Title

The History of Developmental Psychology

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Introduction

The authors of this paper were invited to provide a chapter on how to teach “Developmental Psychology” (Daum & Manfredi, forthcoming) to the “International Handbook of Psychology Learning and Teaching” (Zumbach et al., forthcoming). When writing, the authors got lost in the details and wrote just a tiny little bit more than the editors asked for. In the end, we had to cut a substantial part of the chapter and decided to delete entire sections, one of them was the part on the “History of Developmental Psychology”. We nevertheless thought that the section could be of interest to somebody out there and put it as a preprint on the open science platform PsyArXiv. Enjoy reading.

The History of Developmental Psychology

Following the quote attributed to Goethe: “If you want to know how something is, you must look at how it came to be”, the goal of this section is to embed current views on development into a larger historical perspective. Thinking about the development of an individual has a long tradition but not necessarily from the perspective that childhood and adolescence are periods of increased plasticity and vulnerability.

Plato and Aristotle

Two prominent Greek philosophers shared their thoughts about how children develop and how children are best raised: Plato (*428/427 BC - †348/347 BC) and Aristotle (*384 BC - †322 BC). Both were interested in how predisposition and environmental factors affect children’s development. They both divided the life course into different segments related to age and discussed the advantages and disadvantages of these life segments. And they agreed that the well-being of a society depends in the long run on children being raised decently and educated to self-control and discipline. At the same time, they had diverging views on children’s development and the influence from predisposition and the environment.

For Plato, humans are good by nature and all children should be given the same opportunities to be educated, regardless of their background or gender, to become valuable members of society. Plato regarded self-control and self-discipline as the most important elements of education and children must be helped to learn to control themselves.

In Aristotle's view, education needs to be adjusted to the individual children to provide them with a particular "profile". Aristotle emphasised that people are different by nature and that not everyone responds to education in the same way. In his recommendations for education, he emphasised protecting privacy and individuality.

Both philosophers further disagreed about how children acquire knowledge. In Plato's view, children come into the world with a set of innate knowledge, for example, about animals or plants. In Aristotle's view, the child is born without prior knowledge and this is only acquired from their experience. Interestingly, both philosophers describe memory as a wax tablet. But Aristotle considered this wax tablet to be empty at birth, which was the basis for the metaphor of a newborn child being a "Tabula Rasa" (i.e., an empty slate or chalkboard).

Middle Ages (~Until the 15th Century)

In the centuries after the formulation of theories by the ancient Greeks, it seems that little progress about the idea of how children develop has been made. In the Middle Ages, the first novels occurred that focused on changes of an individual person over the life course. For example, Wolfram von Eschenbach (*1160/80 - †1220) describes the life of "Parcival" from childhood through his time as an Arthurian knight to the Grail kingship. However, both in Antiquity and the Middle Ages, human development was observed and reflected upon, but it was not in any way a topic of systematic research (Reinert, 1976).

Thinking about development regained momentum towards the end of the Middle Ages. At that time, Preformationism started to be reconsidered. Preformationism was formulated already by the ancient Greeks and assumes that the complete body of an individual is already “preformed” in the ovum and only needs to mature to adult size. This resulted in the concept of children that—at least after childhood—typically ended at 7 to 8 years of age—as small, fully formed, and fully functioning adults.

Until the Middle Ages, changes during childhood and adolescence were by no means registered in the way they are perceived today. Also, no particular philosophy existed that viewed childhood as a unique period of life (e.g., Ariès, 1975). Ariès used artistic representations of human figures to support this idea: He noticed that in paintings of that time, children and adults neither differed in their body proportions nor in the way clothed or put into context.

Rousseau and Locke (and Others)

During the 18th century, the ideas of Plato and Aristotle were reconsidered and further developed by, among others, Jean-Jacques Rousseau (following Plato) and John Locke (following Aristotle).

In one of his novels, Rousseau (*1712 - † 1778) describes the ontogeny of *Émile* (1979), a healthy, averagely gifted boy from a rich family. Rousseau presents Émile’s different life phases and anticipates characteristics that were implemented in major developmental theories such as a stage-like development (see Piaget, Kohlberg, Erikson) or the child as an active participant who shapes his/her own development (see Piaget). Rousseau considered children as noble and untamed savages and childhood as the age when humans are closest to the state of nature. During childhood, the natural developmental urge of the child is

paramount and education is seen as a negative influence. Important educators such as Maria Montessori or Johann Heinrich Pestalozzi based their educational ideas on Rousseau.

Opposing Rousseau, John Locke (*1632 - †1704) based his reasoning on Aristotle and considered children being born as a “Tabula Rasa”, who are being moulded or written on by the external world, with little own contribution in development. Parents and educators are important role models for learning. Together with David Hume (*1711 - †1776), Locke is considered the founding father of Behaviourism.

The Beginning of the Science of Development (18th to 20th Century)

The industrial revolution started in the second half of the 18th century was a time of profound and lasting transformation of economic, social, and working conditions. It required an increasing number of labourers including and children who had often to work under extremely dangerous circumstances. This resulted in growing concerns that these conditions would have negative effects on children’s development. Anthony Ashley-Cooper, the 7th Earl of Shaftesbury, expressed this in a famous speech in the British House of Commons: “Children of amiable temper and conduct, at 7 years of age, often return next season from the collieries greatly corrupted, [...] with most hellish dispositions” (cited in Kessen, 1965; Siegler et al., 2019). Ashley-Cooper strived to push a bill through the House of Commons to limit working times for children with the ultimate goal to abolish child labour altogether. The first restrictions regarding child labour were imposed by the Child Protection Act of 1802. But only with the Factory Act of 1833, working hours for children and adolescents were limited (to 12 to 14 hours per day for children between 14 and 18, 12 hours for children between 9 and 14, e.g., Paulinyi, 1989).

Towards the end of the 18th century, the first ideas of how to approach Developmental Psychology were formulated. Reinert (1976) and Trautner (2003) highlight the influence of a

number of scientists such as Johann Nikolaus Tetens (*1738 - †1807) and Dietrich Tiedemann (*1748 - †1803). Tetens was one of the first who was not only interested in the application of knowledge about child development in educational contexts but in the formulation of general developmental laws, which he inferred from the first attempts of systematic observation. He also shifted his interest from age differences to developmental trajectories. Tiedemann is described as the first to systematically collect longitudinal data in the form of a developmental diary about his son during the first two and a half years. These are the first known diary records of child development.

The start of scientifically substantiated Developmental Psychology can be dated to the middle of the 19th century. During this time, several scientists started to describe the development of (mostly their own) children: Preyer (1882) in “Die Seele des Kindes” [The soul of the child], Darwin (n.d.) in “A sketch on an infant”, Ernst und Gertrud Scupin’s (1907) “Bubi” series, see also Clara and William Stern (e.g., 1907), and Piaget (1977). These first empirical investigations were used to formulate broader theoretical frameworks. Of course, these observations do not meet contemporary requirements for systematic observations; they were unsystematic, with entries at irregular intervals, lacked objectivity because the observed children were family members, and the sample size was minimal. However, with these observations, attention was drawn to essential aspects of child development and resulted in an increased interest in research in Developmental Psychology.

Modern Times (20th Century)

The science of development gained increased momentum towards the beginning of the 20th century. Universities introduced Developmental Psychology as a subject, and the first theories of development were formulated (e.g., James Mark Baldwin’s *stage theory of development*). This progress was closely related to the general improvement of scientific

methods to measure human behaviour. Wilhelm Wundt (*1832 - †1920) was the first who regarded psychology as a science that is distinct from philosophy and biology and he was the first person to call himself a psychologist (Carlson et al., 2009). He is regarded as the “father of experimental psychology” and in 1879, he founded the first laboratory for experimental psychological research at the University of Leipzig. Concerning the measurement of child development, Wundt was rather pessimistic. In his book “Grundriss der Psychologie” ([Outline of Psychology], Wundt, 1918) he wrote: “The experimental method is practically inapplicable to earlier childhood, and the results [...] must be regarded as purely accidental” (p.24, translated by the authors). Stanley Hall (*1846 - †1924) was the US counterpart to Wilhelm Wundt. He founded the first psychological laboratory in 1888 at Johns Hopkins University in Baltimore. Hall constructed the first questionnaires for children on topics such as “The contents of children’s minds on entering school”. At the same time, Arnold Gesell (*1880 - †1961) used systematic observational methods including the newest techniques such as filmic registration of behaviour and presented a comprehensive collection of observational data on development from infancy to adolescence. He followed the tradition of Rousseau and depicted development as a maturational process in which the influence of the environment plays a rather subordinate role.

During this period, other researchers started and expanded their research in the field of Developmental Psychology: Alfred Binet founded the first psychological research laboratory in France. He aimed to develop experimental methods to measure intelligence and logical thinking. Together with Théodore Simon, they developed the first test for the measurement of intelligence in 1905 (e.g., Binet & Simon, 1916) which was further developed into the Stanford-Binet test, the first version published in 1916 and revised in 1960.

From these developments, different directions of theoretical thinking arose. Based on the ideas of Aristotle and Locke, *behaviourist theories* were formulated by researchers such as Skinner and Watson. In this line of research, children were regarded as passive beings who are influenced by their environment. *Psychodynamic theories* (e.g., by Freud or Erikson) viewed childhood experiences as the basis for adult personality and relationships. These theoretical considerations often adopted a stage-like approach to development. Freud focused on psychosexual aspects (e.g., Oral phase, Narcissistic phase, Anal phase, Phallic phase, Latency phase, Genital phase), Erikson put more emphasis on psychosocial aspects of development (basic trust vs. mistrust; autonomy vs. shame, doubt; initiative vs. sense of guilt). In *socio-cultural theories* (e.g., by Luria and Wygotskij), the development of higher mental functions was explained by the interiorisation of historically and culturally shaped tools (e.g., mental artefacts such as language). Children were viewed as the products of their culture; the learning processes are the same in all cultures but the learning contents (e.g., the particular language that is spoken) differ.

Over the course of the 20th century, the so-called cognitive revolution represents a paradigmatic shift from behaviourism to cognitivism. It started with Chomsky's (1959) critique of behaviourism with his famous quote: "It is quite possible [...] that we will always learn more about human life and human personality from novels than from scientific psychology." Piaget formulated his theory of cognitive development that regards development as a change in cognitive competencies.

In the 1960s, Fantz (e.g., 1963) discovered that infants have visual preferences for certain patterns. This resulted in an explosion of the number of infant studies and the notion of the *competent infant* who seems to be endowed with a small number of separable cognitive systems of innate core knowledge, which let them make sense of the world (e.g., Spelke,

2004). This development can be seen as the antithesis of behaviourism formulated earlier in the 20th century.

The contemporary trends of Developmental Psychology are manifold. However, among the most influential directions is the position of Paul Baltes (e.g., Baltes et al., 1999) who outlined the central propositions of lifespan psychology, that is (among others), development takes place across the entire lifespan, is a dynamic interaction of gains and losses, is characterised by phases of different plasticity and its limits, and is embedded in a situational and historical context.

Application in Teaching

Vignette 1 - Childhood in Different Historical Ages

Francis and Mark are both 5-year-olds. However, their childhoods differ substantially from each other: Francis lives in the Middle Ages while Mark is our contemporary. From an early age, Francis helps his parents around the house, taking care of his younger siblings, cooking, and helping with family affairs. Although they love him, both Francis' parents and teachers are allowed to beat him in an attempt to correct behaviours deemed wrong.

Mark goes to school every day, and one afternoon every week he attends swim lessons. He has one sister and his favourite activities are playing soccer with his dad and having a book read by his mom. Mark's parents are very responsive to his needs and emotions and try to stimulate their child by offering age-appropriate activities. Despite being from different ages characterised by different views on development, it is interesting to observe that both Francis and Mark love building sandcastles, playing with balls, and role-playing with pots and pans. This suggests that despite different cultural contexts and educational styles, children exhibit certain characteristics and attitudes that are similar across historical eras.

Vignette 2 - Secular Acceleration

Meet Marco and Stephanie, both 18 years old, living in Zurich in the year 1850 and Thomas and Caroline, also both 18 years old, living in Zurich in the year 2019. Thomas and Caroline are both approximately 10 cm taller than Marco and Stephanie, Caroline had her menarche when she was 13 while Stephanie had hers when she was 18. In both cases, body height and age of menarche reflects the average parameters in each of the time periods.

What is described here is the so-called *Secular Acceleration*, a phenomenon that occurred during the last century in the most industrialised countries. Although the genotype of the two couples is not substantially different between the two points in time when the two couples live, what has changed is their appearance (i.e., their phenotype).

Conclusion

According to Baltes (1987), development needs to be considered from a broad perspective: It is a dynamic process covering the entire lifespan and it includes gains and losses with gains being more prominent in younger individuals and older individuals having to deal with more losses. Development takes place within a certain context, that can be defined by spatial location (e.g., culture), the available financial and social resources (e.g., the socioeconomic status). Here, we briefly described historical time as a context for development. Changes in the view of how individuals develop and of Developmental Psychology as a field came with several challenges. These challenges include questions about how humans develop have occupied philosophy and science for millennia: What is innate? What is acquired? What is the effect of age on development? Should development be understood as following universal laws, or describing individual trajectories? Are development principles domain-general or domain-specific, cross-cultural or culture-specific? Contemporary definitions describe Developmental Psychology as being concerned with

intra-individual changes in human behaviour and experience over the entire life span as well as with *inter-individual differences* between these intra-individual changes (e.g., Baltes, 1987; Daum et al., 2020; Schwarzer & Walper, 2016). Based on this broad and humble definition, the attempts to answer these questions have slowly moved away from either-or patterns. Today, it is assumed that development is determined multi-directionally and multi-causally (e.g., Baltes, 1987). To describe and explain developmental processes, it is important not to restrict the perspective to the time that starts with birth, not even to the time that starts with the fertilisation of the ovum; some factors influence the development of an individual that often lie before these points in time. Evolutionary processes thus play just as much a role as biological maturation and environmental experiences. At the same time, development may be regarded to not necessarily end with a person's death; an individual can substantially influence further generations through the actions during his or her lifetime. To learn more about the questions of scientific dispute that resulted from the historical changes, the reader is referred to the book chapter by Daum and Manfredi (Daum & Manfredi, forthcoming) for which this section was originally written for.

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