2 The Nascence of Modern Man

Two Approaches to the Problem – Biological Evolutionary Theory and Philosophical Anthropology

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Biological and medical anthropology, social and cultural anthropology, and historical anthropology – each investigate different aspects of the human condition. Yet the first specifically philosophical anthropological task consists of integrating these different aspects into a single interdisciplinary framework. Such a framework must systematically capture the interconnections between nature and culture, as well as individuality and sociality. As far as temporal and historical issues are concerned, such a systematic and interdisciplinary framework must also be able to provide us with some orientation with respect to human evolutionary history. In short, it must perform a significant heuristic function. In this interdisciplinary sense, philosophical anthropology is not a special anthropological discipline but rather a universal anthropology, which circumscribes the field of research as a whole and shapes it to be compatible with all other anthropological subfields. The structure and function of philosophical anthropology is assessed by its ability to weave together a number of disciplinary tasks.

One encounters the second task of philosophical anthropology as soon as one seriously reflects upon the historical fact that posing and answering anthropological questions has itself been an integral part of the human condition since the Axial Ages, that is, since the stabilization of high cultures of the personality between approximately 500 BC and 500 AD. Apparently, this institutionalization of personality, which, at that time, was enjoyed by only a small minority, made it possible to distinguish man from other living creatures by distinguishing persons from other creatures. Such distinctions and their modifications functioned as differential criteria, albeit from a point of view we would recognize today as anthropocentric and ethnocentric. This problem of elevating the predominant self-perception to the status of a central standard for everyone and everything else has only grown more pointed since the dawn of modernity. One can thus follow Michel Foucault in calling the epistemic and political constitution of modernity an anthropological circle (cf. Krüger 2009, ch. I. 1.). One must, therefore,
also investigate what makes anthropologies possible and how they are able, by means of methodological control, to put themselves in a position to manifest political authority. Otherwise, particular anthropologies and even philosophical anthropology itself degenerate into an ideological muddle, as history has taught us all too frequently.

To the best of my knowledge, only Helmuth Plessner's philosophical anthropology has managed to convincingly fulfill both of these philosophical tasks (cf. Krüger 2009, ch. II. 4., Krüger 2010, ch. I.). Hence, that is the system I have chosen to work with. As it would go beyond the scope of this essay, I have to restrict myself to only explore the first of the two tasks mentioned above. I will begin with some contemporary proposals for how to think about the evolution of modern man (in the biological sense of *Homo sapiens sapiens*). Second, I will reconstruct the most important interdisciplinary contributions to this question within the discourse of philosophical anthropology. There has of course been a great deal of empirical progress in the various related special disciplines in the last two decades. Nonetheless, the conceptual task that arises in reflecting on the evolution of man remains fundamentally unchanged. Despite the close relationship between man's new sociocultural niche and his new sociocultural environment in the evolution of nature, the questions posed within philosophical anthropology were more developed both philosophically and anthropologically than they are in the contemporary discussion.

How are variation and selection connected in the evolution of modern man? The formation of a sociocultural niche of collective intentionality

The modern, synthetic theory of evolution (Mayr and Provine 1998) no longer recognizes a single and unified necessity, but only the contingent interplay of two distinct processes. There is neither a place for preformation, nor for any telos or compulsion towards higher development. The two types of processes that this theory is concerned with are those of variation and selection. Variation has to do with the genotype, i.e. with the alteration of the inherited material typical of the species. As they are being passed on to the next generation, genes can be altered by several mechanisms. These can involve external influences, i.e. mutations in the narrow sense (e.g. by radiation, poisons, viruses), by errors in replicating DNA and RNA patterns in an organism's sperm or ovum, or through the recombination of genes in sexual reproduction. On the other hand, selection has to do with the
phenotype, i.e. with the modes of behavior specific to a species within its specific environment. This behavioristic understanding of the phenotype is broader than its reduction to a physical manifestation of the organism's genotypic potential. What can be observed from the outside, is behavior. The functions of physical structures are functions of behavior in its genetic, epigenetic, behavioral and symbolic dimensions (Luhmann 1997; Jablonka and Lamb 2005). Although one can clearly distinguish between variation and selection, the two processes must interact, however contingently. The survival of the genotype is impossible without reproductive behavior, assuming sexual dimorphism. Selection not only presupposes organisms that behave in certain ways, but also genes that are inherited through successive generations. Thus, the distinction between variation and selection is not a complete division and separation of the two sides, but rather raises the question of how they are connected. However, this question cannot be answered all too hastily, as though one already knew the answer. Instead, one must investigate and answer the relationship on a case-by-case basis (Jablonka and Lamb 2005).

In response to the question of the connection between variation and selection, two hypotheses have been pursued repeatedly in mammalian and avian biology: 1) population and 2) niche. Many mammals are social and live together throughout successive generations. They do not simply meet in order to reproduce while otherwise living in isolation from one another. Rather, they jointly care for the brood and share food or hunt together. In a particular spatiotemporal environment, they constitute populations, upon which the survival of individual conspecifics (and thus of their genes) depends. To this extent, the transmission of a particular genotypic variation also depends on the social status of the relevant organism within the population in that area. The social modes of behavior lie along a spectrum from cooperative to competitive and thus depends on the sex of the organism and the particular reproductive functions that sex fulfills in cooperation and competition. The formation of populations facilitates behavioral learning throughout successive generations. Population formation can become a niche formation when the social collective reintegrates enduring behavioral functions within itself and when cooperation and competition between members are kept within specific boundaries by means of quick and effective hierarchies. Yet, for niche formation to occur, the surrounding environment must also be favorable and conducive to the social organization of the population. This favorable relation may be contingent and have nothing to do with the social collectivity, i.e. it may be passively bestowed upon it. Or, it may be a direct consequence or side-effect of the collectivity’s existence,
e.g. as a result of the collectivity entering symbiotic relations with members of other species in expelling and eliminating competitors, i.e. when the fostering relation is a result of the collectivity’s own activities. According to Hugh Miller (1964), one also speaks of insulation: in a living community there is a center and a periphery in the sense that those creatures in the center are subjected to less selective pressure than those on the periphery. I use the concept of the niche in the sense of a relatively stable interplay between a social collective and an environment favorable to it. Naturally, niche formation is not something intended by the niche or the relevant social collective, but rather is the result of various feedbacks, both social and ecological in kind.

If niche formation is to be found throughout the mammalian world, it is perhaps most significant for the evolution of primates. Indeed, the appearance of man seems to depend on it to such an extent that a certain inversion occurs. Here, I mean the inversion of passive niche formation into active niche formation: active or passive in terms of the social collective. Compared to other primates, there is an increasing gap between the genotype and the phenotype of modern man in the biological sense, i.e. *Homo sapiens* in the last 100,000 to 200,000 years. Within this period of time, the human genotype has hardly varied at all, while the modes of behavior (phenotype in broader sense) have varied enormously. Simply imagine what humans in East Africa might have looked like prior to the global spread of *Homo sapiens* some 100,000 years ago, and compare that with how they look today, in the midst of economic, political and cultural globalization in the great metropolises of the world. The clearest leap in phenotype (modes of behavior) is located – according to the old biological classification – approximately 40,000 to 60,000 years ago with the emergence of *Homo sapiens sapiens*, because a certain sociocultural accumulation can be reconstructed from this point on. The biological theory of evolution cannot explain such a great jump in such a short period of time – not even for the period of time that separates *Homo sapiens* from *Homo sapiens sapiens*, i.e. at least 40,000 years, but no more than 160,000 years. One must therefore work with numerous intermediary steps distributed in space and time. This strategic approach has recently been convincingly pursued by Michael Tomasello in his *The Cultural Origins of Human Cognition* (1999) and Steven Mithen (for the evolution from the early forms of *Homo* to *Homo sapiens*, cf. Mithen 1996).

Articulated in the framework of the biological theory of evolution, the hypothesis is as follows: a new niche must have developed, which provided for processes of cultural learning that were then able to build upon one another and thus accelerate evolution enormously. The construction of
such a niche becomes more plausible if one thinks of it as a series of small incremental steps. This series could have begun with kin selection (including mutual cooperation). It could then have increased in strength through reciprocal altruism (including strong or indirect reciprocity) and eventually culminated in selecting in favor of culturally integrated groups (i.e. cultural group selection). In order to avoid misunderstandings, I should remark that, though I use the abbreviations that are customary in the discourse of biological evolutionary theory, I do not believe in the myths of either the egoistic or the altruistic gene. In biological evolutionary theory it is not genes, but rather organisms that are the proper subjects of behavior. Without an organism that behaves in certain ways in its environment, its genes would not be activated or deactivated at the right time, nor would they be replicated, transmitted or inherited. It contradicts the biological theory of evolution to replace the two processes of variation and selection with a myth of some single, prior necessity, as has unfortunately been done in Anglophone discussions in the last few decades.

But for the purpose of mathematical modeling, one can make use of the unconscious effect that, when it comes to mutual cooperation between blood relatives, their shared inherited material can be passed on without the need for each of the related organisms to reproduce. The “Gesamtfitness” or “inclusive fitness” (Hamilton 1964) of a non-reproducing individual can be improved throughout successive generations, if it cooperates with its relatives whose own reproduction involves passing on some of the genes they share. Thus, the non-reproducing individual nevertheless manages to reproduce indirectly. The idea of indirect effects can also be formulated ecologically, if one proceeds beyond kin selection. Members of different species in a shared environment can also cooperate to their mutual advantage at the expense of a third species, their needs and cooperative capacities need only be complementary to one another within a shared environment. One famous example of this is the honey guide – a type of bird, which leads the honey badger to beehives by means of its call. Reciprocity occurs when the costs for each cooperative partner are, on average, lower than the benefits that the partner draws from the collaboration. In practice, reciprocal altruism is to be expected from species that live together in stable groups in which repeated encounters between the same individuals are likely. Nevertheless, this model carries with it the possibility for deception. If deception becomes chronic, then the model collapses. The model is only evolutionarily viable when deception is punished in such a way that it cannot become the rule. If one assumes that a creature has some awareness of the indirect effects of its behavior and that this awareness
grows over the course of the creature’s life – as one may assume in the case of primates – then the effects of indirect reciprocal altruism can only stabilize as cultural norms develop, which are predominantly maintained and whose sporadic violation is punished.

If one takes these three steps together – kin selection, reciprocal altruism, and cultural group selection – they enable “an evolutionary cascade of selective processes” (Hurford 2007, 304). This cascade of positive selective processes – cooperation, mutuality, reciprocity, and culture formation – may have exerted feedback effects on the selection of individuals and their traits (including their sexual selection) as well as on historical changes favorable to cultural stabilization. Following Tomasello, one can let oneself be guided by the idea that collective or shared intentionality (as opposed to merely individual intentionality) and the cultural learning of role reversal (as opposed to other forms of behavior) predominated in such niche constructions.

Connecting the contemporary discussion with the interdisciplinary discourse of philosophical anthropology

World and imitation in a socio-cultural environment: Joint activity and mimicry in a bio-social environment

Within the interdisciplinary discourse of philosophical anthropology, one makes a categorical distinction between Umwelt (either understood as surrounding bio-social or sociocultural world) and a world as such. What came to be the contemporary problem of niche formation used to be discussed using this sort of terminology – and all the better, to my mind. Ever since Jakob von Uexküll’s theoretical biology, it has been clear that there is a correlation between the physiological structure of organisms (their blueprint) and their behavioral functions in a determinate environment. Different species have different environments, and often not the environment that the biologist takes them to have at first glance. Thus, snails and spiders do not perceive any thing-constants in their environment, while primates, as Wolfgang Köhler’s experiments with chimpanzees showed, doubtlessly operate with things, albeit not with any awareness of the physical laws governing them, as we do. In order to categorically sort this and other empirical discoveries, Max Scheler introduced the distinction between a world (Welt) and a surrounding-world or environment (Umwelt) (Scheler 1995, 39-45). Biologists use their own worldview as the framework for distinguishing between the environments specific to various creatures. Of course, even
at that time it was well known among zoologists, amongst whom Helmuth Plessner was one, that mammals and especially primates stand in social “co-relations” (Mitverhältnissen) (Plessner 1975, 308), and hence live in a bio-social environment. But Plessner did not want to prematurely identify and risk confusing this with a sociocultural environment such as that humans actively create. Such sociocultural environments are made possible by world-frameworks, which Plessner explicates near the end of The Levels of the Organic and Man [Die Stufen des Organischen und der Mensch, 1928] as the presuppositions of practices among persons (cf. Plessner 1975, ch. 7).

For Plessner, there is a fundamental difference between an animal environment that is merely social in the sense that animals spontaneously “join in” on the behavior of their conspecifics and are subsequently able to “mimic” such behavior, and an environment where there is genuine “imitation” of behavior. In the latter case, one must be able to answer two questions: What is being imitated? (i.e. which state of affairs is being exhibited?), and Who is being imitated? (i.e. which person?) (Plessner 1948a; 1948b; 1961a). These two questions cannot be answered by describing how similar organisms behave similarly, i.e. in accordance with Von Uexküll’s correlations. For these correlations are – ontogenetically and phylogenetically – prior to the imitation of personal roles and prior to the exhibition of states of affairs. The sociality of mammals, according to Plessner, is not made possible by a shared world (Mitwelt) in which persons share a form of mindedness. Today, one could follow Tomasello in speaking of mind in an elementary sense, whenever the criterion is fulfilled that collective intentions become grammaticalized (Tomasello 2003).

From a contemporary point of view, we can see that Plessner was right to distinguish between spontaneous joint activity, temporally delayed mimicry and imitation (of something and of someone). This is demonstrated by the discussion of individual and collective intentions of the first and second order in non-human primates as compared with human children. The philosophical issue is not who happens to be empirically correct, but rather whether the research programme provides us with categorical distinctions which help us address meaningful questions. It may be, as Tomasello has acknowledged in the interim, that chimpanzees demonstrate shared attention, collaborative activity and even first order shared intentions in some behavioral areas – particularly competitions for dominance. Yet, chimpanzees are nevertheless unable to form shared intentions about

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2 Translator’s note: In German a distinction is made between “Mitmachen” (join in, or joint activity), “Nachmachen” (mimic, mimicry), and “Nachahmung” (imitate, imitation).
shared intentions, i.e. intentions of the second order. Furthermore, only the latter embodies the culturally stable, truly collective intentions upon which human children build up their behavior (Tomasello 2008). Chimpanzees do not understand the recursion of symbols, which reach beyond what is perceptible (relative to an individual's memory) in situations, assuming the repetition of drive satisfaction. The number 5 means something different from the empirically perceptible and memorable insight that five bananas are better than two bananas for a very hungry belly. Of course, the empirical research into first and second order intentions must be carried further.

In the interest of advancing such research, however, we must clearly eliminate the anthropomorphic confusion of joint activity and mimicry with imitation – a conceptual confusion that makes sophisticated and differentiated empirical research impossible. Spontaneous joint activity between conspecifics involves mirror neurons, a mechanism Plessner could not have known about in his time. But this neurophysiological correlate confirms what Plessner had described as joint activity: if a creature perceives here and now what his conspecific is doing, this automatically generates neural activity in those regions of its brain which prepare for sensory and motor engagement that corresponds to the behavior of the conspecific. Mimicry is then simply such joint activity with the addition of individual memory (Plessner 1975, 278-286). If the creature can re-imagine something that it already perceived, this triggers comparable neural activities. Having once been successful in satisfying a particular drive, the creature follows the same strategy in its next moment of need. Imitation, however, involves more, namely the mind, which possesses a cultural history of its grammaticalisation, in which questions concerning what and who is being imitated can be posed and answered. This is only possible in an eccentric positionality, as Plessner calls his specification of world as opposed to environment. Eccentric positionality triadically removes itself from the dyads of centric positionality – thus eccentric. It positions itself outside of centric interactions between the organism and the environment and outside of centric interactions between organisms only to return from this outside to the interactions themselves. Thus, Tomasello speaks of a so called “bird's eye view” (Tomasello 2008, 160, 179, 266). Imitation cannot be explained by mirror neurons, which only represent a genetic precondition, but not a sufficient condition. Imitation demands an emotional motivation that leads a creature to identify itself with a sociocultural figure external to the organism or to distance itself from that figure (cf. by contrast, Iacoboni 2008, 99f.).

As far as Scheler and Plessner were concerned, Köhler had proven that chimpanzees have a high degree of practical intelligence, but that this
intelligence remains bound to the individual organism – to its sensory and motor mechanisms and its individual memory. According to Plessner, it was crucial that chimpanzees lack a “sense of the negative” (Plessner 1975, 271): they remain empirically generalizing positivists – a view that has been radically advocated in the contemporary literature by Povinelli (2000). Chimpanzees do not expect any states of affairs that, independently of their own organism, also exhibit other perspectives. They expect only states of fields, which they negotiate senso-motorically until they suddenly arrive at an insight (Plessner 1975, 272, 276f.). Yet they are unable to detach this insight from the type of senso-motor situation in which they attained it and transfer it into other sorts of senso-motor situations. They generalize within a behavioral function – for example, competition or tool production – and this generalization is quite individualized insofar as it is memory-based. Anthropomorphically speaking, this also has its benefits: they neither believe in ghosts nor in natural laws. But most importantly, their expectations do not have a world framework that has emancipated itself from their senses and their motor possibilities. They do not expect states of affairs in spatial emptiness, e.g. in a Newtonian world, or in a silent, still world of empty time. It is not constitutive of their behavior to have a symbolic, i.e. a triadic structure of the world, which cannot be derived from any empirical generalization. In contrast, one recognizes practices among persons precisely in such symbolic-triadic presuppositions, i.e. in mindedness, not only in the external and internal world but also in the joint-world (Plessner 1975, ch. 7.2). World structures do not take shape frontally, dyadically, immediately or directly, i.e. they are precisely not like an environment or surrounding world. Rather, they take shape mediatedly, indirectly, along detours, triadically, on a stage that presents the foreground, within a framework of world that forms the background and bleeds out into a ‘nowhere and never.’ Humans must therefore be able to alter their behavior. Their centric form of organization requires centric behavioral possibilities, i.e. a centric positionality, as Plessner calls his conception of an animal environment. But first, a human sociocultural environment must be created. This is made possible by a triadic world framework in which persons share a form of mindedness symbolically (Plessner 1975, ch. 7.3-7.5).

Between laughter and tears: Playing with and playing in personal roles

Plessner’s theory of personal roles further develops the concept of imitation, the basics of which we have introduced above. It does so in such a way that a temporal dynamic arises within behavior along a certain spectrum, which
must be experienced in order to be learned. The theory concerns both playing in and playing with personal roles (Plessner 1960; 1961b; 1961c; 1967). These forms of play occur between the poles of laughing and crying, which are no longer considered as ‘playable’ (Plessner 1941). This was the theme of my book Between Laughter and Tears I: The Spectrum of Human Phenomena [Zwischen Lachen und Weinen I: Das Spektrum menschlicher Phänomene, 1999]. Rationalistic philosophies treat the capacity of speaking and acting as the essence of man, whether it be implicitly or explicitly. For Plessner, they are the provisional results of another process, by means of which we are able to take on and put ourselves into playing personal roles and to come out of them again: namely, by playing with them. Fundamentally, a person stands outside of his or her organism. From there, the person can distinguish the extent to which he or she lives in a vital body – as though in a sheath – and the extent to which he or she possesses this organism from the outside, in treating it as he or she might treat other bodies. Every person thus has a twofold relation to his or her body. He or she lives in it, but can also possess it from the outside (Plessner 1975, 293). In order to do so, the person must take on a role outside of his or her organism, i.e. in sociocultural interactions with others.

Here, there are various kinds of cases that structure this role-play. Minimally, a role consists in a habit, i.e. in moving pictures in accordance with which one enters onto the scene, and in an idiomatically determinate language (dialect) that matches the habit. One can exceed such a role by over-identifying with it, e.g. by passionately overshooting the role in the eyes of others. Conversely, one might fall short of the expectations that others have about the role, because one is compulsively preoccupied with something else. Both kinds of phenomena – passions and compulsions – may be conditioned, in which case they are generally tolerated, or they may become unconditioned. In the latter case, they destroy the role, and, if there does not happen to be a more appropriate role, then the whole existence of the role becomes questionable. Those affected either slip off into superhuman realms, or they undershoot the level of personality altogether. Subsequently, the realm of human behavior gets left behind, for which every culture has any number of expressions and taboos (holy, divine, devilish).

Plessner’s fundamental thought is quite simple and cross-culturally observable: we all learn human behavior between laughing and crying. When we are no longer able to respond to a situation in the sense of a determinate role, the situation gets called into question. If no modifications of the role manage to resolve the situation, we attempt to answer it by playing laughter or tears. And should this change of roles not help either,
then we break into non-played laughter or tears, provided the situation does not involve any form of violence. Thus, we arrive at the limits of human behavior. At these limits, though the person is no longer able to give any answer, his or her body still is, despite the fact that his or her competence to play the role collapses. In non-played laughter, the body breaks out of the relevant habit and language out into the world. For the person concerned, the situation involved too many possibilities of meaning that simultaneously contradicted with one another. The person as it was, flees out of its own organism. In non-played crying, however, the person collapses in on herself and falls back into his or her body. For such a person, the whole situation has become senseless. The person gives up on answering the situational question and instead simply hands herself over to the body, which, as it were, shrivels up (Plessner 1941, 359-384). It is not difficult to recognize the structure of personality from *The Levels of the Organic and Man* (1928) in Plessner’s analyses of *Laughter and Tears* (1941). In both limit cases, the locus of personality vanishes from the interactions of the organism to its environment. Either the person flees outwards, away from the body, because he or she sees too many contradictory world-possibilities and is paralyzed. Or the person – lacking distance from the situation – falls into the interactions themselves and ultimately into her body, because no horizon of sense or meaning manages to establish itself. Anyone who has thus experienced the limits of her own behavior and is now able to live with them may express her sovereignty in a smile (Plessner 1950).

One can now run through the whole spectrum between laughter and tears anew, by considering these limit experiences and asking how sociocultural roles might be changed in order for persons to be able to live better, or, as one could also say, in order for living creatures to be able to live in a personal manner. In this respect, surely Plessner’s greatest achievement since his *Limits of the Community* [*Grenzen der Gemeinschaft*, 1924] consists in having indicated the anthropologically necessary twofold structure of personal roles. A role is a mask in the sense that it can publicly reveal and privately conceal. If a person has to live both within her body as well as outside of it, then, structurally speaking, she needs to be able to distinguish, for herself and for others, between the private and the public sphere. This twofold structure contains a great civilizing lesson, which must not be sacrificed to any community ideology. Every living person needs the freedom to play. She must be able to distinguish between herself as the bearer of the role, and herself as the player of the role (Plessner 1961b, 195-204). Or, as G.H. Mead puts it: there is no “I” without such a “mine” and a “me.” This is the reason Plessner speaks of the “We-form of one’s own I” in the *Levels* (Plessner 1975, 303).
The evolutionary potential of emancipating ontogeny from phylogeny: The extra-uterine year, plasticity to domestication, fetalization and corticalization

In the nineteenth century, it was common biological practice to assume that, as the phrase went, ontogeny (individual development) recapitulates phylogeny (species development) only in abbreviated form. Since at least the 1920s, however, biologists have begun earnestly investigating the extent to which a limited emancipation of ontogeny from phylogeny might lead to new evolutionary potentials, particularly to potentials that can be conceived as peculiarities of the appearance of modern man. Therefore, I will briefly address the increasing gap between human ontogeny and the phylogeny of *Homo sapiens*, as contrasted to non-human animals. This gap is characterized by the following biological phenomena: an extra-uterine year, nidicolous vs. nidifugous animals, and the plasticity to domestication (especially during the imprinting phase). These phenomena are connected to others: premature nativity, fetalization and cerebralization (brain growth relative to the rest of the organism) and corticalization (growth of the cerebral cortex relative to the rest of the brain). In all of these respects, Plessner is fundamentally in agreement with Louis Bolk, Adolf Portmann and Frederick Jakob Buytendijk (Plessner 1964; 1965a; 1965b; 1967a; 1967b).

Among primates, the periods of childhood and adolescence increase the closer the primate resembles human beings. It spans from about 6-7 years to 14-20 years. Adult behavior must first be learned in play. Such behavior is certainly not present immediately after birth, nor is it simply a question of the growth of the organism. In humans, even the first year of life outside of the uterus is quite striking. It is only at the end of this year that the cranium grows together, which is typically a part of embryonic development in the uterus. What is today called the “revolution” only sets in thereafter (between the ninth and twelfth month). It is only after this that the infant proceeds to walk upright, learns shared intentions in shared attention with adults and develops language skills. Beginning in the third year of life, the child’s use of language becomes recursive, i.e. emancipated from perceptual situations and the memory of perceived situations and, as of the fourth year, the child becomes familiar with narration and the independent correction of unintelligible discourse, without recourse to perception (cf. Tomasello 2003). Even enculturated great apes – i.e. apes that have been raised among humans – reach the limits of their linguistic development at a level that human children reach in their third year. The apes never master the recursion of triadic symbols upon triadic symbols.
For the purpose of understanding the fundamental biological problem involved, let us limit ourselves to the first year of life in human infants. It makes sense to refer to this stage as an “extra-uterine year” insofar as it involves embryonic developments that typically take place in the uterus among other animals. Anatomically speaking, this premature birth enables the infant, which has a large head and brain relative to the rest of its body, to be born through the mother’s pelvis. The pelvic circumference is limited through bipedalism. Comparatively speaking, premature births are, for humans, the norm and this requires particular care within a niche. The development of the brain in the extra-uterine year accelerates so exponentially that crucial phases continue all the way into puberty – phases in which “superfluous” neural connections, i.e. those that are used too seldomly in behavior, are eliminated (Singer 2002). It is important to note that this does not only involve an externalization of embryonic development into sociocultural relations between the infant and adult persons. Conversely, this sociocultural externalization of the organism remains occupied with tasks that, by biological standards, largely belong to embryonic development. In a certain sense, the cultural social collective – and, in particular, the mother-child relationship – has now taken over the role of the uterus, at least until the separation from the parents begins some time during puberty. The sociocultural niche must provide for such fetalization, cerebralization, corticalization and increasingly prolonged ontogenesis, i.e. the niche must develop special resources and caring skills. This is not simply a question of nutrition, but also of lasting emotional connections between the sexes and generations, including, not least of all, playing opportunities for the children. Sociocultural structures require, biologically speaking, organismal plasticity, and are thus limited exclusively to genetically and behaviorally fixed organisms. And when social and cultural phenomena recursively reflect back on themselves, when they develop self-reference, then they require still more fetalization and an extension of the phases of play in childhood and youth. It is here that the potential for self-amplifying feedback-loops enters, which enables specific cultural development.

One can also describe the same fundamental problem under a different aspect by using the terminology of domestication. For several millennia, humans have made use of a biological mechanism – that of imprinting – which is not only found in mammals but in several bird species as well. Yet, even these animals care for their brood for a relatively long time. It is through these social relations that species-specific behavior is acquired. If one alters these social relations by subjecting the young animals to human care after lactation (viz. after the nesting period), they can be domesticated.
It is well known that our familiar species of domestic animals (dogs, cats, etc.) was shaped in this way. Transferring them into a different social niche can, over the course of many generations, not only alter their behavior, but their genetic material as well. The model of domestication is thus highly instructive, for it artificially accelerates a process that can be redescribed as the formation of social niches or, as the case may be, bio-social environments. Naturally, this model already presupposes the presence of humans and thus, viewed phylogenetically, presents a circular account of the self-domestication of a particular primate species. But it is nevertheless helpful insofar as it shows what can happen when ontogeny becomes somewhat emancipated from phylogeny by means of niche formation.

Let us consider yet another terminological distinction stemming from the biology of Plessner’s time, in order to redescribe the anthropological problem from a comparative perspective. It was standard practice to distinguish between *nidicolous* (or *altricial*) and *nidifugous* (or *precocial*) animals. The distinction turns on the time at which the offspring are able to independently leave the nest. Nidicolous animals remain in the nest for a long time. They come into the world unripe and unready. Nidifugous animals, like geese and hares, leave the nest quite early. But this only means that they are organismally “ready” to move independently by themselves. It does not mean that they have already mastered the adult repertoire of their species’s behavior. This is something they learn by following the adult animal to which they became accustomed during their imprinting phase. While the role of the imprinter is typically played by the mother, this is not necessarily the case, as can be seen in the case of domestication. Schneider (1975) therefore refers to nidifugous animals as “mother followers” (“*Mutterfolger*”) and Hassenstein (1975) calls man the “clinger” (“*Tragling*”). If one attempts to apply this distinction to humans – albeit only indirectly – then one would have to say that, on account of the extra-uterine year, humans are secondary nidicolous animals, and accordingly also secondary nidifugous animals. The human combines both variants of ontogenesis found in mammals and birds, but on a phylogenetically different initial level, namely that of primates.

Yet, none of these intra-biological comparisons ultimately solve the problem of how modern man came to being. However, they do show what sorts of evolutionary possibilities have occurred in the animal realm. The nascence of man in natural evolution is nowhere near as inexplicable as dualists often claim if one is willing to take seriously the thought that a bio-social environment might develop which supported fetalization and cerebralization, and specifically the development of the cerebral cortex,
i.e. corticalization. But this also means that one cannot approach biology reductionistically. For it already includes social and cultural phenomena, if by “culture” one understands the non-genetic transmission of behavioral styles that serve to further adopt to ones particular environment. This is customary today in primatology. Populations of the same species have to display partially different behavior in different environments. In Plessner's time, one refrained from speaking of animal cultures, because the concept of culture (at least for Plessner) entailed self-reference of triadic symbols to triadic symbols.

**Symbolic transformation of the life drives and the obviation of organs**

The symbolic transformation of drives plays a prominent role in the interdisciplinary discourse of philosophical anthropology. If one considers the evolutionary history and phylogeny of man, the characterization of the human species as *rational* cannot work top-down, proceeding from pure reason, but only bottom-up. This issue of the symbolic transformation of drives – which was given a particular inflection by Sigmund Freud's psychoanalytic theory – is bound up with other issues such as compensation, suppression, repression and transference. These drew attention not only at *inter-*personal but also *intra-*personal relationships, even if these were psychologically restricted to individual case studies which themselves are difficult to assess for social reasons. In so-called pathological case studies, it is not just the claim of transhistorical validity that appears dubious in light of cultural-historical research. They also relate to how personal relationships to things developed, and how personal matters appeared as thing-like. The question regarding the symbolization of drives simultaneously requires consideration of the opposing question, namely, how symbolization might be connected with relations to things. In this respect, one cannot get around Paul Alsberg's hypothesis about the technological obviation of organs in human behavior. But how should we think about the connection between the symbolization of personal relationships and of things?

It was already clear to Scheler that one must distinguish between instincts and drives (Scheler 1995, 22-27). Instincts genetically determine fixed behavioral patterns. It is precisely such fixed determination that is lacking in life drives. Between their stimulation and their fulfillment, there is some flexibility with regards to time and strategy. Their fulfillment is, to an extent, learned. Scheler also recognized that learning through association presupposed dissociation. His hypothesis, which has regained contemporary significance, was that the cerebral cortex was the organ that
dissociated instinctive and associative connections between sensory and motor mechanisms. Corticalization counteracts the instinctive networks, which are phylogenetically inscribed, as well as the associative connections, which are ontogenetically developed. This represents the neurophysiological correlate for the psychic phenomena we experience in behavior as the intelligent and symbolic satisfaction of drives. Thus, the appearance of humans, viewed physiologically and functionally, must not only involve an increasing role for the brain, i.e. cerebralization, but must also and especially involve growth in the cerebral cortex, i.e. corticalization. Plessner calls the cerebrum the organ of pauses, which interrupt the coupling of sensory and motor mechanisms (Plessner 2002, 174-177). Responses to stimuli are not immediate and direct, but rather take detours through dissociation, renewed association, intelligent reconstruction and emotional bonds that can be symbolically meaningful.

Scheler and Plessner start with the assumption that primates possess an energetic superfluity of drives, which, when they are not fulfilled, become symbolically charged in behavior and can be lived out in bodily fantasies. It is at this point that symbolic binding, fulfillment and transference come into play (Plessner 1961a; 1961b). Scheler and Plessner share this fundamental thought with Freud, but it is striking that neither of them adopts any of his special interpretations – e.g. the Oedipal complex – because these bear on a special cultural-historical semantic. As far as anthropological comparisons are concerned, the only thing of interest is the general mechanism by means of which symbolic transference, compensation, suppression and repression is brought about. To determine what these forms signify and how we should assess their relation to one another, Scheler develops his own grammar of the life of feelings (cf. Krüger 2009, ch. II. 7.) and Plessner his own spectrum of human phenomena. The symbolization of the life drives is key to the transition from the bio-social to a sociocultural environment. Mindedness developed from the ground up through the dynamics of sympathy (Scheler) or imitation (Plessner), rather than from the top down through pure reason or calculi.

In the end, however, the symbolization of the life drives cannot be the whole story of the transition from a bio-social to a sociocultural environment. Symbolization creates an extremely important filter between the organism and the environment, reducing both adaptive pressures (from the perspective of the organism) and selective pressures (from the perspective of the environment). But this does not yet explain how it is possible to establish distance from the environment in the biological sense with which we began. The foundations of this achievement are to be found
in the use and eventual production of tools by great apes. Paul Alsberg's striking description of these phenomena is enshrined in his principle of the “obviation of the body” (Körperausschaltung). What he means by this is the withdrawal of the human organism from direct and immediate contact with the environment. Instruments get interposed and these instruments then mediate human organs, protect them, extend them and make them more effective in manipulating objects in the environment. There are two principle manifestations of such mediation. First, the hand – the principle organ of contact – whose freedom of movement steadily increases and whose capacity for leverage can be extended and strengthened. A second manifestation is the new perceptual space that results from walking upright. The latter leads, as Plessner puts it, to “distance-seeing” (FernSehen) – seeing beyond the immediate vicinity – whereby the organism learns to distinguish backgrounds from foregrounds and becomes aware of the phenomenon of being seen by others (Plessner 1970, ch. 3).

Plessner's originality lies in his attempt to solve the problem of how chains of human conduct have altered by means of an integrative model. In doing so, to my understanding (Krüger 2001, 118-128), he develops three questions and three matching hypothetical answers: a) How does habitual conduct get called into question?, b) How is this question answered – i.e. how does one respond when habitual conduct is called into question?, and c) How does this answer (or response) become habituated over time? In answering these three questions, the various sense modalities are not sharply separated from human language. Rather, the specific task of answering these questions is to be understood within the framework of the symbolic function of the senses. Plessner's symbolic function integrates three aspects of human conduct by answering these three questions (see his Unity of the Senses [Plessner 1923]): first, a) the aisthesis of the senses – both in perception and imagination – thematically interrupts habitual conduct, then b) one answers or responds to these new themes by means of precisification and paradigmatization in discourse and finally c) this paradigmatically precisified answer or response to the aberrant or divergent theme is then made reproducible by means of schematization. It is in this manner that the response itself becomes habitualized. Technology and science are fundamentally understood to embody such schematizations. Thus, this model does not rely on the typical dualism between the customary and the innovative, but rather on a historically processual interconnection between phases of questioning, responding and renewed habitualization. The dualism arises – from the perspective of this new model – as a special case in which the connection between a response and its schematization is
dissolved and one either forgets which question (or questionable status) one was responding to or even forgets what the question was in the first place.

This model must be understood in conjunction with Plessner’s unusual understanding of language, which seeks to overcome precisely this dualism: the development of linguistic self-reference in written text must be coupled to the creature’s senses in its behavioral field if language is to maintain this sort of automatic intelligibility and transparency. Conversely, this means that the symbolic function of human beings’ senses must differ from that of animals, which cannot rely on a recursive dynamic of symbols upon symbols in the structure of their conduct. Plessner understands language as the coupling of expressions with actions or, to use J.L. Austin’s terminology, as the coupling of the performative and the constative (cf. Krüger 2001, chapter 1. 2.). Actions (constative) are understood based on the model of the integration of the remote sense of sight and the tactile, proximate senses (embodied in skin and the hand). Expressions (performative) are conceived in terms of voices – one’s own and that of others – as well as in terms of proprioception (perception of one’s own body) (Plessner 1975, 339f.). The various sensual domains are connected with language, which makes linguistic metaphors intelligible, insofar as these arise through symbolic transference and coupling of various sensible domains with one another.

Generalists and specialists in the formation of conduct

One can ultimately distinguish between generalists and specialists among primates – although this distinction should not be understood as mutually exclusive, since both sides can complement each other in various ways (cf. Plessner 1961b, 166f.). A population is specialized to the extent that its adaptation to the environment only bears on a special kind of environment, e.g. a tropical forest habitat, a savannah or, if one includes aquatic mammals, a specific kind of aquatic habitat. Viewed in terms of positive selection, this means that the relevant sort of adaptation is only favored by selective forces in a certain kind of special environment. In contrast, general adaptations stand out insofar as they are reinforced by many different kinds of environments by, for example, favoring the spread of the species through positive selection. One can sort primates’ practical intelligence and their capacity for symbolization in terms of their general and their special adaptive and/or selective advantages in particular environments. Thus, intelligence and symbolization are candidates for adaptive and selective advantages that arise through the generalization of forms of conduct. In contrast, the practi-
cal connection of individual organisms’ intelligence and symbolization with particular sensory and motor mechanisms, which are only advantageous in a particular kind of environment, would speak in favor of an adaptive and selective advantage attained through the specialization of forms of conduct. The history of the appearance of modern man is a progression through various specialized habitats, resulting in a species that managed to survive in all corners of the earth. The tendency to generalize forms of conduct has apparently been advantageous throughout all of man’s early and transitional forms. In contrast, great apes – our closest relatives – seem, on the whole, to have been specialists.

To this extent, one must work out a more detailed account of how this thought – regarding the distinction between generalizing and specializing tendencies from the perspective of evolutionary theory – applies to each of the levels of learned conduct and their combinatory possibilities. Ultimately, one must be able to translate this distinction in terms of the distinction with which we began, i.e. the distinction between bio-social and sociocultural environments. In bio-social environments, various biological behavioral functions are already distributed among the various sexes and generations in various forms of cooperation and competition. Here, it appears that generalizing behavioral features, such as intelligence and symbolization, are only capable of adorning forms of conduct that are already biologically predetermined. However, the logic of the formation of sociocultural environments functions differently, because these are made possible by a shared symbolic world, particularly a shared symbolic joint-world. The starting point here is itself something general which is shared symbolically and intelligibly but which must be specialized according to the specific environment, even in a sociocultural environment. The question is how this generalization of forms of conduct over their specialization. Rather, each intermediate step poses a new problem of re-distributing and re-combining generalizing and specializing behavioral tendencies (cf. the paleoanthropological suggestions in Mithen 1996). This holds true not only for bio-social environments but for sociocultural environments as well. Even the relationship between these two kinds of environment cannot be conceived as though the former simply replaced the latter all at once, for these kinds of environments may well have complemented one another. As inconceivable and improbable as this may seem, one must acknowledge that it gains viability through fact that only one of all the many species of Homo that arose in the last millennia managed to survive.
Bibliography


