Psychogenetic Development of Humankind

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A Piagetian View on the Evolution of Culture and Society

By

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> When there is convergence between child-like thinking and historical representations, it is much easier to explain the latter by the general laws of child mentality than by reference to some mysterious inheritance. However, far back in history you go into history or prehistory, the child always preceded the adult. It can be assumed that the more primitive a society, the more lasting the influence of child-like thinking on an individual´s development. (Jean Piaget, *Play, Dreams and Imitation in Childhood*. New York: Norton 1962, pp. 196-197)

PREFACE

This book originated in the lecture "*Cultura y cognición. Pensamiento y visión de mundo en las sociedades premodernas*", which I delivered as Visiting Professor at El Departamento de Historia de la Universidad Nacional de Colombia in Santafé de Bogotá. It presents an introduction to Structural-Genetic Theory. I have developed this program of theory over the past 45 years, and during this time I have written 14 books and about 130 articles (among them 90 journal articles). Altogether I have written over 320 publications, including works on other topics.

The program is mainly based on developmental psychology and has worked it out to a theory of the evolution of humankind. This entails a summary of Piagetian Cross-Cultural Psychology and a theory of the evolution of psyche and personality. It encompasses a theory of social change and social evolution, a theory of the development of economy, society, culture, sciences, philosophy, religion, politics, morals, law, arts, language, and manners. The anthropological evolution of humankind from childlike stages to more advanced levels is the most groundbreaking and fascinating topic in all social sciences and humanities. This unique discovery forms the kernel of the entire theory program.

Everything Piaget described concerning the child´s understanding of logic, physics, social affairs, law, and morals, also defines the core of the psychological system of archaic or premodern adult humans. Children and archaic adults share the same structures concerning animism and magic, conceptual realism such as the understanding of dreams and words, the same concepts of causality, chance, and probability, and the same concepts of logic and physics, such as ideas about physical movements and shadows. Both groups share the same ideas about morality, such as immanent justice, holy status of laws, and objective responsibility.

Though children and archaic adult humans stay at the same psychological stage, the preoperational and partially concrete operational stage, they differ in life experience and practical skills. The fact that archaic adult farmers, craftsmen, traders, hunters, warriors, philosophers, shamans, and seafarers fully share the minds and reasoning of children, who are often unable to tie their shoes or to prepare their breakfast, is the strangest and most peculiar phenomenon ever discovered in the social and human disciplines. Nonetheless, it is true, as the evidence is complete and beyond any doubt. Yet despite their greater knowledge and skills, archaic adults, surprisingly, do not develop the formal-operational stage. The skills required to safeguard their livelihood and culture obviously do not require the emergence of the adolescent stage of formal operations. Culture and socialization, developmental windows and arrested development are key concepts in understanding these remarkable and breathtaking phenomena.

The structural-genetic theory program has contributed to the reconstruction of the history of society, economy, politics, law, morals, sciences, philosophy, religion, and arts, based on Piaget´s stage theory. While the preoperational stage causes and shapes the archaic or ancient structures of these cultural areas, their modern transformations and structures have emerged from the formal-operational stage.

For example, the transformation from the eternal to the modifiable law, from objective to subjective responsibility, from brutal-sadistic to humane forms of punishment, and from immanent justice (ordeals) to rational trials takes place both in ontogenesis and history of law. Thus, stage theory explains the main patterns of the history of law.

Piaget himself compared the emergence of scientific thinking in the adolescent to the rise of the natural sciences, time and again. The new program has elaborated Piaget´s related insights more deeply.

Piaget applied his insights into the mind of the child to the history of philosophy, especially pertaining to Aristotle´s theory of movement. The structural-genetic theory program reconstructed the entire history of philosophy in terms of psychological stages. Without Piaget´s theory of ‘conceptual realism’ it is impossible to understand Plato´s theory of ideas and Aristotle´s theory of universals. Ancient philosophy and cosmology are mainly based on animism, magic, and artificialism; patterns Piaget described in his works time and again. Accordingly, the rise of modern philosophy originates in the emergence of formal operations.

Archaic religion mainly consists of nature religion and ancestor worship. The adoration of celestial bodies, waters, woods, and mountains takes root in animistic schemata, prevalent in the mind of the young child. The adoration of dead parents and grandparents originates in childlike

attitudes as well. Stage theory thus explains the main patterns of the history of religion.

Phenomena such as the Roman arena games, cannibalism, and slavery in ancient societies, contrast to the Age of Enlightenment and subsequent periods with their abolishment of slavery and cruel criminal law and their emphasis on liberty rights and humanism. This matches Kohlbergian research and its empirical findings, according to which moral stages 4, 5 and 6 emerge only in modern nations.

Stage theory also explains the main patterns of art history. While the preoperational stage accounts to patterns of ancient painting, 'intellectual realism' (lack of 3-D perspective, etc.), the concrete operational stage created early Renaissance painting and its specific structures – 'visual realism' - as S. Gablik and E. Brunner-Traut had already described.

In fact, Piagetian theory is decisive for the explanation of the rise of modern, industrial society. The structural-genetic theory program applies stage theory both to social evolution generally and to the emergence of modern society especially.

The program describes the following phenomena and accomplishes the following tasks:

- Archaic or primitive humankind stood on the same psychological stages as children do, down to the smallest details, leaving no gaps or exceptions, despite different life experience and skills between the two groups.
- Everything that Jean Piaget describes concerning the child´s psyche, respectively the preoperational stage, also describes the core and center of the archaic or premodern adult psyche.
- The adolescent stage of formal operations as a modal stage of a people or nation did not emerge before the advent of modern, industrial society.
- Piagetian stage theory is the most fundamental theory which describes the psychogenetic development of humankind, both the psyche of archaic and of modern humans, including transitional stages.
- The structural-genetic theory program transforms Piagetian theory from its position as simply child psychology towards a general and fundamental theory of the psychogenetic development of humankind.
- The program increases the relevance of Piagetian theory especially, and developmental psychology generally, by a factor of 100, as it shows that stage theory delivers the most fundamental and the most pivotal theory of the human being.

- The relevance of the structural-genetic theory program of the author expands that of Piaget's genetic epistemology by a factor of 100. That children go through stages is not surprising. However, that archaic adults stand on the child´s stage, too, exhibits an intellectual nuclear explosion.
- The program claims to be the most eminent offshoot and heir of Piagetian psychology during the last 100 years.
- The program is the greatest advancement within Piagetian theory and Piagetian Cross-Cultural Psychology.
- The program accomplishes Piaget´s tacit research goal to develop child psychology towards achieving a tool to describe the history of the mind, culture, and philosophy. Where Piaget went only as far as the first half of this journey, the author of this new program has tackled the second part, thus enlarging and expanding Piaget's life's work.
- The program explains fundamental changes and advancements in the history of society, culture, economy, law, politics, sciences, philosophy, morals, religion, and arts, as it refers their archaic structures to the preoperational stage of the child, and their modern transformations and structures to the higher stages, especially to the formal operational stage of the adolescent. As psychological phenomena beneath the trajectory of infant-child-youth-adult do not exist, real and unsurmountable foundations of the phenomena are disclosed, for the first time in science history.
- The program is the single theory to combine all social and human disciplines, using stage theory as an approach to breaking the borders between them and unifying them under one common roof. Thus, there now exists a general theory across all social and human disciplines for the first time in science history.
- The program demonstrates that stage theory must build the foundation to every single social and human discipline, as they all resort to a theory of the human being, that is, to psychogenesis. The program has proven that stage theory is, or should be, the most relevant approach within every single social and human discipline.
- The program is the most elaborated and most scientific theory ever developed in the history of social sciences and humanities. Today, it is in a similar position in relation to current sciences as evolutionary theory, relativity theory, and quantum physics would have been in Cambridge during the 14th century. It is hundreds of years more advanced than today´s social sciences and humanities.

- The program formulates the essence of three hundred years of social sciences and humanities.
- The program shows that current social sciences and humanities, especially in the past 50 years, resort to wrong assumptions and rely on erroneous foundations, significantly blocking their advancement.
- The program refutes the prevailing ideologies of contemporary sciences, universalism and cultural relativism.
- The program inherits positions held by Auguste Comte, Norbert Elias, James Frazer, Edward Tylor, Lucien Lévy-Bruhl, Jean Piaget, Heinz Werner, Alexandr Luria, and Christopher Hallpike. One can understand these classical achievements only against the background of the more elaborated empirical foundations and theoretical structures of the new program. It helps to support, verify, correct, develop, and improve the best traditions of social sciences and humanities.
- The program implies a very far-reaching rehabilitation and improvement of these former theories of developmentalism. Regarding the central criteria, social and human disciplines between 1880 and 1940 (or 1840 and 1970) had better foundations and mindset than these disciplines have today, or during the past 50 years, due to the difference between developmentalism and relativism.
- As long as the program does not belong to the normal curriculum of social sciences and humanities, the progress of culture and sciences is severely hampered. Whole generations of students do not receive any advanced education concerning the foundations of world history and the foundations of culture and society.
- The missing or misguided foundations of current disciplines endanger the stability and self-esteem of Western culture.

Gladbeck, Spring 2026

Piaget's first encounter with the work of Lévy-Bruhl more or less coincided with the onset of his project for the study of the development of children's thinking. He came to realize how very different childish thinking is from that of normal European adults. At the same time, he was evidently struck by the apparent similarity between children's responses to his questions and the beliefs and ideas of primitives as reported by Lévy-Bruhl. He was probably predisposed to perceive such similarity by the then still prevailing notion that 'savages' are childlike. Given his wide reading in sociology, he daringly ventured to jump from child-primitive comparisons to the historical development of thought. (Gustav Jahoda, Piaget and Lévy-Bruhl. *History of Psychology,* 2000, Vol. 3, No. 3, p. 234)

CHAPTER OVERVIEW

1. Classical and modern sociology facing the problem of social evolution

Chapter One describes the attempts of classical sociologies to detect the phenomenon of the psychogenesis of humankind. The history of sociological theories reveals the slow and contradictory endeavors to understand this phenomenon. Norbert Elias and Auguste Comte understood the phenomenon of psychogenesis, at least in part. They described ancient humankind as staying within childlike anthropological stages. Most classical sociologies, such as those of Max Weber and Émile Durkheim, are also based on developmental concepts. However, Comte and Elias came closer to the breakthrough which the structural-genetic theory program represents. The structural-genetic theory program demands to be the successor of these core theories of classical sociology. Comte´s 'law of the three stages': the theological stage (premodern world); the metaphysical stage (early modern times); and the positive stage (industrial epoch), resembles Piaget´s discrimination between the preoperational, concrete operational, and formal operational stages. This book will show that the preoperational stage is the modal stage of archaic peoples, and that the formal operational stage is the modal stage only of modern nations. The author of this book claims to inherit the positions of the founder of sociology (Comte) and of the last representative of classical sociology (Elias). Thus, the evolution of sociological theory runs from the law of the three stages, over civilization theory, to the structural-genetic theory program. All other sociological theories – Weberian sociology, interpretative sociologies,

symbolic interactionism, phenomenology, system theory, world system theory, rational choice sociology, Marxism, critical theory, etc. – are immaterial in comparison, cannot create foundations to social sciences, deal only with limited tasks, and cannot compete with those three theories, which discerned the kernel of world history.

2. Developmental psychology as historical anthropology

Chapter Two presents the main results of developmental psychology and cross-cultural psychology. Developmental psychology is the key to understanding the anthropological structures of humans in ancient times, and the evolution of more elaborated psycho-structural stages among modern populations. The chapter presents the anthropological conclusions that must be drawn from the cross-cultural empirical results. It outlines the structural-genetic theory program as the most fundamental historical anthropology or micro-sociology. Intelligence research found that people living in Europe, and in all other parts of the world, around 1900 had IQ scores of below 75, compared to standards gained in advanced nations after 1970. The Flynn effect, that is, the rise of intelligence in history, describes the links between low scores and patterns of premodern society on the one hand, and between higher scores and patterns of advanced industrialized nations on the other. A score of 75 corresponds to a developmental age of a child aged around 13, and a score of 100 to the developmental age of a person aged 18. Accordingly, premodern peoples did not develop the adolescent stage of formal operations, stepwise, unfolding in modern societies during the second decade of life. The preoperational stage, established in children by their sixth, eighth, and tenth year respectively, was the modal stage of premodern humankind. Ancient or archaic humans developed the concrete operational stage only seldom, and if at all then only partially, a stage which unfolds in modern children between their sixth and twelfth year. The formal operational stage is the modal stage which only emerges in people living in modern, industrialized nations. Thus, archaic or premodern adults commonly attained developmental ages of children between four and eight years old, while modern adults reach developmental ages anywhere between 12 and 25 years. Key concepts in understanding these crucial phenomena are open and closed developmental windows, arrested and promoted development, and cultural enforcements, socialization, and education.

3. Cross-cultural empirical results on developmental stages

The ability to think in logical and abstract forms is by no means universal but bound to exposure to modern educational systems. Chapter Three presents the way humans thought in premodern societies. The volume test was widely applied to test the establishment of concrete operations. Empirical surveys showed that a great many premodern peoples do not discern the invariance of fluids when poured in different forms. The chapter also discusses and presents the results of Alexander Luria´s research among the Kashgars. Archaic or premodern adults master logical conclusions the same way as modern children do. Neither group understands hypothetico-deductive or syllogistic conclusions. Both groups manifest the same patterns of logic and abstraction. These results pertaining to logic and abstraction prove the lack of the formal operational stage in archaic or premodern folks.

4. The understanding of numbers

To understand that one plus one equals two is by no means universal, *a priori* knowledge. Most humans in history neither knew this nor would understand it. Chapter Four displays the problems archaic humans had with regard to counting and computing. The non-understanding of simple arithmetic reflects a prevailing preoperational form of thinking among the primitive peoples. Some archaic folks did not know numbers at all and could not count with their fingers. Interestingly, they were unable to learn it even when they passed their childhood. This strange phenomenon reflects the power of closed developmental windows, and the strength of arrested development. Their children, however, can learn to deal with numbers when they receive the opportunity in childhood. Some more advanced archaic peoples can count with their fingers up to 5, 10, or 20. However, they cannot compute numbers. These two stages prevailed in the greatest sectors of archaic or premodern humankind. They match the patterns of very young children and the preoperational stage. Higher stages of counting and computation surface mostly only under conditions of state societies and agrarian civilizations.

5. The mystical understanding of the world

Chapter Five demonstrates that premodern peoples have a completely different understanding of the world, due to their mystical, magical, and animistic schemes. It shows that ethnology should rely on developmental psychology. Premodern or archaic folks live in fairylands, but in fairylands

that are real. They experience the world completely differently from the patterns which are typical for people living in modern, industrial societies. Archaic people do not understand the inevitability of death, the illusionary character of dreams, or the great division between living beings and dead matter. They believe that wishes can directly create objects and incidents, humans can transform into rocks or birds in a second, ghosts are everywhere, dead people rule the world, deaths originate in magic, animals think like humans do, and plants, clouds, and winds listen to what humans are saying. Archaic humans experience nothing in the same way as modern humans. They live in a world where mystical powers manifest, as children do.

6. The realistic understanding of dreams

Children all over the world, and adult humans living in premodern societies, commonly understand dreams as real-life experiences. Both groups see dreams either as perceptions of real incidents, or as visits of their soul, made at night. They cannot see their dreams as pure imagination or as a simple play of fantasy. Thus, they do not make discriminations between dreams and perception, dreams and reality, ideas and reality. The dream represents the mystical world, which is as real as the daytime world. Archaic humans draw practical consequences from the occurrences they have dreamt in their everyday life. Often, they see their dreams as their master, and obey orders therein. Developmental psychology could show that weakness of reasoning and sense of reality causes this phenomenon in a child in his sixth year, roughly. If one only knew about the realistic dream understanding of primitive peoples, this would suffice to prove their childlike anthropological stage beyond the slightest doubt.

7. Animism

Animism is a core concept in understanding the primitive worldview. Ancient peoples recognize nature and reality as alive and conscious. Souls and ghosts steer all movements and phenomena. Developmental psychology and ethnology demonstrate that children and primitive peoples share animistic thinking. Both groups regard clouds, winds, water, woods, mountains, celestial bodies, and artefacts, such as houses, boats, cars, and tools, as alive and conscious. Often, they believe that things and objects can listen and understand what humans say and do. They also assume that things and phenomena have magical control over what happens in the world, even assigning personality and divinity to them. The modern child starts to

replace animistic thought aged about four or five years, and has abolished all forms of animism at about 10 years old; however, primitive people adhered to animism lifelong, mostly to the same degree as modern children aged four or five. They extend their animism to fetishism and nature religion. The adoration of water, mountains, rocks, woods, and celestial bodies was widespread in the premodern world up to the 19th or 20th century. Next to ancestor worship, nature religion is a main part of archaic religion. It is obvious that nature religion originates in the psyche of the child in the preoperational stage. Adolescents in modern societies replace the forms of animistic thinking with the establishment of empirical-causal thinking and mechanical worldview. The establishment of the formal operational stage is the cause of the demise of animism, and yields the discriminations between psyche and physis, soul and matter, living beings and dead matter, subject and object. This evolution took place for the first time in history during the emergence of the mechanical worldview in the 17th and 18th centuries. The demise of animism in Europe during the 17th century is a clear indicator of the establishment of formal operations in the mind of the intellectual elite of that time. If one only knew the animistic beliefs and praxis of archaic humankind, it would be enough to demonstrate their childlike or preoperational stage beyond the slightest doubt.

8. Anthropomorphism and trials against animals

Humans in premodern societies recognized plants and animals as persons, outfitted with will, reason, and morals. They took it for granted that animals think in the same way as humans do. Thus, they either adored them as divinities, asked them for magical protection, appointed them as judges to decide trials, or accused them of crimes. In fact, they took animals to court, charged, convicted, and punished them, as if they were human delinquents. All sorts of animals were charged or tried, not only wolves, lions, dogs, or donkeys, but also even ants, flies, mice, or worms. People assumed animals have free will, moral responsibility, and knowledge concerning human society and legislation. They received lawyers to defend their rights, were imprisoned, and suffered from the same punishments as human delinquents. Trials against animals ended in Europe during the Age of Enlightenment, and in the rest of the world due to colonization and Westernization.

Developmental psychology can evidence that childlike thinking is the origin of this phenomenon. Younger children do not have the capacity to understand the cognitive differences between humans and animals. It is weakness of mind and reason, which accounts for the lack of discrimination and to the overestimation of the intellectual capacities of animals. Whereas

adolescents of modern societies surpass this childlike attitude, premodern adults remained bound to this trait to the end of their lives.

9. The belief in metamorphosis

Children and primitive people believe that stones can transform into people, plants into Gods, people into animals, and so on. This idea of metamorphosis is rooted in forms of preoperational thinking, prevalent in all modern children up to their sixth year. The understanding of the invariance of identity – belongingness of an individual to a certain kind or species – is one of the first manifestations of the concrete operational stage. Therefore, it appears as early as six years of age. Whereas older children in modern societies surpass ideas pertaining to metamorphoses, primitive people adhered to this idea for life, and it shaped their everyday experience of the world and their religious thinking. For example, in the 19th century, the Bakari believed that their neighboring tribe, the Trumai, were fish, while they assumed that they themselves were parrots. Many Africans believed that attacking predators were human sorcerers, who had transformed in order to carry out their attack. This belief caused charges against sorcerers for their alleged attacks in transformed appearance, and the avoidance of killing of a great many real predators. Killings by predators often led to accusations against humans, who were believed to have used the animals' bodies. By the end of the 17th century in Europe, trials against witches often included accusations they had transformed into animals to attack people or to steal things. The belief in werewolves also belongs to this belief in metamorphosis, which vanished in Europe in the aftermath of the Age of Enlightenment.

10. Magic

Some people believe that magic is the master of the world and the cosmos, thus experiencing the world as fairyland. Animals, humans, ghosts, and Gods influence and dominate the world by magic. Children have strongest magical beliefs in the first years of life. Within six years most of these beliefs have already vanished, while the rest disappear by the ninth and tenth year. Therefore, the preoperational stage is the sole cause of the existence of magic, until concrete operations destroy magical beliefs, and the formal operational stage is based on the total annihilation of magic. Whereas modern adolescents surpass the magical understanding of the world, primitive peoples believed in magical powers over world, and in occurrences throughout their lives. Belief in magic was a worldwide belief

across the whole premodern world, from the Stone Age to the beginning of the modern, industrial society in the West, or to colonization and Westernization in the global South. Individuals applied magic to their daily activities and their private goals. Communities performed magic for collective good, such as rain and sunshine, victory in wars, or good harvests. Trials by ordeal were based on magical beliefs, and in the conviction that the natural elements would make the right decisions. Totemic rites and shamanism, belief in witchcraft and sorcery, belief in the magical power of kings and priests, sun cult and sacrifices – all these phenomena resort to the belief in magic. The belief in magic in the archaic world was as strong as it is among modern children aged three to seven. The premodern belief in magic was a clear indicator of the prevalence of the preoperational stage as the modal stage.

11. Ordeals and oracles

Premodern peoples used ordeals and oracles to detect the truth about the past, the present, and the future. Children do the same, when they draw straws or matches to decide who is in the right, and who errs or lies. Children decide questions of guilt or innocence by the color of passing cars, or other accidental incidents. They believe in 'immanent justice', according to which nature and the cosmos punish malevolent people, always and automatically. Primitive or archaic people also believed in immanent justice, as verified by empirical research. Accordingly, primitive peoples use natural elements such as fire, water, iron, or poison to decide charges. These ordeals procure judicial decisions of guilt and innocence. Whereas modern adolescents surmount the belief in ordeals very early, the primitive peoples built their judicial institutions on these magical-animistic belief systems. Judicial ordeals were regularly performed in Europe by 1300, but in the form of torture, which was also seen as an ordeal, from the 14th century up to the 18th century. Judicial ordeals were in use throughout the global South during the 19th and 20th centuries, and exist in Africa partially even today.

12. Death magic and mishap as doom

Primitive peoples did not usually understand death as a natural phenomenon, but as some form of assassination, caused by malevolent magicians or witches, divinities or ghosts. Therefore, they looked for murderers, often using oracles, and then punished them. Thus, natural deaths, misunderstood as assassinations, caused real homicides, which cost millions of innocent lives. Primitive peoples ignored aging, illness, or

accident as causes of death, as they did not understand the inevitability of death in every living being, including humans. As young children do not grasp *Nemo mortem effugere potest* (no-one can escape death), primitive people did not understand that every life has only a limited time. Therefore, they saw death and illness as assassinations or attacks, carried out by mystical powers, especially sorcerers and witches. The discovery of alleged murderers and their punishments accompanied a great many natural deaths in the archaic world. However, the relatives of these 'discovered murderers', who were often punished or killed, often took revenge against those who prosecuted the cases of the dead. This blossoming of the belief in magic caused endless feuds and wars, endangering the existence of societies and hampering population growth over millennia. Developmental psychology describes that children often see the death of one of their family members as caused by their own wishes, or by the wishes of some other family members.

13. Nations on different stages of psycho-structural development

Developmental theory, rather than cultural relativism, or universalistic anthropology, or racial theory, is the key to understanding cultures and social evolution. This chapter refutes a prevailing theory in current social sciences, that common standards to compare societies to each other do not exist. Next to this relativism, universalism is another key approach in contemporary social science. Universalism maintains that all humans in world history manifest the same amount of intelligence and rationality. These two leading theories of contemporary social sciences, strongly established since around 1975, are completely wrong, and refuted by empirical data accumulated through psychology over the past 130 years. These two theories block the progress of science and keep it to medieval stations, as theology hindered the progress of sciences in the Middle Ages, or Marxism in the USSR. Stage theory is the only approach capable of explaining the development of collective systems, such as belief in magic, animism, sorcery, witchcraft, shamanism, totemism, and why these beliefs were omnipresent in the whole archaic world, from prehistory to the advent of modern society. Stage theory explains the historical development of collective systems such as religion, law, politics, morals, sciences, and arts, from prehistory to contemporary societies. Therefore, stage theory is the general theory to explain the main trajectories of history.

14. Religion

Religion and religiousness penetrate all cultures from prehistory to present times. Religions mainly consist of beliefs in divinities, in myths and legends, which narrate about divine origin and control of the cosmos, and about reward or punishment, both on Earth and in the afterlife. These religious elements originate in the psyche of the child, as Feuerbach, Heiler and Freud have hinted at. Religious people believe in their divinities, because they strongly believe in myths and legends, which speak about the lives and persons of the Gods. However, these religious myths and legends originate in fantasy, and the imaginations of humans themselves. Developmental psychology demonstrates that children between three and eight years old strongly believe in myths, too. Therefore, archaic belief in myths reflects a childlike psyche and mentality. Archaic people believed in ancestor Gods; Olympian Gods, a Father God in heaven, and natural Gods alike. Ancestor worship refers to dead parents, grandparents, and uncles and aunts. Archaic people believed their dead family members controlled the lives of their descendants by magic. They prayed and sacrificed to them and asked for assistance and protection. Developmental psychology can refer ancestor worship, the fear and love of the dead, to the psychology of the preoperational child. To their sixth year, children also see their parents as Gods, equipped with omniscience and omnipotence, as Pierre Bovet expounded. The religion of nature, the second major pillar of archaic religion, meant the adoration of woods, mountains, waters, and celestial bodies as Gods. Archaic people saw them as divine powers, able to reward or to punish humans, and they asked these powers for assistance. Nature religion takes root in the animism of the small child. The adoration of 'God the Father in heaven' and of the Olympian Gods cannot be so distant from these childlike attitudes. The idea that divinities reward or punish humans on Earth and in the afterlife also originates in the mentality of the child who is exposed to the power of his parents. The worldwide idea of heaven and paradise for the good, and hell as a place for the evil, originates in the wild fantasy of the child. Children believe in the eternity of the soul, because they cannot grasp the end of their own consciousness, as archaic humans could not. The decrease of religion in the most advanced nations takes root in the demise of ordeals in the 14th century and in the disappearance of the belief in magic during the Age of Enlightenment. Atheism appeared in France at the end of the 17th century, spread during the 18th century, and reached higher numbers in the 19th century. Churches in Europe were well visited 50 years ago, now they are almost empty on Sundays. The decline of religion is a steady and continuous process, running over a great many

centuries, strengthening from generation to generation. Disenchantment and secularization are manifestations of the establishment of the formal operational stage.

15. Myths and legends

Between their third and eighth years, children are keen on listening to myths and legends. These are their favorite intellectual nutrition. Children identify with the protagonists in the stories, as if the story takes place before their eyes. They believe that myths tell about incidents which once happened. They do not discriminate between reports of actual occurrences and myths, and have no idea of the merely illusionary or fictional character of these myths. When listening to myths, their minds bridge the place of listening, the place of fiction, and the past and present. They are in the story, as if they were participants. Due to an increased sense of reality and mental power, after their eighth or ninth year, modern children lose their interest in myths and turn to adventure stories and novels. Mythologists such as Campbell, Wundt, von der Leyen, and others, hint at parallels between myths for children and ancient myths for adults. Wundt could not discover any space between these two kinds of myth. Indeed, ancient myths reveal the same characteristics as myths for children do. In any case, myths and legends were the favorite intellectual food for archaic people, too. People gathered in the evenings to listen to the myths of their traditions. Ethnographic descriptions show that archaic people fully believed in the truths of their myths and did not separate them from reportage. The role of myths declined especially during the Age of Enlightenment. Philosophy, sciences, reportage, and novels are the heirs of myths. When we only know of archaic people's commitment to myths and legends, it proves that they remain on the preoperational stage, beyond the slightest doubt.

16. Rise of sciences

Sciences appeared in two stages in world history; in ancient Greece, especially during the Hellenistic epoch, and in Europe during the 17th century. Jean Piaget devoted a full monograph to showing that the establishment of the formal operational stage is a prerequisite to the advent of the physical sciences during the 17th century. As long as people remain at the preoperational, or concrete, operational stage, they cannot create science. Pre-operational people rely on myths and are neither willing nor capable of conducting scientific research or accepting scientific explanations. The formal operational stage is required to conduct experiments which

check and select all variables, to think combinatorically and hypothetically, and to design complex theories. This formal operational stage is a precondition to understand and to apply proper concepts of causality, chance, possibility, necessity, and probability, concepts that are imperative for the construction for any scientific explanation and theory. The formal operational stage is the gravedigger of the magical-animistic worldview. The demise of the worldview of the child is crucial to the birth of sciences. The same scholars who attained the formal operational stage during the 17th century, destroyed the magical-animistic worldview and created the physical sciences. The transformation from magical-animistic alchemy to rational chemistry, from the animistic interpretation of cosmos and celestial bodies to the rational and mechanical astronomy, and from the animistic interpretation of movements to the rational physics took place during the 17th century in Europe. Thus, the formal operational stage originated the sciences and carried them through the subsequent centuries. Sciences were a European privilege from 1590 to 1900 and disseminated hereinafter throughout the world.

17. History of philosophy

The structural-genetic theory program is the first approach to have proven that ontogenetic stage developments carried the whole history of philosophy. Piaget hinted at parallels between ancient philosophies and the ideas of the child. His analysis of Aristotle´s theory of movement is especially striking concerning the obvious parallels to ideas of the child. The new theory program figured out that the preoperational stage accounts to patterns of the cosmology of the Dogon as a typical example of archaic or illiterate philosophy. The new program could also evidence, that Plato´s theory of words – in his dialogue *Kratylos* – is fully identical to the related ideas of the child, down to the smallest details. Plato´s cosmology relies completely on magic and the animism of the child. Plato´s theory of ideas – the most celebrated piece of ancient metaphysics – originates in the conceptual realism of the child, that is, in the simultaneous spiritualization of matter and materialization of ideas. As Plato´s theory of ideas and Aristotle´s theory of universals were main theories by the 17th century, it is obvious that the philosophers of Europe were no longer at the formal operational stage by this time. The decline of ancient metaphysics in the 17th century and the origination of a new type of philosophy, with Descartes and Hume as protagonists, reflects the establishment of the formal operational stage. Thus, stage developments have carried the whole history of philosophy from antiquity to the present-day.

18. History of politics

Developmental psychology showed that modern children are in favor of authoritarian rulership, seeing it as a precondition for stability and security. They believe that rulers have a right to govern as they want, being legitimately independent from the wishes of the electorate. Modern teenagers develop democratic ideas, and then reject authoritarian principles of government. Likewise, children reject the idea that humans can make their own laws, as they assume that laws are made by God, by humans, or by their elders. Children see laws as holy, unchangeable, and as part of the natural order. Changing laws means breaking them, which humans are not allowed to do. On the other hand, children are not good at observing rules, as they often do not grasp them properly and are unwilling to obey them. Thus, they combine a holy idea of law with a scanty social praxis. Modern teenagers, establishing the first traces of formal operations, surmount this combination, replacing it with a democratic understanding of legislation and an improved social praxis. The structural-genetic theory program shows that archaic people around the world believed in the eternal, holy, and unchangeable nature of legislation. They did not discriminate physical from legal laws, materialized legislation and spiritualized physical laws. Thus, they did not discriminate between types of law, seeing them as ordinances of God, or the natural elements, which humans must obey. Therefore, legislation was regarded as not liable to democratically established modification. This kind of thinking prevailed in medieval Europe and prevails, to some extent, in the Islamic understanding today – as *Shari´a*. Accordingly, archaic peoples rejected democracy and were in favor of authoritarian regimes to secure the holy order as a precondition for stability. The new theory program proves that the preoperational stage was the cause of the omnipresence of these authoritarian regimes – tyranny, dictatorship, kingdom, and aristocracy – in the whole premodern world across all continents. Accordingly, the new theory program is the first theory to have elaborated stage theory as explanatory of the rise of ideas and praxis of democracy, liberty, human rights, civil society, and rule of law. These political ideas and institutions originated in Europe and the US during the Age of Enlightenment. The stage of formal operations is the cause of the origination of these advancements, and carries their further development through subsequent generations. The Western world has experienced a steady improvement in government, legislation, and social praxis throughout the centuries, originating in the intellectual maturation of people. While the social and political praxis of ancient and medieval societies was awful, barbarian, and horrible, the institutionalization of principles of humanism

and liberalism has been growing continuously throughout the systems of the most advanced nations of the world. Modern teenagers combine democratic consciousness with an improved social praxis, as modern, advanced societies do, because their residents have learned this – as 'teenagers'.

19. History of law

The structural-genetic theory program applied stage theory to the world history of law in 1987. The child understands laws as unchangeable and holy, as ancient and medieval legislation did. The child believes in immanent justice as archaic people did. Both groups believe that nature punishes malevolent people by its own methods. Sinners are punished by later events which the mystical powers prepare for them, e.g. accident, mishap, sickness. Accordingly, it is possible to ask nature whether a person is guilty or innocent of any charges. Then, the divine elements – water, fire, iron, or poison – give the correct answers, because they are omniscient, and act in agreement with the cosmos and God. Thus, the magical-animistic worldview, and, respectively, the psyche of the child, explains the use of judicial ordeals right across the whole archaic world from prehistory to recent times. The formal operational stage explains, then, the abrogation of ordeals by rational systems of evidence. Children have problems attributing responsibility for human actions properly. They have difficulties in separating will, intention, and responsibility on the one hand, and outcomes and consequences on the other. They frequently attribute responsibility either too strongly or too weakly. They tend to discharge people from the results or outcomes they are responsible for, and to attribute responsibility for outcomes they are really not accountable for. This phenomenon, called 'objective responsibility' by Jean Piaget, prevails in ancient law systems, known among historians of law as *Erfolgshaftung* (liability for success). Both ancient or medieval jurisdictions and laws are full of phenomena which completely match the patterns of objective responsibility. Phenomena such as collective punishments, punishment of the bringers of bad news, and trials against animals, document the prevalence of objective responsibility. Children adhere to severe punishments and see them as imperative to securing order and stability. They reject moderate punishments, or their omission. Only hard punishments are just punishments in their eyes. Ancient criminal law embodies the same principles of hard punishment. Archaic humans applied severe punishments, even for lighter delicts. Ancient criminal law, from prehistory to the advent of modern, industrial society, right across continents and cultures, including tribal societies and civilizations, manifests the same brutal-sadistic punishments. Torture,

mutilation, and execution by the most barbarian methods were applied in every single primitive nation, including Indian tribes, Australian aborigines, African peoples, Europeans, and Asians. The transition from brutal-sadistic criminal law to its humane descendant originates in the emergence of the adolescent stage of formal operations, as an aftermath of the Age of Enlightenment.

20. History of visual arts

Suzi Gablik was the first to dedicate a full monograph to the application of Piagetian stage theory to the reconstruction of the history of painting from ancient to modern times. Luquet, in *Le Dessin Enfantin* (1927) discriminated between the 'intellectual realism' stage, characterizing children´s drawings by their ninth year, from the 'visual realism' stage, which unfolds subsequently. Intellectual realism contains the following features: places, not spaces are painted, painting is two-dimensional instead of three-dimensional, distances and sizes of objects are arbitrary and random, important objects are painted big, while unimportant objects small, everything is painted from what is known, and what is viewable from a certain point, there is a further lack of oblique views, foreshortenings, shadows, or flowing of light. Children at the visual realism stage attain these abilities. By the time of Westernization, ancient and medieval paintings and Asian visual arts strongly adhered to the patterns of intellectual realism, down to the smallest details. Though archaic painters acquired greater skills than children have, even where they are educated from childhood, they never showed any signs of visual realism, but only manifestations of intellectual realism. Their spatial understanding remained in the preoperational stage – topological space concepts - and did not attain the concrete operational spatial understanding, that is, the Euclidean stage, according to Piaget´s theory of the development of spatial understanding. Only the key concepts of developmental age, arrested development, and closed developmental windows, can explain this remarkable phenomenon. The first traces of visual realism appeared from the 14th century onwards, neither in the second Pompeian style, nor in the Ptolemaic pictures, but only in Renaissance painting. The explosion in visual arts in the early modern times in Europe had no counterparts in premodern Japan, India, or China. Accordingly, stage theory explains the fundamental trajectories of the fine arts. In fact, stage theory also explains the emergence of classical music in Europe, too.

21. Violence, morals, and customs

Children tend towards physical and verbal attacks more than adults, due to their lower self-control, and lack of self-discipline, empathy, conscience, or compunction. Elias and Pinker described the same conflict behaviors in premodern humans. Statistics offer startling numbers. Across tribal societies in the archaic world, the average number of assassinations per 100,000 people annually was around 500. The great agrarian civilizations – state societies - reduced this number to 100 assassinations, and in Europe (excluding Russia) and the US the number was reduced to 1 assassination after 1945. Premodern societies were usually duel cultures, where people were allowed to kill others for any number of reasons. Revenge actions and feuds penetrated societies in a way that can hardly be overestimated. Whole families, clans, and villages suffered from feuds, which could originate at any time for the most ludicrous reasons. Cannibalism was widespread in Pre-Columbian America, Africa, and Oceania by the time of colonization and Westernization, transforming their worlds into realms of horror. Premodern criminal law is nothing more than a record of slaughters, with crucifixion, decapitation, boiling, dismembering, drowning, etc. The analysis of the Roman arena games proves the more sadistic character of primitive people, and their lack of development of higher stages of empathy, conscience, and morals. People visited the games to see how humans killed each other, or how humans could be killed by beasts, or how delinquents burned as torches. The lust to see such cruel things was the only cause of the existence of these games. Ancient humans were capable of sustaining such things without being traumatized and they were keen on seeing these cruelties. Humans in modern societies can neither endure seeing such atrocities, nor would they enjoy them. Therefore it would be completely impossible to reinvigorate the games today, due to the higher stages modern humans have attained. It would be physically viable, but not psychologically – and therefore not historically - possible. Thus, the analysis of the games leads to clear evidence that modern humans remain at higher stages, and that the great violence of ancient humans had not only institutional causes, but also psychological ones. Thus, the structural-genetic theory program evidences the early theoretical assumptions of Elias´ theory of civilization.

22. Foundations of social change and social evolution

Materialistic theories, based solely on economic and institutional assumptions or on ‘rational choice’ assumptions, can lead us astray concerning an understanding of social change. Only a theory that analyses both humans

and surroundings, can deliver an appropriate theory of social change. However, only developmental psychology can explain the role of humans in social evolution. If modern humans migrated to ancient Egypt with the help of a time machine, they would transform the country into a prosperous industrial country within decades. This idea exemplifies the role of the human mind and knowledge to questions of historical development and social change. However, it is not necessary to resort to such an artificial example because there are historical examples that exemplify the matter even more clearly. Why did North America develop so differently from Latin America over the past centuries? North America was mainly peopled by Europeans from Germany, Ireland, Britain, France and Scandinavia, especially after 1830. Especially after 1500, Latin America was peopled by Europeans from Spain and Portugal, that is, from countries hardly more developed than medieval nations. While the Indians played no role in North America, great percentages of them survived in Latin America and shaped society and the economy. Due to these different patterns of migration, North America joined the process of modernization and industrialization from the beginning, while Latin America did not participate in these processes, nor did their mother countries, Spain and Portugal, for a long time. The analysis of Australia, New Zealand and South Africa supports this conclusion, shedding light on the role of the human factor in the long process of development and modernization in the global South during the 20th century.

23. Social evolution from the Stone Age to agrarian civilizations

The human race lived in the Stone Age for more than 200,000 years. These people led their lives as hunters and gatherers, as their numbers were small. Therefore, population growth was very low. This is astonishing, because females can give birth to several children, which could have caused an overpopulation of the planet within a short time. Obviously, humans had great problems in securing their survival. These problems mainly originated in the preoperational stage, which caused shortcomings to the safeguarding of livelihoods and security. Population growth, characterized by village residence, pottery, cattle breeding, and farming, caused the beginning of the agrarian age. The Neolithic period started with roughly 10 million people, while in the time of Emperor Auguste, the ancient civilizations had already reached 330 million. While the early kingdoms in Egypt, Mesopotamia, India, and Peru 4.500 years ago did not have decisive preconditions to raise industrial societies, the great agrarian civilizations of China, India, and the Roman Empire had a great many preconditions to enable a modern, industrial society to emerge. They all harbored great populations, pacified

territories, huge transport systems, division of labor, enterprise, and accumulated fortunes. Why could none of them advance to a modern, industrial society, as Great Britain did after 1750? The structural-genetic theory program explains this block as a lack of development of the adolescent stage of formal operations. This stage came into being in Europe during the 17th century, but not in imperial Rome, medieval India, or China.

24. The emergence of industrial society

The establishment of the adolescent stage of formal operations caused the emergence of physical sciences during the 17th and 18th centuries in Europe. The origination of physical sciences enabled the construction of industrial technologies, and therefore the start of the industrial economy. The adolescent stage of formal operations also caused the Age of Enlightenment and the related rise of ideas pertaining to liberty, human rights, democracy, civil society, and rule of law. This time of 1700 to 1900 also saw the rise of classical music, with great composers such as Johann Sebastian Bach and Ludwig van Beethoven. Thus, it is obvious that the adolescent stage is behind the rise of physical sciences, the industrial economy, the Age of Enlightenment, modern humanism, the rule of law, democracy, and classical music. Therefore, the structural-genetic theory program explains the emergence of modern, industrial society. The structural-genetic theory program shows that all these phenomena refer to the transformation from the preoperational and concrete operational stages to the formal operational stages. They are different manifestations - or fingers of the same hand. Modern industrial societies are the most advanced because their residents develop 5 - 10 years more than premodern or archaic people. People at these higher stages can create more advanced societies in all aspects, such as the sciences, economy, politics, law, morals, and arts. Accordingly, the structural-genetic theory program claims to be the first theory in the history of science to have discovered the key to the riddle concerning the rise of modern, industrial society. Europe developed the modern industrial society due to the establishment of the formal operational stage, whereas the other civilizations did not establish this stage. This lack of the formal operational stage explains also the great difficulties the developing nations had during the 20th century in imitating Japan and the West. Chapter 24 also refutes competing theories from economy and sociology, which have tried to explain the rise of modern society otherwise. It shows that these competing theories cannot offer a fundamental theory which encompasses all aspects. Often, they can be refuted based on the facts they themselves offer.

25. Structural-genetic theory program as the foundation of social sciences and humanities

The structural-genetic theory program is the first theory in the history of social sciences and humanities which can show how archaic or primitive humans really thought. Thus, it is the first theory that fully explains the psychogenetic development of humankind from prehistory to the present-day. It is the first true and full theory of the human being, which outperforms all other theories of the human being. No other theory concerning human nature, provided by microsociology, evolutionary psychology, psychoanalysis, or rational choice, can describe the psychology of archaic humans and the psychogenetic development of humankind. Therefore, only the new program can describe the psychology of humans as they lived in the Stone Age or in ancient and medieval societies. Only this knowledge provides the key to formulate a general theory of the human being. Secondly, every single social and human discipline, archaeology, history, ethnology, sociology, economy, political sciences, philosophy, religious studies, etc., must rely on the structural-genetic theory program for a new theory of the human being and psychogenesis. The new program is more important than the theories they themselves have devised to form their disciplines. Every single human and social discipline requires a theory of the human being. Individual related ideas cannot compete with the knowledge which the new program furnishes. Their future development is hindered as long as they avoid the reception of the new program. Thirdly, the structural-genetic theory program is the single theory which has the capacity to unify all social and human disciplines under one common roof. As all social and human disciplines require a theory of the human being, and must refer to psychogenesis, the new program breaks down the borders between them and brings them a fundamental theory, which has the same relevance to all of them. Until now, no attempt succeeded in designing a theory which could claim to have the capacity to unify all social and human disciplines under one common roof. Therefore, the structural-genetic theory program is the first theory in science history to have successfully created a general and fundamental theory pertaining to all human and social disciplines. Fourthly, the new program has the same relevance for the social and human disciplines as evolutionary theory has to biology and quantum mechanics, and relativity theory has to physics.

Stage developments in the child and in history of humankind

Cultures	***Biggest part of premodern humankind*** The preoperational stage is the modal stage in archaic or premodern humankind, encompassing the biggest scope of psyche and mind of premodern humans. Some social groups and ethnicities also attain the concrete operational stage, at least partially, concerning some issues	***Some humans, especially in the great ancient civilizations and during the transitional stages to modern society***	***Modern nations and peoples***
Stages	**Preoperational stage**	**Stage of concrete operations**	**Stage of formal operations**
Number	Numbers in existence Counting with fingers Counting up to 10 or so	Additions and subtractions	Understanding of equations and proportions
Logic	Elementary deductions	Concrete deductions	Formal deductions Syllogisms Hypothetical-deductive reasoning
Perception and representation	Eidetism strong	Eidetism weaker	Eidetism almost disappeared