethnographic data collected. The study of customs and behavior, belief systems and irrationalities in pre-modern societies necessitate their assignment to pre-operational stages. The study of dream understanding, magical interpretation of deaths and accidents, magical mastering of life, ordeals, belief in metamorphosis, religious cults, treatment of sickness, etc. show that these peoples live in completely different mental and cultural worlds, having originated from childlike structures. Conversely, the features of modernization processes match exactly those structures developmental psychology knows as parts and dimensions of higher stages.

The discovery of the childlike psyche of primitive man is the most important discovery ever made in all humanities and social sciences. This idea partially originated from Charles Darwin's own ideas on man. Not

only all developmental psychology but also the ideas concerning the resemblances ontogeny / history and children / primitives largely result from the ideas born in evolutionary theory. Thus, the discovery of the psychogenesis of humankind has a similar relevance for all humanities and social sciences as the evolutionary theory for biology. Only developmental theory sheds light on a fundamental understanding of ancient and modern societies, social change and social evolution. Only this theory brings a proper comprehension of the nature of modern, industrial society and modern democracy.

Furthermore, this approach, as Historical Anthropology or Psychology, accomplishes new foundations to humanities and social sciences. Additionally, it furnishes new and more elaborated ways of reconstructing the history of humankind. When we look at present-day social sciences and humanities we cannot avoid determining that they have no encompassing theory to unify the disciplines which could be worth mentioning. Only the developmental approach has this capacity. Great scholars of the past, such as Wilhelm Wundt, James Mark Baldwin, Jean Piaget, Karl Lamprecht, Leonard Hobhouse, and some others had not only a hunch of these coherences but formulated them exactly this way.

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Онтогенез и история: осмысляя передовые теории

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В период между 1800 и 1945 или 1970 годами ведущие ученые из разных областей науки опирались в своих теоретических моделях общественной эволюции на сопоставление онтогенеза с историей и детского развития с развитием примитивного человека. Несмотря на то что современные передовые взгляды почти повсеместно вытеснили устаревшие подходы, некоторые авторы полагают, что прежние теории, доминировавшие на протяжении более 150 лет и имевшие в числе своих сторонников огромное число замечательных ученых, уважаемых и в наши дни, более уместны, нежели современные теории, блокирующие развитие науки. В тот же самый период времени, когда взгляды, которые признаются ведущими сегодня, сражались за свое место под солнцем, эмпирические исследования, по сути, подкрепляли когнитивно-эволюционные теории, одновременно доказывая ложность релятивизма и универсализма. На мой взгляд, возрождение гуманитарных и общественных наук должно быть основано на адекватных подходах к развитию. В данной статье представлены ведущие ученые, которым удалось наиболее полно обозначить узловые точки дискуссий, и тем самым открывается возможность поразмышлять над историей психологии развития.

Ключевые слова: этапы развития антропологии, умственный возраст, примитивная ментальность, историческая психология, теория Пиаже.