

Comparing Ontogenetic and Phylogenetic Stages of Human Development

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*Abstract*

*This paper will present evidence to support ontogenetic and phylogenetic parallels and draw from these comparisons to further illuminate our understanding of micro and macro human development. Individual and collective stages of physical, psychological and spiritual development will be compared and their homologous structures examined. Developmental stage theories for the following areas will be briefly presented and their descriptions of the ontogenetic and phylogenetic stages of infancy, childhood, adolescence and adulthood generalized and compared for commonalities: cognitive (Piaget), moral (Kohlberg, Gilligan), ego (Loevinger), needs (Maslow), socio-emotional (Erikson), self sense (Cook-Greuter), faith (Fowler), cultural (Beck & Cowan), social/cultural/economic worldviews (Wilber) techno-economic (Lenski), sociocultural (Gebser), religious systems (Bellah), epochs (Habermas) and others. Implications of this research on how we might help facilitate human development individually and collectively will be presented.*

That humans collectively and individually go through parallel developmental stages had been considered an old way of thinking that was not substantiated until more recent thinkers and researchers in evolutionary and developmental theory in broad areas of human development have identified patterns that demonstrate many similarities (Neumann, 1955; Piaget, 1977; Habermas, 1979; Asimov, 1984; Wilber, 1995). For humanity these processes may have taken centuries or millennia to pass through, whereas an individual may go through an analogous stage in a matter of days, months or years. Development may appear to go in fits and starts, in a random or unpredictable pattern, but an order and system are beginning to be uncovered by evolutionary and developmental theorists.

The comparison and commonalities of these patterns, using the four general stages of infancy, childhood, adolescence and adulthood in individual development as general categories, will be explored in this paper and are summarized in Table 1. The physical, mental and spiritual aspect of human nature will also be used as broad classes to compare development, with the focus being on mental characteristics. Ontogenetic and phylogenetic parallels of developmental stage theories for the following areas will be briefly presented and compared for commonalities:

cognitive (Piaget), moral (Kohlberg, Gilligan), ego (Loevinger), needs (Maslow), socio-emotional (Erikson), self sense (Cook-Greuter), faith (Fowler), cultural (Beck & Cowan), social/cultural/economic worldviews (Wilber) techno-economic (Lenski), sociocultural (Gebser), religious systems (Bellah), epochs (Habermas) and others (see Table 1). Implications of this research on how we might help facilitate human development individually and collectively will be presented.

Human development, both individual and collective, is a gradual, predictable and necessary process. By understanding the evolutionary quality of development, we can better appreciate and evaluate past contributions to present conditions and make future plans for further progress, making adjustments based on an analysis of the data available. We can accept our past and build on it, carrying with us those qualities that will further our advancement and leaving behind those characteristics that are no longer suited to present or future needs and conditions.

Development is a universal principle that can be seen as part of the natural order. In the mineral kingdom we see the joining of atoms to form simple molecules that form cells to make substances. On the vegetable level of matter, the seed becomes a sprout, grows, flowers, bears fruit and creates seeds for the next generation. The development in the animal is similar to that of the human body going through comparable stages in their physical life cycle. Like the human being, the physical world possessed all its potential attributes and perfections from the beginning, but only when conditions were right were they manifested. Every cell (individual, part) affects and is affected by the body (collective, whole) of which it is a part.

#### Physical, Mental and Spiritual Perspectives

Developmental stages can be viewed from the perspective of the three natures of a human being: physical (body), mental (mind) and spiritual (soul). These qualities unfold in similar ways to one another, and ontogenetically and phylogenetically, as will be further explored in the paper. We learn to develop our physical perception and sensory capacities, just as we learn to develop our mental and spiritual insight and competence. It is only after our eyes and our perception have developed that we can make out shapes and our minds can identify them without any apparent effort. We are also able to mentally make out concepts and principles and spiritually identify virtues such as truth and justice only after some development.

Though the body, mind and soul stages have parallels, they do not necessarily occur in concert with one another. As the mind is largely situated in a physical organ, the brain, some mental and psychological functions have organic requirements, and therefore can not develop until the brain has adequately developed. The soul, though being completely non-organic and not composed of matter, uses the body and mind as vehicles for expression and development, and therefore also develops in relation to them. Only when the person reaches maturity are the full capacities of the body, mind and soul able to be realized.

The developmental process can be seen as stages of increasing autonomy, differentiation and integration, resulting in more complex, higher order wholes, identities, articulations and unities in diversities. We see these patterns in the physical, mental and spiritual worlds. As physical cells divide (differentiating) and combine into body parts (integrating), so do mental (images) and spiritual cells (virtues) forming greater unity and diversity (integrity) and capacity (autonomy) in more complex networks. The identity of the body is going through constant

change, as is the mind and soul. They are always active, though more or less so at different times. Certain developments can mark or be used to identify different stages, but the process is continuous. Unlike the body in which a stage of growth is reached and then maintained until that body experiences a gradual decline in physical health and capacity until death, the mind and soul have the capacity to continue to grow and develop. With age, the brain, as part of the body, will begin to lose some capacities, and therefore the part of the mind we directly associate with the brain also declines.

The mind and soul exist in potential, something like the body does in our DNA. All require interactions with and within environments to actualize those potentialities. Given the proper environment, the body capacities unfold or come into existence naturally. With proper diet, exercise and physical care, the body develops naturally to its full capacity and powers. The skills and functions of the body can be consciously used by the mind and soul.

Consciousness grows to differentiate self from non-self and then to differentiate from and integrate with all the various non-selves it encounters. The first sense of self is identified with its body. As awareness of our body increases, we are able to begin to exercise and develop some control over it. We can gasp things, make sounds and move. Gradually consciousness discriminates feelings and mind as being separate from the body and begins to shift some of its identity to them. With this it can begin controlling some of its body discharges and functions that previously were beyond control and consciousness. After it has developed a healthy body, feeling and mind self, it begins to develop in interactions with others, differentiating and integrating their ways of being, feeling and knowing with their own. As they become absorbed in this rich world their focus shifts from a largely individual self focus to a group focus, as they come in contact with wider groups of others, differentiating, selecting and integrating their views and ways using capacities and criteria developed at earlier stages. Their sense of mind self is expanded, altered and influenced by these forces. Eventually it will subsume and incorporate all those forces into themselves as their minds expand until they can see all these outside cultural influences together and begin to be able to reflect and act upon them moving from their predominately ethnocentric thinking to a more individually defined and chosen view (see Table 1).

## Body

The initial one-celled fertilized egg which constitutes the unified and integrated body at conception begins the process of dividing itself, beginning a process that will continue until full physical maturity, and then maintain itself until the decomposition of those cells at the death of the body. Though we have a one-celled body at conception, it contains all the potential to develop our body parts and mature features, waiting only to be realized through a natural growth and development process. The physical development a fetus goes through in nine months parallels the changes our species has gone through in millions of years.

At the earliest stages, the baby has no control over bodily functions. Its body actions are initially directed by impulses and instincts. In fact most psychologists agree that initially the baby does not have a sense of differentiation of itself from the surrounding world. In the womb, the fetus is in many ways one with its mother. It is inside of, connected to and affected by its mother.

## Mind

On the mind level, humanity has also gone through various stages individually and collectively. The mind has many aspects or qualities that can be examined to determine patterns of evolutionary development analogous in both individual and collective development. At the lowest levels of development the human shows signs of development starting with instincts, moving to sensations and then perceptions. Mental development progresses from body centric to egocentric, ethnocentric, and world-centric orientations. Potentially higher levels should be forthcoming in the future. The world is currently at the stage of moving from predominately ethnocentric to a world-centric outlook, which will eventually lead to more transcendental and universal world views.

Historically social developments have roughly progressed from family units, clans, tribes, feudal state, city state, nation state to the now emerging world state. Humanity has passed through social developments connected with hunting and gathering, horticultural, agricultural, industrial ages which have led to the present information and emerging globalization age. In the same way that biological genetic endowments have been passed on and future evolution has built upon them, so has the emotional, cultural, mental and other developments connected with the human mind (see Table 1). Each higher stage allowed for greater individual and collective expression of and opportunities for development of capacities.

## Soul

We have also seen an evolutionary development in the areas of spirituality and religion. Religions have evolved, building on preceding religions and introducing necessary adaptations according to the spiritual demands of each successive age. These religious teachings have covered spiritual matters, but also addressed social, cultural and physical matters as well. The influence of these religions on human development in all areas has been well established. Their evolutionary relationships are less accepted and understood, partly because of the ethnocentric mentality of their adherents and the nature of the physical, mental and spiritual development of the times these religions were revealed. The paternalistic and mythological aspects of religion that were appropriate for a less developed humanity, need to be replaced by standards and approaches more suited to the current age. Each age has different needs and requirements which religion must address if it is to be relevant and useful.

## Conclusion

A part of our reexamination and reevaluation of our individual and collective pasts is to look at the attitudes and assumptions that have guided our thinking and actions. These are often called world views or paradigms. They are hard to change. We do not let go of them easily. We either need to be presented with a world view that is superior to ours and that works noticeably better than ours, or we need to have a failure of our worldview, usually in the form of a major life-threatening or life-changing crisis, similar to the social-emotional crises individuals go through (Erikson, 1950, 1959). Those who do so successfully are able to advance to a higher level of functioning, and those who do not are forced to stay at a less developed level. It seems challenge and crisis are the normal route to growth. We do not discard something until it becomes very clear it does not and will no longer work for us. And sometimes we need overwhelming evidence.

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<b>Developmental Stages</b>	Infancy/Early Childhood	Childhood	Adolescence	Adulthood
<b>Ages: Individual Collective (estimated)</b>	0-6 yrs Paleo to mesolithic	5-12 Neolithic to Bronze	11-21 Iron to Enlightenment	20+ Global to future
<b>Self Center/ Identity</b>	Physio/ Bio centric	Ego/Role centric	Ethno centric	World centric
<b>Self Sense (Cook-Greuter)</b>	Presocial, symbiotic, impulsive	Self-protective, rule-oriented, conformist	Self-conscious, goal-oriented conscientious	Individualistic, autonomous, ego-witnessing
<b>Cognitive (Piaget)</b>	Sensorimotor	Pre and concrete operations	Formal operations	Post formal operations
<b>Moral (Kohlberg)</b>	Pre moral	Pre conventional	Conventional	Post conventional
<b>Moral (Gilligan)</b>	Pre moral	Selfish	Care	Universal Care
<b>Self stages (Loevinger)</b>	Symbiotic/ Impulsive	Protective	Conformist/ Conscientious	Individualistic/ Autonomous/Integrated
<b>Socio-emotional (Erikson)</b>	Trust , Autonomy	Initiative, Industry	Identity	Intimacy, Generativity, Integrity
<b>Needs (Maslow)</b>	Physiological	Safety	Belongingness	Esteem/actualization
<b>Logical mode</b>	Prelogical	Quasi-logical	Logical	Extra-logical
<b>Faith (Fowler)</b>	Preverbal, magical, projective	Mythic-literal	Conventional/Individual reflexive	Conjunctive faith/ universalizing
<b>Worldviews (Beck/Cowan)</b>	Instinctive, Magical-animalistic	Power gods, Absolutist-religious	Individualistic-achiever, Relativistic	Systematic-integrative, Global-holistic
<b>Epochs (Habermas)</b>	Archaic, Magical-animalistic	Mythological, Mythic-rational	Rational-reflective	World Citizens
<b>Sociocultural (Gebser)</b>	Archaic, Magic	Mythic	Mental	Integral-aperspectival
<b>Cultural (Wilber)</b>	Archaic, Magic-typhonic	Mythic-membership	Rational-egoic	Integral-centauric
<b>Economic (Wilber)</b>	Foraging	Horticultural/Agrarian	Advanced agrarian, Industrial	Informational
<b>Social Units (Wilber)</b>	Tribes, Organized hunts	Village, Early state	Empire, Nation-state	Planetary, global
<b>Cultural</b>	Magical/animistic	Power/mythic	Rational/pluralistic	Integral/holistic
<b>Social/Political Units</b>	Survival groups/Clans	Tribes/city states	Nation/corporate states	World state
<b>Techno-economic (Lenski)</b>	Hunting and gathering	Horticultural, agrarian	Industrial	Informational
<b>Religious Systems (Bellah)</b>	Primitive, archaic	Historic	Early modern	Modern
<b>Religions</b>	Pre Adamic-Adamic	Adamic-Christian	Christian-Islamic	Babi- Bahá'í

Table 1. Simplified Comparison of Onto and Phylogenetic in Four Broad Stages (Adapted in part from Wilber, 2000)

Ontogenetic	Phylogenetic
Individual	Collective
Agency	Communion
Eros	Agape
Diversity	Unity
Rights	Responsibilities
Cell	Body
Development	Evolution

Table 2. Comparing Ontogenetic and Phylogenetic