

# The Lived Body as the Tipping Point Between an Evolutionary and a Historical Anthropology\*

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*Abstract:* The article raises the question how evolution brings forth a (lived) body that is able to transcend itself in shaping itself culturally. Taking up an idea of Charles Darwin, it will be argued that it is human vulnerability, a specific dimension of the human bodily condition, that makes the human person a social, cooperative creature. In a second step the article focuses on the shift from natural evolution to cultural development. An embodied leap of faith seems to be at the beginnings of typically human communication. Evolution has brought forth a body that tends to imitate others by nature – and which is thus shaped culturally from the outset. Insofar as evolutionary anthropology explores the human as a being that is, by nature, open to the cultural shaping of its nature, it opens up bridges for a sustained and robust dialogue with historical anthropology. In pointing out alternatives to practices and understandings that seem a matter of course, historical anthropology, too, relativizes the modern understanding of humanity that is characterized by the dualism of spirit and body.

## Introduction

In spite of all interdisciplinary efforts in the two fields, it seems that evolutionary anthropology and historical anthropology continue to drift apart. What appears to be the result of natural processes to thinkers in evolutionary anthropology is understood as a cultural construct by representatives of historical anthropology. An approach in anthropology that assigns fundamental importance to the human body, however, might counteract the centrifugal trend in anthropological studies. For the body is the place where “nature and culture” reach a “tipping point.”<sup>1</sup> Both the process of evolution (Darwin 2004; Pinker 2011) and social expectations and practices (Bourdieu 1984; 2001, Schroer 2005; Karle 2014) are inscribed into one’s own (lived) body (*Leib-Körper*). At this point, the paradigm of embodiment thus raises the crucial question how evolution brings forth a (lived) body that is able to transcend itself in shaping itself culturally (see also Jung’s contribution in this volume).

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\* Translation by Alexander Massmann.

## 1. The Human Person as the Tipping point of Natural Selection and a Culture of Mercy

Charles Darwin already pointed out that with the human person, various evolutionary processes – in his view primarily the reduction of instincts and the development of cognitive capabilities – brought forth a living being who can follow the guidance of reasons, or more precisely, of “preferences ... that are constitutive for a person” (Pauen 2007, 270).

[A]s the power of reasoning becomes clearer so that man can value justly the judgments of his fellows, he will feel himself impelled, apart from any transitory pleasure or pain, to certain lines of conduct. He may then declare ... I am the supreme judge of my own conduct, and in the words of Kant, I will not in my own person violate the dignity of humanity. (Darwin 2004, 133)

The synthesis of Darwin and Kant that Jürgen Habermas pursues (Habermas 2005, 156 f., 175, 188) is thus already visible in Darwin’s own work (see Engels this volume).

The meaning of the “tipping point” can be illustrated with the phenomenon of natural selection. Natural selection brings forth a living being that can disregard the principle of selection to which it owes its own existence (Engels 2010). The human person can act in ways contrary to selection. In *The Descent of Man*, Darwin writes: “we build asylums for the imbecile, the maimed, and the sick; we institute poor-laws; and our medical men exert their utmost skill to save the life of every one to the last moment.” While Darwin admits that no animal breeder would act in this way, he notes that we cannot “check our sympathy, even at the urging of hard reason, without deterioration in the noblest part of our nature” (Darwin 2004, 159).<sup>2</sup>

Since communities characterized by mutual support and self-restraint for the benefit of others have better chances of survival, natural selection rewards such caring communities. Steven Pinker puts it in more general terms: “today no biologist doubts that evolutionary dynamics like mutualism, kinship, and various forms of reciprocity can select for psychological faculties that, under the right circumstances, can lead people to coexist peacefully” (Pinker 2011, 573). There can in fact be selection pressure that positively supports greater cooperation (Tomasello 2014, 31; de Waal 2009; Wilson 2012).

According to Darwin, there is a notable correlation between the specifically human bodily condition, especially in its vulnerability, and the particular human cooperation. Darwin concedes “that man is one of the most helpless and defence-

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<sup>1</sup> “*Umschlagstelle von Natur und Kultur*”: I am here adopting a concept from Bernhard Waldenfels who gave the keynote address at the Heidelberg symposium, entitled “The Lived Body as the Tipping Point of Nature and Culture” (Dec. 4, 2014, in German). As the lecture was delivered freely without a fixed manuscript, it is not documented in this volume.

<sup>2</sup> Darwin’s position is diametrically opposed to that of the British philosopher Herbert Spencer, who wrote with regard to the poor, “the whole effort of nature is to get rid of such, to clear the world of them, and make room for better” (cited according to de Waal 2009, 28).

less creatures in the world.” But it seems precisely this fact that contributed to human success in evolution. It stands to reason, according to Darwin,

that an animal possessing great size, strength, and ferocity, and which, like the gorilla, could defend itself from all enemies, would not perhaps have become social: and this would most effectually have checked the acquirement of the higher mental qualities, such as sympathy and the love of his fellows. Hence it might have been an immense advantage to man to have sprung from some comparatively weak creature.” (Darwin 2004, 83 f., see also Engels’s contribution to this volume)

What makes the human person a social, cooperative creature is thus a dimension of the human bodily condition, that is, human vulnerability.

## 2. The Shift from Natural Evolution to Cultural Development

In the history of humanity, natural evolution reaches a tipping point at which it shifts to the mode of a cultural process. As a consequence, the dynamics of change accelerate dramatically (Jung 2009). Not long ago – in the Mesolithic age – humans had to defend themselves against wild animals (De Waal 2009), but soon they began to dominate their environment, in such a way that late modernity often does not even know nature anymore except through the media.

A simple consideration illustrates that the rise of modern humanity cannot be described in biological terms only<sup>3</sup>:

The fact is, there simply has not been enough time for processes of biological evolution involving genetic variation and natural selection to have created, one by one, each of the cognitive skills necessary for modern humans to invent and maintain complex tool-use industries and technologies, complex forms of symbolic communication and representation, and complex social organizations and institutions. (Tomasello 2001, 2)

As a result, we need to ask when and how natural evolution shifts to cultural development in such a way that the dynamics of change rapidly accelerate. In this endeavor, we will need to keep in mind that, on the one hand, the origins of human culture are already prefigured in the evolution of living organisms. This is a point made, quite rightly, in enactivism: Every living organism not only adapts to the environment, but also contributes to the shape of the environment – thus, in a sense, creating it. On the other hand, however, the extraordinary character of human culture and its genesis must not be ignored either.<sup>4</sup> Human culture must be described in continuity with and in discontinuity to the behavior of living organisms in general.

Enactivism presents human culture within the framework of the behavior of living organisms. “Organisms shape the physicochemical environment

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<sup>3</sup> See also the emphatic warning issued already by Adolf Portmann not to understand “the procedures of human history [merely as] the natural continuation of the evolution of organic forms” (Portmann 1944, 21; translator’s note: all text with a German bibliography translated by A.M.).

<sup>4</sup> Spahn draws attention to this dual perspective in his contribution to this volume.

into a milieu (an *Umwelt*)” (Thompson 2007, 74). In recognizing organisms as “‘niche-constructing’ beings” (Thompson 2007, 95), we see our ability to give rise to a world structured by meaning prepared in the history of life. Other organisms contribute actively to the shape of their environment, thus influencing the course of evolution.

In observing other creatures struggling to continue their existence – starting with bacteria that actively swim away from a chemical repellent – we can, through the evidence of our own experience and the Darwinian evidence of the continuity of life, view inwardness and purposiveness as proper to living being. (Thompson 2007, 163)

That even lower organisms are endowed with subjectivity is not a mere postulate of thought, but seems likely in the face of the experiments of the biologist Martin Heisenberg from Würzburg. He was able to demonstrate that in a flight simulator even the behavior of fruit flies engages in a certain degree of freedom (Heisenberg 1983; 1985; 1997; 2002). We can already observe in nature that animal behavior weighs options off against each other:

For example, consider a squirrel on a tree branch gearing up to jump to another. One can see the muscles preparing, but in some cases the squirrel decides the leap is too far and so, after feigning some jumps, climbs down the trunk and then back up the other branch. The most straightforward description of this event is that the squirrel is observing and evaluating a simulation of what it would experience if it leaped. (Tomasello 2014, 14)

Based on that evaluation, the squirrel decides against jumping.

The embodied character of mental life refers not only to the fact “that mind even on its highest reaches remains part of the organic,” but also challenges us to see that “the organic even in its lowest forms prefigures mind” (Jonas 2001, 1).

At the same time we need to be aware of the difference that distinguishes human culture from the niche-construction of a bacterium. Certainly, potential differences are always prepared in evolution. From the perspective of evolutionary anthropology, a specifically human sociality cannot be conceived of without the rise of social instincts among animals (Tomasello 2009). The evolutionary benefit of social instincts can help explain why “helping others with simple physical problems ... is a naturally emerging behavior” (Tomasello 2009, 7; Tomasello 2014, 51 f.). Children as young as two years old, regardless of their culture, show such behavior, which can also be observed in elephants and chimpanzees (Tomasello 2009, 8–12; see also the impressive account in de Waal). This raises the question of when exactly social instincts arise that allow for a kind of behavior that is of a different quality than that of a bacterium actively swimming away from a chemical repellent.

According to Frans de Waal, the evolution of social instincts

probably started with the birth of parental care. During 200 million years of mammalian evolution, females sensitive to their offspring outreproduced those who were cold and distant. When pups, cubs, calves, or babies are cold, hungry, or in danger, their mother needs to react instantaneously. There must have been incredible selection pressure on this sensitivity: Females who failed to respond never propagated their genes. (De Waal 2009, 67)

Once the social instincts are in place, however, they can also refer to other objects, no longer being directed necessarily towards one's own offspring alone (de Waal 2009, 181 f.).

In this context, another one of Darwin's observation is apposite. It seemed to him highly "probable – namely, that any animal whatever, endowed with well marked social instincts ... would inevitably acquire a moral sense or conscience, as soon as its intellectual powers has become as well, or nearly as well developed, as in man" (Darwin 2004, 102). Accordingly, the decisive, if only gradual, difference is located on the level of the cognitive. To be sure, human cognitive capabilities are the result of a long evolutionary process, but what distinguishes humanity from other living organisms, primates especially, seems to be the capability of cultural learning. Humans "can learn not just *from* the other but *through* the other" (Tomasello 2001, 6). For this reason, it is not necessary for every individual to invent the wheel anew, but humans can build on what was learned in previous generations. This unique procedure of "cultural transmission" creates a "ratchet effect" (Tomasello 2001, 4) that speeds up cultural developments immensely. In this way, cultural development is decoupled from natural processes (see Jung 2009). To learn "*through* the other" means, in an elementary sense, to learn by imitating the other's physical behavior. "Imitation requires identification with a body of flesh and blood. We're beginning to realize how much human and animal cognition runs via the body" (de Waal 2009, 59). In imitating the other, synchronizing with her, we are experiencing the world from her perspective – through her body, as it were.

In humans, this form of imitation appears especially pervasive, as the phenomenon of so-called over-imitation demonstrates.<sup>5</sup> It has only been observed in human children, but occurs in all cultures.<sup>6</sup> Starting at about age three, toddlers tend to imitate another's action "overly precisely" (Hoehl et al. 2014). In contrast to chimpanzees, for example, toddlers imitate even those aspects that are obviously causally irrelevant for reaching the goal. An experiment by Horner and Whiten often referred to in this context demonstrates this with great force.

Young wild-born chimpanzees from an African sanctuary and 3- to 4-year-old children observed a human demonstrator use a tool to retrieve a reward from a puzzle-box. The demonstration involved both causally relevant and irrelevant actions, and the box was presented in each of two conditions: opaque and clear. In the opaque condition, causal information about the effect of the tool inside the box was not available, and hence it was impossible to differentiate between the relevant and irrelevant parts of the demonstration. However, in the clear condition causal information was available, and subjects could potentially determine which actions were necessary. When chimpanzees were pre-

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<sup>5</sup> In technical terms, developmental psychologists speak of "over-imitation," which can be confusing as children imitate with high precision, while from a logical and analytical point of view *over-imitation* seems doubtful. The term is intended to clarify that children imitate even those elements in an action that are obviously irrelevant for reaching the goal. I am grateful to Stefanie Höhl (Heidelberg) for the literature referenced in the following.

<sup>6</sup> See Froese and Leavens 2014, 2: "Over-Imitation has been consistently documented for children, but not for young and older chimpanzees ... and it has been demonstrated in a cross-cultural context."

sented with the opaque box, they reproduced both the relevant and irrelevant actions, thus imitating the overall structure of the task. When the box was presented in the clear condition they instead ignored the irrelevant actions in favour of a more efficient, emulative technique. These results suggest that emulation is the favoured strategy of chimpanzees when sufficient causal information is available. However, if such information is not available, chimpanzees are prone to employ a more comprehensive copy of an observed action. In contrast to the chimpanzees, children employed imitation to solve the task in both conditions, at the expense of efficiency. (Horner and Whiten 2005, 164)

Interestingly, children imitate the action that is obviously causally irrelevant even if they assume they are not observed or if they are encouraged to reach the goal in such a way as makes sense to them. Lyons and colleagues demonstrated that in many cases, children imitate an action with high precision even if this constitutes a disadvantage in a competitive situation: “children will continue to overimitate even when doing so imposes motivationally salient costs” (Lyons et al. 2011, 1163).

In addition, toddlers imitate actions even if they were not demonstrated intentionally, i. e., in a pedagogic context or by trusted care givers:

Interestingly, and in contrast to our prediction, children initially reenacted the irrelevant actions no matter whether these actions were demonstrated by a pedagogical experimenter or by an unfamiliar and non-communicative experimenter. This was true even though the no-contact experimenter never interacted with children and avoided any contact before or during the experiment. The no-contact experimenter never expressed the intention to teach or show anyone how to operate the container and instead made it clear that he or she removed tokens from the container in order to exchange them for stickers. . . . Our results suggest that preschoolers imitate irrelevant actions even when performed by a complete stranger in the absence of communication and instruction. The incidental observation of actions whose purpose is opaque in relation to the goal of the action, thus, seems to be sufficient to trigger overimitation in 5-year-olds. (Hoehl et al. 2014, 131)

Human children seem to assume that an action performed by a parent or a care giver, even by any person in general, is meaningful, even if they do not see or understand its point. The child imitates these actions as exactly as possible precisely because it does not see the point.

On this view, and in direct contrast to the traditional view of imitation, understanding the other’s goals and intentions does not facilitate imitation, but actually hinders it because such direct insight obscures the precise means. Imitation requires individuals to change attention from *what* the other’s goals are to *how* the other’s actions are precisely realized, while emulation is possible without this extra effort.” (Froese and Leavens 2014, 5)

Accordingly, it is not the recognition of the other as an intentional actor<sup>7</sup> that is foundational for the specifically human mode of learning by imitation, but

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<sup>7</sup> Tomasello has revised his previous thesis according to which only humans can understand conspecifics as intentional agents. Recent research has shown that “nonhuman great apes not only are intentional agents themselves but also understand others as intentional agents” (2014, 20, see also ix–x).

the assumption of there being a point to imitation, in the sense of a leap of faith. Humans assume that the other's actions are meaningful even if her action does not seem so at first blush. This supposition of meaning allows for a cultural dynamic that will turn out to be of particular importance even for the human biology.

That this assumption of meaning amounts to a leap of faith is demonstrated by experiments that confront toddlers with a conflict. They are presented with two different courses of action, and then they need to decide themselves what strategy to pursue.

After being shown two strategies, they chose to maintain the strategy or switch to the strategy employed by the pedagogical experimenter (pedagogical-then-no-contact and no-contact-then-pedagogical conditions), with whom they presumably shared a stronger bond (i. e., social affiliation) and whose normative behavior they may have been more motivated to copy. In the pedagogical-then-pedagogical condition, both experimenters were equally familiar and pedagogical. Here, it seems that children's behavior was flexible and they performed the strategy they had seen last. (Hoehl et al. 2014, 131)

The capability of toddlers to imitate the actions of others precisely shapes even their neuronal system. The difference between human children and apes is even reflected in their mirror system. While in apes mirror neurons seem to react only to goal-directed action, "the human mirror system ... codes both transitive and intransitive motor acts, it is able to code both the goal of the motor act and the movement of which the act is composed" (Rizzolatti and Sinigaglia 2008, 124).

The significance of so-called over-imitation in a typically human mode of life is revealed only once the difference between the contexts of one's lifeworld and the experimental setup in developmental psychology is taken into account. The experiments just mentioned induce children into imitating a pointless action – and the reason they are set up this way is that researchers know about the significance of over-imitation for children. Thus, in the lab, over-imitation seems pointless, requiring a time commitment and incurring a competitive disadvantage. But what seems odd in the lab does indeed serve a purpose in one's life world. In this latter context, children imitate the actions of their adult care givers as well, yet these actions are typically goal directed. On the one hand, evolution and history have optimized a multitude of types of action. On the other hand, non-instrumental actions such as greeting rituals often fulfill a precise purpose in the lifeworld.

In learning by imitation, human children not only explore the world that is already opened up for them with respect to cognition, but an entire world of pragmatic options, even if their meaning is not plain to them. We can observe this every day: For example, toddlers learn to close the fridge long before their parents have explained, linguistically, the causality of an open fridge, melting ice, spoiling groceries, and a higher electricity bill. The fridge must be closed, and if an adult leaves it open too long, a child may well close it spontaneously. In mimetic learning, children grasp the difference between the necessity of closing the fridge and the possibility of leaving other doors, or windows, open. The same holds for non-instrumental actions. When attending a church service, chil-

dren imitate their parents in taking a moment standing for meditation or a silent prayer before taking a seat in the pew. This way they learn to enact, in an embodied way, the difference that distinguishes liturgical communication from communication in the everyday world – long before they are able to grasp this difference intellectually, and this will then enable them to adopt an autonomous stance toward these different modes of communication.

The specific way humans learn culturally, their ability not only to learn from, but also through others, is manifest on an elementary level in the child's imitation of another. Thus, there is no point at which this kind of learning has taken place in a non-embodied form. Humans begin to learn culturally with one person imitating the other, even over-imitating that person, in the terminology of developmental psychology. Embodied imitation is the tipping point at which natural evolution shifts to cultural development. Evolution has brought forth a life form that tends to imitate others by nature – and which is thus shaped culturally from the outset.

That the specific mode of human cultural learning is fundamentally embodied, rather than dependent on language, can be seen both in human phylogenesis and ontogenesis. Joint attention is the original social context of the supposition that there is in fact a point to what the other person is doing (Tomasello 2001, 84–94): by use of a bodily action, such as pointing gestures or the adoption of a particular direction of view, persons draw the other's attention to a third entity, at the same time ascertaining that the other grasps the communicated intention and acts accordingly.

With respect to phylogenesis, there is ample evidence that the early hominin environment required cooperation. Early humans were a far cry from dominating the savannah (de Waal 2009, 18–19). Instead, their survival depended fundamentally on cooperation. Unable to survive individually, humans have always depended on communication. To be successful, however, communication requires the assumption that a movement or an utterance does indeed transport meaning, and to respond appropriately to such a gesture is to make a leap of faith. Since both communicating parties are interested in communicating successfully, however, they are both interested in trust not being exploited for illicit purposes. Any pointing gesture thus carries the message, you should – and you can – trust me! The pointing gesture not only carries informational content, but also communicates the intention to inform, as Tomasello shows. What is more, any pointing gesture at once even communicates the call to accept it, in trust, at face value. Since successful communication is selected for, however, over time the pointing gesture takes on the meaning “you can trust me!” In phylogenesis, the assumption of another's action carrying meaning, to which one responds with a leap of faith, is at first embodied in “pointing and pantomiming” (Tomasello 2014, 49).

In ontogenesis, children are introduced into human communication by way of “pointing and pantomiming” (Tomasello 2014, 49; see also Fuchs's contribution to this volume) as well. Starting at the age of nine to 12 months, children trust “that the adult is pointing out to them something relevant to their current



search” (Tomasello 2014, 52). We might say that in trust they adapt to a physical gesture. If this trust turns out to be justified again and again, toddlers aged 14 to 18 months themselves start to “use the pointing gesture to coordinate their joint activity” (Tomasello 2014, 51; see the literature used there).

Iconic gestures go beyond the simple pointing gesture “by actually symbolizing an entity, action, or situation in an external icon” (Tomasello 2014, 60). A necessary prerequisite of iconic gestures consists in the physical ability to perform an action resembling the real action itself (Tomasello 2014, 61). Based simply on their physical abilities, primates would be capable of “pantomiming,” but the function of their hands is much more strongly constrained: from the get-go the use of an ape’s hand is to hold on tight to its mother. By contrast, the human toddler is able to make free use of her hands in various ways (Portmann 1944, 30). She thus discovers the possibilities her hands are given. But even if the motor requirements for gestures are fulfilled, pantomiming may not actually occur. Gestures make sense only once I assume that my partner in communication knows that I want to communicate something (Tomasello 2014, 61).

Both in phylogenesis and ontogenesis, the first forms that practice perspective taking are embodied in elementary forms of behavior. Perspective taking does not require the capacity to speak (Tomasello 2014, 127; see also Fuchs’s contribution to this volume). It is embodied articulation, not language, that is at the beginnings of communication (Jung 2009; Breyer 2015, 35–39). Embodied articulation is the tipping point at which natural evolution shifts into cultural development.

### 3. Evolutionary Anthropology Advocating for a Plurality of Culture

Humans are cultural beings by nature. To a large extent they shape their own behavior by learning and imitating other humans physically, rather than following natural instincts. That the development of the human person is shaped by her cultural environment is clear from this, and at different times and in different contexts, the human person develops differently. Based on this mutual interdependence of natural and cultural processes, we can conclude that humans do not live in a particular culture by nature. This has also been pointed out by the Jewish philosopher Michael Landmann (1913–84): “what is prefigured already in nature is the mere fact of culture, but not its particular shape” (Landmann 1961, 60). There is no type of culture that derives from human nature, from the human essence, by necessity.

For that reason it is not correct either to conceive of culture in the singular as a human creation. Humans do not create culture in the singular, but particular people create their own culture. Humanity creates cultures. That humans may create culture in the first place already implies that they create them again and again in different ways, that they may create the most diverse cultures. (Landmann 1961, 26)

Yet, since humans not only create diverse cultures but are themselves shaped by their respective cultures, there is no definite human essence. As both creators and creatures of culture, we encounter the human essence always in the plural.

The human person is just as diverse . . . as the cultures that shape the person. It is not that the human person brings forth different cultures while remaining the same, passing through them untouched as a constant entity. In creating cultures, humans finish creating themselves, and in each culture they provide themselves with a different form and direction (Landmann 1961, 61).

Due to the shape of a culture created by humans, human nature itself changes in history. “Historical variability is the radical human fate” (Landmann 1961, 26). The notion of an unchanging human core thus turns out to be a fiction. “If we wish to speak of a core, this would be nothing but open plasticity” (Landmann 1961, 62, see 27).

This philosophical realization is correlated with the biological fact of the enormous human plasticity in ontogenesis. The elementary formation of the human baby during the first year is characterized by the exchange with others, which amounts to cultural formation.

Thus already during the first year, the life of the human child takes place in the realm of the ‘historic,’ in a time during which the human neonate would – if it were a mammal in all respects – still have to gain shape under the most pure conditions of natural law, i. e., in the darkness of the womb. (Portmann 1944, 70, see 81)

But even processes seemingly purely somatic “such as gaining an upright gait, the formation of the spine and the pelvis” (Portmann 1944, 125) take place in touch with the social environment, in one’s “own activity of striving, learning, and imitation” (Portmann 1944, 70). This is even clearer for the “development of the truly human possibilities in practicing and maturing” (Portmann 1944, 101), as in the varied uses of the hand, which can learn to write in an ‘elegant hand,’ to play the piano brilliantly, to touch gently. The ‘low speed’ of human somatic development allows for social and psychic shaping, thus bringing forth the human being as an entity characterized by an irreducible mutual interdependence of nature and culture, body and psyche (Portmann 1944).

What Portmann described in developmental and behavioral respect corresponds to current thinking about the plasticity of the human brain. “The human brain is not only the most complex, but also the most adaptable organ that we know of. As the neurosciences show, all our experiences, perceptions, and interactions with the environment modify the neuronal structures throughout our lives” (Fuchs 2013, 156). Notably, the long maturation period of the human brain is of great significance, since at birth it amounts “only to a little more than 25 % of an adult’s brain volume,” appearing not to be fully matured even at age ten (Grupe et. al., 67). Evolution has thus brought forth an organ that for its development depends on an environment conducive to life, only reaching its detailed structure in interaction with the environment. The influence of the environment extends even into the precise neuronal structures.

Thus, brain research confirms an insight that Portmann, as a biologist, reached in the 1940s: “We see the biological characteristics of the human precisely in how inherited factors irreducibly grow together with the various social effects – in ways that are final and unique from the point of view of the individual” (Portmann 1944, 127).

The extent to which the human person is open to social influences can also be seen in human sexuality: “even that part of human behavior that is most instinctual, sexuality, is open for a far-reaching freedom of personal decision” (Portmann 1944, 59) – and thus for cultural shaping.

Insofar as evolutionary anthropology explores the human as a being that is, by nature, open to the cultural shaping of its nature, it opens up bridges for a sustained and robust dialogue with historical anthropology, which draws on methods from cultural studies. Evolutionary anthropology explores the human as a living being that is shaped culturally even in its very nature. It also raises awareness of the fact that by nature the human person is destined for culture, although not for any specific culture. For that reason, human nature varies historically. The human being is historical and cultural by nature, calling for historical description. Taking the tipping point of nature and culture seriously, we see that the (lived) body is a bridge from evolutionary to historical anthropology.

#### 4. Evolutionary and Cultural Anthropologies

Historical anthropology sees its task in pointing out historical alternatives to what seems a matter of course<sup>8</sup> and in working against “unwitting retrojections of contemporary conceptions onto the past” (Tanner 2009, 147, see 154). The human body represents the “starting point of historical anthropology” as well, but here the body is seen less in its evolutionary genesis, but “rather in its historical and cultural character” (Wulf 2004, 134). The cultural and historical formation of the body is in the foreground – and not only the lived body (*Leib*), but even the seemingly natural body as it is described in medicine and physiology. “Even the scientific anthropologies thus appear with a temporal index, becoming accessible for analysis in their historically contingent shape” (Tanner 2009, 151).

To put it succinctly in terms of discourse analysis: discourses as societal practices that must be explored historically are inscribed into the body, thus bringing forth bodies as their material effects.<sup>9</sup> This thesis contradicts modern dualism,

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<sup>8</sup> See Süssmuth 1984, 8: “There are several tasks of historical anthropology: to detect forms of human culture covered by other historical layers, to uncover manifold expressions of life, to contribute to a critique of ideologies in making clear distinctions between stereotypical conceptions of imposed and constant characteristics of human motivations, attitudes, and forms of behavior.”

<sup>9</sup> I am grateful for Michael Bergunder’s challenge to reflect more deeply about the relation between embodiment and discourse theories. The phrasing used here follows Bergunder’s understanding of discourses as “social practices having material effects” (Bergunder 2014, 263), which he develops in discussing Foucault, Butler, and Laclau.

as does evolutionary anthropology – only from the other shore, to continue the image of the bridge. Michael Bergunder points out that the notion of the material effects of discourse overcomes the “usual, but unsatisfactory, dichotomising into discursive and non-discursive, into thought and reality” (Bergunder 2014, 263). The notion of discursive practices having material effects is thus directed against a dualism that distinguishes thought as mere representation of reality and reality itself to begin with. In a second step, the question would be how the two aspects can be brought together. According to Bergunder, by contrast, there is no reality that is not always already shaped by discourse. We should take the intertwining of culture and nature as a starting point, rather than the supposed dichotomy. The idea that at first there was nature without culture, which would then be reshaped by culture, is ill-suited to how things are. In this respect, the cultural approach of discourse analysis runs parallel to a central insight of the philosophy of embodiment.

In another respect, both discourse theory and the embodiment paradigm choose intersubjectivity as their starting point in describing human reality. The individual subject exists only in intersubjective relationships. The subjective Spirit – even if taken in the sense of a material reality of the brain – gains shape through interaction with the objective Spirit, in being formed by discourses in society. The Spirit of a time objectifies itself in law, religion, education, the arts, and the sciences. There is no point at which an individual may become aware of himself in which he has not already been shaped historically.

Neither the cultural studies approach nor the embodiment paradigm takes the individual Spirit as its point of departure, after which one might go on to ask how this individual Spirit relates to others and to material reality. Instead, both approaches begin by looking at the interrelationship of sociality, individuality, and material reality. Human persons “create and modify their being in engaging the things that they move and by which they are moved” (Tanner 2009, 155). Yet precisely in this respect, human persons resemble all other organisms, as emphasized both by Foucault and enactivist thinkers (Foucault 1978; Thompson 2007, 74, see Malafouris this volume). Thus, we can identify two points of agreement between the cultural studies approach and the embodiment paradigm. To begin with, they share the concern to overcome the modern dichotomy of thought and reality, but they also agree in their fundamental focus on intersubjectivity. These two points of agreement, however, raise two important questions.

1. What conditions do bodies have to fulfill in order to be shaped by discursive practices?

2. What properties must a reality have so that individuals do not only constitute the discourse, but are always already shaped by it? To put it differently: What is required for top-down effects that is a feedback between the objective spirit and the subjectively lived bodies?

According to Judith Butler, the task of cultural anthropology is to discover the body as a “site of a number of possibilities that are expanding in cultural ways” (Butler 1997a, 11). As the body is not determined by nature, it can become a site of unexplored possibilities. This view is not far from Portmann’s notion of

the human as born “premature” physiologically. The human being is that which is non-determined by nature – see already Nietzsche’s argument to this effect (Nietzsche 2003, 56: section 62). Thus, there is a biological basis, as it were, for the cultural studies approach (see Foucault 1978, xix). This also implies at the same time, however, that the biological description does not necessarily lead to essentialism. For biology itself indicates that, based on nature, we cannot say what a lived body is and what possibilities it holds. “Even to the biologist the human person must appear as that very particular being with a history, as the living being with its particular second nature, i. e., culture” (Portmann 1944, 20). It is precisely the embodiment approach that discovers the human body as less than completely determined, as a “site of a number of possibilities that are expanding due to culture” (Portmann 1944, 20).

If the human person, or humanity, materializes realities in discourse, as the cultural studies approach maintains, this implies not only that the human person is open to the world, but also that the world is open for the human person. If the world were completely determined physically, discursive practices would be unable to change the world. By contrast, the cultural studies approach asserts that discursive practices gain shape in the world and thereby shape the world themselves. The environment of the human person does not simply determine human behavior, but in exchange with the environment, the human person shapes herself and her world. That is exactly the thesis which the approach called enactivism proposes within the framework of the embodiment paradigm: in acting, the human person participates in bringing forth her world.

That the cultural studies approach is partly in agreement with the embodiment approach can also be observed in Judith Butler’s texts, notably in her ambivalent relation to Maurice Merleau-Ponty’s phenomenology. According to Merleau-Ponty, the lived body is the tipping point of nature and culture, that is – in Butler’s words – “the site where the materiality of language and that of the world ... are perpetually negotiated” (Butler 1993, 69). For precisely this reason Butler is fascinated with Merleau-Ponty’s approach: “It seemed to me that he offered a promising denaturalization of the gendered body” (Butler 1997b, 185). He appears to understand the lived body as a “‘historical idea’ rather than ‘a natural species’” (Butler 1989, 85). The body is conceived of “as a modality of existence, the ‘place’ in which possibilities are realized” (Butler 1989, 86). Butler concedes that in principle, Merleau-Ponty does not think of the body in essentialist terms (Butler 1989, 94), but she sees his argument in *The Phenomenology of Perception* amounting implicitly to a “universalization of the male subject” (Butler 1989, 98), which misses the point that gender is always already constituted in discourse. Merleau-Ponty describes the individual sexual situation without taking into consideration that individuals always face “a *sedimented* sexuality” (Butler 1989, 90). It is only for this reason, Butler argues, that Merleau-Ponty can understand the universal dialectics of slave and master as an implication of lived experience (Butler 1989, 96). He cites current practice, thus again reinforcing it. Doing so, he normatively asserts and strengthens a supposed essence of women:

“The slave must be the Other, the exact opposite of the Subject, but nevertheless remain his possession” (Butler 1989, 96). By contrast, Butler points out, what seems natural to Merleau-Ponty must be deconstructed as the result of a historical genesis.<sup>10</sup>

If we take seriously that by nature the human person requires description in historical terms, then there is no longer any living being ‘behind’ history that is merely natural. Instead, in history there is nothing but the (lived) body as the tipping point of nature and culture. This (lived) body, however, can also be described precisely with respect to biology. Without the plasticity of the human person and her brain, which can be described from a biological point of view, without the human ability to interact socially, which can be described by an evolutionary anthropology (Tomasello 2014, ch. 1), and without the elementary intercorporeity, in which human persons are always already oriented towards each other, which can be highlighted in developmental psychology (Fuchs 2013, 188–208, Hoehl et al. 2014), we would not be able to conceive of a natural being that can be specified historically. At the same time, biology and psychology describe processes that illustrate how comprehensive the influence of social practices on the human person is. Developmental psychology shows “that learning begins already long before birth” (Pauen 2012, 10). Further insights into how toddlers learn a particular language demonstrate the far-reaching consequences of discursive practices as well. According to studies with infants, “new-born babies are sensitive to all sounds of all languages at first, but they lose this sensitivity already around the end of their first year, from then on being able only to distinguish the sounds of those languages they hear particularly often” (Pauen 2012, 12). Our social environment not only opens up possibilities for us, it also stunts certain possibilities of early infancy. Since our regular social communication involves the significant capacity to distinguish between different human faces, but not between the faces of apes, infants lose their initial capability of identifying chimpanzee faces individually (Pauen 2012, 13). Neurology shows “that such influences are correlated with changes in brain structure” (Pauen 2012, 13) – that indeed the social aspect shapes the natural dimension. Notably the development of the prefrontal cortex is “open to influences by the social environment in an especially high degree. The predisposition toward neuronal and synaptic circuit patterns of the prefrontal cortex is actualized not via genetic guidance, but via one’s own experience” (Hüther 2012, 16). Exactly which neuronal circuits will develop depends on “the stimuli for particular kinds of use which [children and youths] experience during their education and socialization. In consequence, at least this area of the human brain must be considered a social product” (Hüther 2012, 17; see Tanner 2009, 152).

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<sup>10</sup> According to Butler, in his “incomplete and posthumously published *The Visible and the Invisible*,” Merleau-Ponty “achieved a philosophical distance from the sexual Cartesianism of his phenomenological colleagues,” suggesting instead an “ontology of the tactile, a description of sensual life” (Butler 1989, 97f.).

Moreover, the study of epigenetics shows that an organism's experiences and its behavior can have an influence on its sex cells. In 2014, a research group in Zurich headed by Isabelle M. Mansuy, a researcher in neuroepigenetics, succeeded in demonstrating the inheritance of early childhood traumata by offspring in mice (Gapp et al. 2014). Presumably microRNA – short copies of genetic material influencing gene expression – is involved in transmitting inherited information in this case. The research group discovered

that traumatic stress in early life altered mouse microRNA (miRNA) expression, and behavioral and metabolic responses in the progeny. Injection of sperm RNAs from traumatized males into fertilized wild-type oocytes reproduced the behavioral and metabolic alterations in the resulting offspring. (Gapp et al. 2014, 667)

If these results can be replicated and shown to apply to humans as well, we will be dealing with a scientific account of how social experience shapes embodied beings across generations. Neuroepigenetics demonstrates that even the reality of each of us is historically sedimented.

The fact that discursive practices have real effects and that social relationships shape what is supposedly natural hearkens back to the challenges that psychosomatics has always presented for our understanding. The difficulty is how psychic realities as well as social ones generate physical realities – that is, diseases, as in psychosomatic medicine, or potentially gender, as Judith Butler argues. A sophisticated psychosomatics presupposes an interdependence between psychic and physical factors that is non-linear, however. In this respect, the physical dimension, the body, also plays a role in the genesis of a reality that is always shaped by this interdependence. Since social interaction typically involves vision, for example, the ability to interact communally is also due to the particularities in the morphology of the human eye, the extraordinary human sociality to our particular vulnerability, as Darwin noted (see Darwin 2004, 83f.).

The (lived) body is indeed the “site of a number of possibilities that are expanding in cultural ways” (Butler 1997a, 11), but it has a say in fulfilling these possibilities – and thus there are limits to the ways it might be shaped.

## 5. Historical Anthropology and the Anthropology of Embodiment

The bridge between evolutionary anthropology and historical anthropology not only opens a passage from the former to the latter, however. In pointing out alternatives to practices and understandings that seem a matter of course, historical anthropology relativizes the modern understanding of humanity that is characterized by the dualism of spirit and body. It is just one perception among several options that have been instantiated historically. The typically modern anthropological distinction between inside and outside is culturally conditioned as well.



In our languages of self-understanding, the opposition ‘inside-outside’ plays an important role. We think of our thoughts, ideas, or feelings as being ‘within’ us, while the objects in the world which these mental states bear on are ‘without’. Or else we think of our capacities or potentialities as ‘inner’, awaiting the development which will manifest them or realize them in the public world. The unconscious is for us within, and we think of the depths of the unsaid, the unsayable, the powerful inchoate feelings and affinities and fears which dispute with us the control of our lives, as inner. (Taylor 2001, 111)

Yet, this feeling of interiority is not atemporal, but is part of a “historically limited mode of self-interpretation, one which has become dominant in the modern West” (Taylor 2001, 111).

The anthology *Der ganze Mensch: Zur Anthropologie der Antike und ihrer europäischen Nachgeschichte* (“The Entire Human Person: Anthropology in the Antique World and its European Post-History”), edited by Bernd Janowski (Janowski 2012), shows in an exemplary manner that the antique world, in all its variety, thought in quite different ways. The introduction states explicitly that when modern scholars, “with an integrative intention, critical of academic theory,” asked for the whole person in the sense of an “alternative idea,” there have “again and again been surprising points of contact with the anthropological discourses of the antique world” (Janowski 2012, 9f.). In ancient Egypt, “the body is conceived of as an entirety composed of individual parts,” and human life is thought of as “integration into social relationships” (Janowski 2012, 10). Mesopotamian traditions are not aware of the “modern separation between the physical, psychic-mental, and the social aspects” of one’s life (Janowski 2012, 10; see Steinert 2012). Even ancient Greece cannot be simply considered a precursor of modern dualism. Even for Homer there is “quite obviously ... no center of our consciousness” (Bremmer 2012, 176). Neither does the medical-philosophical tradition of the antique world understand the inner human dimension as the true person, but rather as that which is internal to the body (Weissenrieder 2016).

Pursuing a consistently historical interpretation, the exegesis of the Old and the New Testament has also contributed to the relativization of modern dualism. The Old Testament scholar Hans Walter Wolff from Heidelberg pointed out in his groundbreaking *Anthropology of the Old Testament* (1973; see Wolff 1975; see Janowski 2013) that from the Old Testament perspective, the human person appears as embodied throughout. The Hebrew term that is commonly translated as *soul*, *nəpəš*, denotes “needy man, who aspires to life and is therefore living.” The term grasps the human person “primarily in his need and desire,” but also in his “emotional excitability and vulnerability,” as a pathetic being, as a psychosomatic unity. The concept is characterized by the dimension of “‘vitality’, which also applies to the animal” (Wolff 1975, 25). The human person is flesh, and so the Hebrew term for flesh *bāšār* can stand in for the personal pronoun in rhetorical parallelism (Ps 119:120; see Wolff 1975, 28).

For the most part, a dualist anthropology is foreign to the New Testament as well. Paul’s letters do not portray, for example, the soul as the site at which the relationship with the divine takes place. Instead, they call the body the temple of



the Holy Spirit (1 Cor. 6:19). Paul understands the present body as a *soma psychikon*, as a psychosomatic unity (1 Cor. 15:44; see Theißen 2016; Weissenrieder 2016; Etzelmüller 2016). He is impressed by the (lived) body

as an organismic interaction of a limited plurality of organs. Paul thus chooses the body as an ideal image for the congregation and the church: a polyphonic interplay of organs resulting in mutual strengthening and edification, not by way of mono-hierarchical forms of power, but structured only through changing constellations of functional prioritization and subordination. (Welker 2013, 72; see Wilckens 1980, 67)

Moreover, Paul is sensitive to the fact that conflicts in the congregation can result in physical disease (1 Cor. 11:30; see Weissenrieder, Etzelmüller 2010, 25 f.), but he also sees how the supposed deficiency of his own body contributes to the creation of the kind of community<sup>11</sup> that says “those members of the body that we think less honorable we clothe with greater honor, and our less respectable members are treated with greater respect” (1 Cor. 12:23; see Martin 1995, 102).

Over against an anthropology that is construed in dualistic or mentalistic ways, to biblical scholars it seems only appropriate – and only possible – to highlight the alien character of the Biblical perception of the human person. But surprisingly, the historical reconstruction of the anthropologies of the Old and the New Testament shows an understanding of the human person that is much closer to current research and discourse about embodiment in the neurosciences, in biology, medicine, and philosophy than those understandings of the human that we usually consider modern. Anthropologies of the Old and the New Testament thus do not merely open up perspectives on texts that are historically distanced, but do uncover alternatives to classical modern anthropology. In this sense, historical anthropology turns out to hold great potential for future research on anthropology.

In conclusion, the human person turns out to be the tipping point between an evolutionary and a historical anthropology. On the one hand, evolutionary anthropology reveals that by nature, the human person is destined for culture, hence being “mere plasticity.” On the other hand, historical anthropology shows that foreign, historical perceptions of humans knew about this plasticity, i. e., the ineluctable, non-linear interdependence between physical and psychic, individual and social, as well as between natural and cultural processes.

It was in view of the Old Testament, which sees the human person as fundamentally characterized by the dialogue with God, that Wolff asserted: “In his dialogue with God above all, man sees himself as called into question, searched

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<sup>11</sup> Presumably, Paul suffered from “a physical deficiency that adversely affected his rhetorical performance” (Martin 1995, 54). This may have been the physical result of the abuse he suffered as a missionary. In that case, his body would have manifested, in the eyes of his antique environment, the lowly, dishonorable state of the apostle. For in Roman culture, “a beaten body was a dishonoured body” (see Glancy 2010, 41). Yet, Paul’s wish for this weakness to be cured was not granted. Instead, he came to embody the word of the risen Christ, “My grace is sufficient for you” (2 Cor. 12:9). The supposed deficit of the apostle’s body thus comes to embody the word of the cross and contributes to the transvaluation of all values which it brings about.

out and thus much less established for what he is than called to new things” (Wolff 1975, 3, translation revised; see also Weissenrieder’s contribution to this volume). In accordance with this, the New Testament also sees the human being as characterized by an open future. The First Epistle of John puts it paradigmatically: “what we will be has not yet been revealed” (1 John 3:2). This biblical insight goes well together with an evolutionary anthropology, which does not aim at a description of the human essence, but rather at a better understanding of those natural processes that allow the human person to create and establish something new again and again. The results of a historical genesis should not be misunderstood as the description of the human essence, but as enabling the very process of transcending.

As the searchlights of evolutionary and historical anthropology converge on the lived body, the human person appears as a living being that cannot be described appropriately in naturalistic terms, but as a complex unity resulting from the interdependence of natural and cultural processes. This complex constellation is condensed precisely in human embodiment. For this reason, “every substantial presentation of the human being must renounce the artificial separation between approaches in the sciences and in the humanities, which makes sense only for more narrow purposes” (Portmann 1944, 125). An embodied being that is mere plasticity and that is consequently open in its future demands an interdisciplinary anthropology that includes the diverse disciplines and provides new perspectives on the human (lived) body as the site of possibilities not yet realized.

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