

13. Bioscientific Foundation: Bioscientific Dialogue as Model of Intercultural Dialogue

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Introduction: The Question of the Necessity of a Bioscientific Foundation of Intercultural Ethics

At first glance, when considering theological ethics as a form of intercultural ethics, it seems extremely unusual to use the biosciences as a foundation. Why not focus on more pertinent areas from the cultural sciences or humanities? A first answer may perhaps lie in the fact that theological ethics always requires interdisciplinarity and this includes the biosciences. However, this answer is hardly satisfactory, as it only touches on the necessity of interdisciplinarity in general and does not address the question of the necessity of a bioscientific *foundation* of intercultural ethics. A more promising answer is offered in the context of anthropology by contemporary biology. On the one hand, biology taxonomizes humans as “homo sapiens” and places them in a phylogenetic context with other recent species, thereby identifying them as natural beings whose actual material origin is based in evolutionary contexts. On the other hand—and this is a novelty of modern biology—it also sees humans as cultural beings who, in the context of an independent cultural evolution, have developed “cultural characteristics” that largely elude the language of biology and fall into the realm of cultural studies and the humanities. It is precisely this “double existence” of human as a natural and cultural being, as outlined by biology, that evokes the mutual conditionality of biological and theological-ethical scientificity. Because the biological constitution of the human being represents the elementary reference level, the biosciences offer us indispensable points of reference for the empirical conditions of

personal self-performances, but they are also extending to cultural phenomena that affect the field of intercultural ethics.¹

This chapter proceeds in three steps to show how this double interest of the biosciences and the interaction between the two different research cultures can serve as a model for a dialogue between different cultural traditions in intercultural dialogue and show how evolutionary biology can explain its foundation. First, I outline biology as an epistemological cultural landscape, with a particular focus on the aspects of historical paradigm shifts and methodology. This is followed by a presentation of bioscientific definitions and concepts relating to culture, with evolutionary ethics also being given space on this basis. Finally, we will evaluate how the bioscientific foundation just discussed could be developed.

Biology as Epistemological Cultural Landscape

If, as a theological ethicist, we turn to the bioscientific foundation of intercultural ethics, we do not encounter an inherently uniform subject, as we may have been taught in our own biology lessons. Rather, we discover an entire bioscientific cultural landscape of individual disciplines as subcultures that have grown together over a long and arduous period of time. In short, like all sciences, biology is the product of cross-generational cultural achievements of its pertinent scientific cultures, which we call professional circles.²

Paradigm Shifts as Markers for the Synthetic Cultural Landscape of the Biosciences

Until the time of Charles Darwin (1809–1882), biology existed as a loose hodgepodge of disciplines operating in isolation, most of which had

¹ Udo Zelinka, *Normativität der Natur—Natur der Normativität: Eine interdisziplinäre Studie zur Frage der Genese und Funktion von Normen* (Herder, 1994), 41.

² Martin Bleif, *Das Tier in uns: Die biologischen Wurzeln der Menschlichkeit* (Klett-Cotta, 2021), 16.

developed independently of each other. It was only through the theory of evolution (1858) founded by him and Alfred Wallace (1823–1913) that conceptual links between contextual (e.g., geographical species distributions) and internal factors (e.g., morphological structures) were finally made possible.³ It enabled bridges to be built between the individual bioscientific disciplines and ultimately laid the foundation for their basic *synthetic program*, thereby also evoking significant paradigm shifts during the twentieth century:

- From the 1930s onwards, the modern synthesis combined the theory of evolution with findings from genetics, systematics, population biology, and paleontology.
- Starting in the middle of the 1950s, ethology was founded, which now also included behavioral biology in its basic synthetic program.
- This gave rise to sociobiology⁴ in the 1970s, with which the previously common concept of species selection was abandoned in favor of individual selection. The theory of the *selfish gene*⁵ was the guiding principle here. Based on this, the basic *gene-centric theory* was established, which regarded genes as the sole determining

³ Jürgen Renn, *The Evolution of Knowledge: Rethinking Science for the Anthropocene* (Princeton University Press, 2020), 126.

⁴ Sociobiology investigates the biological basis and evolutionary phylogeny of social behavior and community organization in recent species (including humans). From the 1980s onwards, it developed into evolutionary psychology, which focuses specifically on humans and their cognition. See Ulrich Kutschera, *Evolutionsbiologie: Ursprung und Stammesentwicklung der Organismen*, 4th ed. (Eugen Ulmer, 2015).

⁵ Richard Dawkins, *The Selfish Gene* (Oxford University Press, 1976). According to Richard Dawkins, all organisms are merely vehicles of genes. During their evolution, genes generated ever more complex survival machines for the purpose of reproducing themselves more successfully. The metaphor of the selfish gene thus refers to the genetic instruction that vehicles reproduce as many intraspecific copies as possible. See Chris Buskes, *Evolutionär denken: Darwins Einfluss auf unser Weltbild*, trans. Christiane Kuby and Herbert Post (Wissenschaftliche Buchgesellschaft, 2008), 91.

factor for phenotypic attributes and behavior and consequently as the main actors in the control of biochemical processes and evolution itself.

It was precisely this gene reductionism that paved the way for a dead end in bioscientific theory, with evolutionary and developmental biology existing as independent domains for a long period. For example, in developmental biology, it was not immediately obvious that embryonic development (ontogenesis) and the evolutionary phylogeny of organisms had anything to do with each other. After all, the development researcher focuses on short individual processes and the evolution researcher on lengthy population processes. In an evolutionary context, development was to a certain extent a “black box” between the genetic information (genotype) and the form of the organism (phenotype).⁶

This changed from the mid-1990s onwards with the continuous establishment of *extended synthesis* as the last momentous paradigm shift in the biosciences, whereby the hitherto dominant gene-centrism increasingly lost its following. Gene-reductionist approaches corroded as knowledge of genetic “ambiguity” became more evidence-based: on the one hand, identical genes can lead to completely different phenotypes (principle of plasticity) and on the other hand, different genes can still produce the same phenotype (principle of robustness). Furthermore, it has increasingly been shown that the role of genes within embryonic ontogenesis cannot be viewed in isolation from the immediate environment. In fact, there are continuous interactions between the respective genes, their products (proteins), and the environment, which includes the cell itself, neighboring cells, more distant organ tissues, and finally also the external world.⁷ At the same time, studies on *cultural evolution* gained increasing attention and were successfully included in this basic systems

⁶ Axel Lange, *Evolutionstheorie im Wandel: Ist Darwin überholt* (Springer Verlag, 2020), 45.

⁷ Lange, *Evolutionstheorie im Wandel*, 90–91.

biology approach.⁸ The *multi-level selection theory*⁹ reveals itself here as a groundbreaking synopsis by identifying three further modes of inheritance in addition to the traditional genetic one: an epigenetic-developmental-biological pathway, behavioral transmission, and symbolic tradition. Three aspects are therefore extremely important for our question:

- The theory of *niche construction* emphasizes that all organisms are considered active shapers of their environment and not just passive recipients of selective environmental influences.¹⁰
- In the concept of *inclusive inheritance*,¹¹ aspects of cultural transmission are particularly evident—be it as acquired and learned behavior, or in humans through symbolic transmission by means of writing and language.¹² The theory of *symbolic tradition* directly included here builds unmistakable bridges to domains in the humanities: In the context of cultural co-evolution, symbolic transmission processes take place over generations, with new adaptations constantly being made. In this way, symbolism (as a link between past, present, and future) enables the passing on of collective knowledge and thus influences social behavior. Accordingly, symbolic transmission plays a decisive role, from the formation of identity, values, and norms to overall cultural development. In the sense of niche construction, human societies change their environment directly by means of their cultures and

⁸ Emerich Sumser, *Evolution der Ethik: Der menschliche Sinn für Moral im Licht der modernen Evolutionsbiologie* (De Gruyter, 2017), 30.

⁹ Eva Jablonka and Marion J. Lamb, *Evolution in Four Dimensions: Genetic, Epigenetic, Behavioral, and Symbolic Variation in the History of Life* (MIT Press, 2005).

¹⁰ Kevin Laland, Tobias Uller, Marcus W. Feldman, et al., “The Extended Evolutionary Synthesis: Its Structure, Assumptions and Predictions,” *Proceedings of the Royal Society B: Biological Sciences* 282, no. 1813 (2015): 20151019, doi.org/10.1098/rspb.2015.1019.

¹¹ Étienne Danchin, Anne Charmantier, Frances A. Champagne, Alex Mesoudi, Benoit Pujol, and Simon Blanchet, “Beyond DNA: Integrating Inclusive Inheritance into an Extended Theory of Evolution,” *Nature Reviews Genetics* 12, no. 7 (2011): 475–486, doi.org/10.1038/nrg3028.

¹² Lange, *Evolutionstheorie im Wandel*, 90.

imaginary symbolic worlds, which in biological terms represent special ecological niches.¹³

- In addition, *evolutionary ethics* is being established to explore the natural history of human morality. It attempts to systematically link natural and cultural evolutionary processes with one another to develop a multidimensional understanding of the phenomenon of human morality.

Bioscientific Methods as Cultural Practices Genuine to Biology

If we describe biology as an epistemological cultural landscape, we can also recognize genuine cultural practices in it, which we call methods. Biology generally has two methodological approaches: on the one hand, organisms can be classified, catalogued, and observed through description and comparison (*descriptive field biology*); on the other hand, they can be taken from nature and cultivated under standardized conditions (*analytical laboratory biology*), enabling an analysis of life processes based on experiments and elicited data. In addition, *evolutionary biology* has a special methodological position in the canon of biological subjects in that it primarily operates according to the principle of historical reconstruction: evolutionary researchers recreate past processes based on evidence (e.g., fossils), whereby DNA analyses have also been used more recently for clarification. Evolutionary biology is therefore largely a historical domain.¹⁴

Furthermore, bioscientific results do not represent “certain truths,” as the current media landscape all too often tries to suggest. Contemporary biosciences do not intend to adopt a universal perspective: Their success is based more on researching components of the material world through dissection, limitation, and reduction.¹⁵ Only hypotheses supported by ongoing data and facts are evaluated as reliable and ultimately summarized

¹³ Renn, *Evolution of Knowledge*, 328.

¹⁴ Kutschera, *Evolutionsbiologie*, 27.

¹⁵ Bleif, *Das Tier in uns*, 13.

into theories in the sense of reliable hypothesis systems.¹⁶ The biosciences generally operate with a methodological naturalism, which represents a methodological limitation that deliberately excludes all questions that cannot be grasped empirically. In the sense of a “non-interventionist agreement,” all observable phenomena must therefore be investigated exclusively using scientific methods.

According to Karl Popper (1902–1994), theories are products of a selection which took place by empirical falsification that can be corrected further or refuted by more recent results.¹⁷ Any disagreements in the specialist community (in terms of an epistemological culture) result from different interpretations and weightings of existing facts. This includes the fact that theories must be supported by as many independent facts and reliable hypotheses as possible (following the principle of independent evidence).¹⁸

“Culture” from a Bioscientific Perspective

Having outlined the biosciences as an epistemological cultural landscape, it makes sense in a second step to examine their peculiar approach to “culture.” This concerns above all how the biosciences define culture and what role they ascribe to culture within human evolution. In addition, space is given to the programmatic newness of an evolutionary ethics derived from this approach, which interprets human morality as a product of natural and cultural evolutionary processes. This reveals an evolutionary-biological interpretation that is of great significance to the understanding of the bioscientific foundation of culture.

¹⁶ Kutschera, *Evolutionsbiologie*, 12.

¹⁷ C. Giovanni Galizia, “Biowissenschaft,” in *Heureka—Evidenzkriterien in den Wissenschaften: Ein Kompendium für den interdisziplinären Gebrauch*, ed. E.-M. Engelen, C. Fleischhack, C.G. Galizia, K. Landfester (Spektrum Akademischer Verlag GmbH, 2010), 23.

¹⁸ Kutschera, *Evolutionsbiologie*, 12–13.

Culture—A Question of Biological Definitions

Like cultures in general, scientific cultures have their own special epistemologies and languages, which can often lead to massive problems of understanding between non-pertinent disciplines due to a lack of translation skills. For example, it is extremely useful to briefly outline the definitions of culture used specifically in biology to make an appropriate distinction for our question—to what extent the bioscientific understanding of culture can serve as foundation for intercultural ethics:

- In microbiology, this refers to the cultivation and multiplication of microorganisms in a culture medium under controlled conditions to study them or use them for specific purposes.
- In botany, culture can be defined as the practice of growing plants under controlled conditions (e.g., in greenhouses or in vitro) to promote their development or to select certain characteristics.
- Behavioral biology uses the term in relation to the transmission of behaviors from one generation to the next through imitation or social interaction (e.g., tool use in chimpanzees or the song repertoire of songbirds).
- Within contemporary biological anthropology, culture refers to the totality of beliefs, values, traditions, and behaviors, as well as tangible and intangible artifacts.

It is obvious that in the following we will use the fourth type of definition as a hermeneutical framework, using it to guide the discussion of cultural evolution and the evolutionary ethics derived from it.

The Nature-Nurture Debate: Culture on the Biological Leash?

An extremely crucial question for biology is how much evolutionary significance should be attributed to human culture. This has occupied the scientific discourse in a highly controversial manner for well over forty years. In the early 1970s, a **nature-nurture debate** increasingly began to dominate the scientific discourse: on the one hand, the social sciences, which were very closely associated with behaviorism, emphasized that humans (and ultimately societies) were completely changeable. What ultimately makes a human into a human being is the social milieu, education, and culture.¹⁹ On the other side was sociobiology, which, due to its gene-centric approach, argued that the human mind and human behavior should be seen as the product of a “human nature” that had developed over the course of evolution.²⁰ Richard Dawkins, who attempted to qualify culture through two effective approaches, is the leading thinker in this field:

- **Thesis of memetic evolution** (1976): Adapting his idea of the “selfish gene,” he introduced the idea of the “selfish meme”: similar to genes reproducing themselves in a genetic race to pass on their own copies, he argues that ideas, behaviors, or cultural elements (called “memes”) are also in a race to spread and reproduce. A selfish meme is therefore a cultural element that aims to spread itself and thus maximize its own chances of survival, often at the expense of other ideas or memes and regardless of whether it is beneficial to its bearer or not.²¹
- **Extended phenotype thesis** (1982): The phenotype thus goes beyond the pure physiology of an organism: genes can manifest themselves through extracorporeal artifacts (such as beaver dams

¹⁹ Buskes, *Evolutionär denken*, 95.

²⁰ Buskes, *Evolutionär denken*, 96.

²¹ Buskes, *Evolutionär denken*, 171–173.

or bird nests), which increases their genetic fitness. The behavior of living beings should consequently also be counted as part of the phenotype. From this point of view, culture is nothing more than an extended effect of human genes and is ultimately interpreted as a purely biological phenomenon, because it is anchored exclusively in the genes.²²

The thesis that human cultural evolution is merely an extension of biological evolution, which is characterized by gene- or meme-centrism, has long been the dominant view in sociobiology.²³ It was not until around the mid-1990s that this began to increasingly corrode, as approaches favoring the idea of **gene-culture co-evolution** began to establish themselves and gain acceptance. The decisive factor here was the thesis of inclusive inheritance (briefly outlined above), with multi-level selection theory serving as the theoretical foundation. Inclusive inheritance explicitly assigns culture an independent creative potential within human evolution and decidedly emphasizes that it is not on the leash of biological evolution.

“Back to the Roots”: Morality as a Co-Product of Biological and Cultural Evolution

Embedded in this nature-nurture debate, the program of evolutionary ethics was established within the evolutionary-biological canon to explore the natural history of human morality. As early as *The Descent of Man* (1871), Darwin pursued the thesis that human moral ability is a product of natural and cultural evolution. His basic approach proves to be remarkably systemic: Darwin is essentially concerned with conceiving a theoretical framework that makes it possible to think of the human being

²² Buskes, *Evolutionär denken*, 174.

²³ It is interesting to note here that memetics in particular has left clear traces in our media landscape. As a representative example, see the world bestseller *Sapiens: A Brief History of Humankind* (Random House, 2014), by Yuval Harari, who uses this basic idea in his explanations, along with the common term “memes” (used on today’s social media platforms for images, videos, texts, or other media elements that can quickly spread virally).

in terms of the whole of living things without abandoning the specificity of the human being in cognitive and moral terms.²⁴ He thus refers to authorities from various philosophical schools (above all English-Scottish empiricism) and attempts to integrate their concepts as categorical building blocks into his naturalistic-evolutionary theory of descent.²⁵ Consequently, Darwin outlines human evolution not only in social terms but in cultural terms as well. The human being is a social and cultural animal.²⁶

- Due to continuous increases in mental capacity and the development of complex language systems that resulted from natural selection processes, a “moral sense” was able to evolve from the group of social instincts, enabling a qualitatively new, exclusive human capacity. This moral ability is not primarily acquired by blindly following social instincts, but rather by making conscious judgments and performing actions according to generally accepted principles.²⁷
- In addition, Darwin develops a group-selective approach to explain the continuous expansion of target groups (from small reference groups to state structures): communities with mutually supportive individuals would have prevailed over those with more selfish individuals. During evolution, this process has been repeated and extended to ever larger reference units that are ultimately intercultural.²⁸

²⁴ Eve-Marie Engels, “Charles Darwins evolutionäre Theorie der Erkenntnis- und Moralfähigkeit,” in *Charles Darwin und seine Wirkung*, ed. E.-M. Engels (Suhrkamp, 2009), 306.

²⁵ Eve-Marie Engels, *Charles Darwin* (Beck, 2007), 164–165.

²⁶ Frans De Waal, “Morally Evolved: Primates’ Social Instincts, Human Morality, and the Rise and Fall of Veneer Theory,” in *Primates and Philosophers: How Morality Evolved*, ed. S. Macedo and J. Ober (Princeton University Press, 2006), 22.

²⁷ Engels, “Charles Darwins evolutionäre Theorie der Erkenntnis- und Moralfähigkeit,” 325.

²⁸ Engels, *Charles Darwin*, 175.

For Darwin, culture represents a strikingly new factor, requiring a cultivation of the moral faculty that a mere increase in reproductive fitness could never have achieved.²⁹ In other words, he firmly assumes a co-evolution of nature and culture.

In contrast, about 90 years later, sociobiology focused on the gene-centric approach (outlined above) when it devoted itself to the program of evolutionary ethics: it limited itself exclusively to altruistic behavior in group-active animal species (including humans) by trying to interpret it within the horizon of the “selfish gene” theory, largely ignoring the “culture” aspect. Altruistic behavior as a decidedly “biological” phenomenon, which is based either on kin selection or on reciprocity principles between unrelated group members, serves solely to replicate certain genes that promote cooperative behavior and are therefore capable of survival. Here, mathematical game theory acted as a key hermeneutic discipline: reciprocal-altruistic social behavior is now described as investment-benefit calculations, whereby they ultimately only represent evolutionarily stable strategies of “selfish genes.”

In the mid-1990s, however, there was a decisive return to Darwin, with a renewed focus on humans as natural and cultural beings. Matt Ridley (b. 1958) is one of the pioneers in this field, and his game-theoretical approach falls short when it treats all altruistic behavior and ultimately human moral acts purely as cost-benefit calculations. It was the evolutionary genesis of corresponding emotions and social instincts that enabled the formation of simple relationship structures, leading to complex cultural communities, thereby providing the basis for cultural co-evolution. This correlated with the increase in brain volume during continuous adaptation to more complex social connections (in the sense of social intelligence).³⁰ Following on from this, Frans de Waal (1948–2024) finally qualifies humans as “essentially” moral cultural primates. In the following, he distinguishes three levels of morality in humans as compared to apes:

²⁹ Engels, “Charles Darwins evolutionäre Theorie der Erkenntnis- und Moralfähigkeit,” 326.

³⁰ Matt Ridley, *Die Biologie der Tugend: Warum es sich lohnt, gut sein*, trans. J. Weiland and A. Weiland (Ullstein, 1999), 179–209.

- *Level of moral feelings* (as a moral basis): Mammals showed empathic abilities early on in their evolution, which were initially limited to their relationship with their offspring. These eventually extended to other forms of relationships, especially in primates, where reciprocity tendencies, a sense of fairness, and the ability to harmonize relationships developed.³¹
- *Social pressure level* (in the context of group morality): This refers to simpler moral behaviors that are specific to small groups. These create social rules, which exert social pressure and influence the behavior of the members, thus promoting cooperation and the achievement of common goals. Apes also have a certain understanding of acceptable and unacceptable behavior and of prescriptive social rules, but these are crucially linked to immediate consequences (especially for themselves). In contrast, the human aspects of social pressure tend to emphasize the common good and are characterized by a right-wrong distinction that allows humans in the small group to take an impartial standpoint.³²
- *Level of moral reason* (in the context of cultural morality): This is exclusively human and addresses moral norms and values based on cultural traditions, beliefs, and institutions. These can vary from one society to the next. As a result, the individual develops an internal compass by which they evaluate themselves and others. De Waal emphasizes here that moral norms and values do not arise from maxims that are arrived at independently, but from interactions with others that have been internalized. Social-cultural interaction thus forms the basis of individual moral consideration.³³

³¹ Frans De Waal, "The Tower of Morality," in *Primates and Philosophers: How Morality Evolved*, ed. S. Macedo and J. Ober (Princeton University Press, 2006), 168–169.

³² De Waal, "The Tower of Morality," 169–172.

³³ De Waal, "The Tower of Morality," 173–175.

Although based on De Waal, Michael Tomasello pursues a more culturally adaptive approach. He identifies humans as ultra-cooperative and ultra-social primates³⁴ who have undergone an evolution of coexistence that includes new forms of cooperation and cultural organization. With his *deservingness hypothesis*, he builds a bridge between biologically-adapted altruistic and culturally-adapted norm-oriented behavior. Tomasello distinguishes between three stages of development to outline an evolution from purely strategic cooperation to “genuine” morality:

- *Individual intentionality*: The last common ancestor of humans and chimpanzees was largely dominated by individualistic behavior. Prosocial activities were conducted out of self-interest, and cooperative activities served mainly competitive purposes, so that others were used as social tools. Empathy was mainly shown to close relatives and coalition partners (“friends”).³⁵
- *Joint intentionality* (first-order shared intentionality): At least 400,000 years ago, early humans were forced into an ecological niche that required communal foraging (hunting of large animals). This led to strong interpersonal dependencies and a corresponding compassion for the well-being of potential partners. Early humans acted in a socially recursive manner and developed a “we” consciousness with individual role attributions: In view of joint obligations, the “I” is subordinated to the “you” as a second-personal entity and the partner is recognized as an equal second-personal actor. With the development of such a second-personal morality, the first rudiments of norms emerged.³⁶

³⁴ Michael Tomasello, *A Natural History of Human Morality* (Harvard University Press, 2016), 42.

³⁵ Tomasello, *A Natural History*, 143.

³⁶ Tomasello, *A Natural History*, 144–145.

- *Collective intentionality* (second-order shared intentionality): Around 100,000 years ago, modern humans began to live in large, organized cultural groups. This led to an increased dependence on the group and an orientation that placed group instructions above individual needs. In this way, increasingly complex systems of norms were passed on cumulatively. Modern humans must no longer generate individual social obligations themselves; rather, they are born into a complex of a pre-existing cultural reality of social obligations. There was a continuous transition from a dyadic-local to a universal-objective morality.³⁷

An Evaluative Outlook

Basically, two core results can be identified in relation to a bioscientific foundation, which reflects interdisciplinary events between epistemological scientific cultures and as an empirical-material reference level for intercultural ethics.

Interdisciplinarity as an Intercultural Process

In the course of their own scientific history, biologists developed into veritable masters of multi-interdisciplinary collaboration with the theory of evolution as a unifying foundation, without losing the individual characteristics of the respective disciplines. In other words, the individual disciplines represent subcultures within an epistemological cultural landscape, which enter into a relationship with each other via the connecting medium of basic evolutionary biological approaches, correct each other by means of the falsification principle that is inherent to them, and thus complement each other systemically as a biological canon. Their masterpiece is certainly the multi-level selection theory (presented above), which combines molecular biology and biochemistry with behavioral

³⁷ Tomasello, *A Natural History*, 145.

biology and cultural evolutionary research approaches in such an ingenious way.

It also reveals that the theory of symbolic transmission in particular stimulates bridges to disciplines in the humanities and cultural studies that have hardly been explored to date. In other words, this current bioscientific approach opens up an anthropological “meeting place” for epistemologically different scientific cultures, so that theological ethics, if it wants to define itself as an interculturally operating ethics, is also called upon to help build and consolidate these bridges in a learning-listening way. At this point, the theologian Walter Sparn (b. 1941) cites the need for a “cultural hermeneutic transformation”: a common horizon of possible communication is essential, which consists in the fact that all human behavior is ultimately cultural practice. Accordingly, “cultural” generally outlines the human processing of “natural” (such as biologically given) matters in and for a new space, which we refer to as culture. However, culture is never exclusively a matter of knowledge, increase and improvement, but always also a matter of understanding in the sense of a reflexive and perspectival relationship between the subjects of knowledge and the objects of their knowledge.³⁸ What is required is a kind of “hermeneutics of the foreign culture,” whereby difference is defined as something positive that represents a decidedly basic trigger for interdisciplinary familiarization, so that in the further course the “self” wants to open up again and again in the encounters with the other and now presents itself as something “dialogically changed.” By learning to understand each other, previously fixed attitudes and thought structures are broken down and recalibrated in the relationship with the other.

On the one hand, the life sciences inevitably take place in the medium of philosophical reflection when they evaluate their data and use them to falsify theoretical systems, and the basic biological concepts (such as

³⁸ Walter Sparn, “Lösen sich dogmatische Fixierungen auf? Transformationen kategorialer Grenzen in einer Offenbarungsreligion,” in *Glaube und Naturwissenschaft* [Theologie für die Praxis, 46. Jahrgang], ed. J. Barthel, R. Gebauer, H. Eschmann, and C. Voigt (Evangelische Verlagsanstalt 2020), 32.

“culture”) have emerged from philosophical language usage. On the other hand, theological ethics is in a constant process of differentiation and connection with philosophy. Therefore, philosophy can serve epistemologically as a “hermeneutic culture of mediation” in order to achieve a hermeneutic allocation and mediation of the theological-ethical and bioscientific dimension. This is precisely why it is extremely important for theological ethicists to display a sufficient knowledge of the history of the life sciences (as was attempted above). This is the only way to recognize the causes of one-sided conceptions and mutual misunderstandings or prejudices and is a prerequisite for overcoming them.³⁹

Both biosciences and theological ethics necessarily require an interdisciplinary approach. The latter requires the empirical information that the biosciences ultimately provide. Due to the deliberate methodological limitations of their own field of experience, biologists have the option of presenting their isolated theoretical systems as self-sufficient domains that can be assessed exclusively via empirical paths of knowledge. It should be emphasized here that evolutionary selection and adaptation are the key hermeneutical categories. Theological ethics, on the other hand, is not able to make the kind of material-specific contributions that take place in interbiodisciplinary contexts. At the same time, however, such a methodological reductionism also evokes an appropriateness to theological ethics—for example, when the spirituality and cultural nature of the human being is touched upon, which to a large extent eludes the special language and methodology of the biosciences. When theological ethics refers to human beings, it does so in a different context: it views them from a personal and community perspective of their goal in life, whereby this cannot be reduced to a mere biological existence.⁴⁰

³⁹ Matthias Haudel, *Theologie und Naturwissenschaft: Zur Überwindung von Vorurteilen und zu ganzheitlicher Wahrheitserkenntnis*, 2nd ed. (Vandenhoeck & Ruprecht, 2023), 42–43.

⁴⁰ Andreas Knapp, *Soziobiologie und Moralthologie: Kritik der ethischen Folgerungen moderner Biologie* (VCH Verlagsgesellschaft, 1989), 21.

The Bioscientific Foundation of an (Inter-)Cultural Ethics

As outlined above, there has been a significant paradigm shift in the biosciences, which also includes a change of perspective on how human culture is viewed. Thus, the purely gene-centered approach of sociobiology proved to be too short-sighted, since from a biological-systemic perspective, human beings are more than the mere sum of their genes and are therefore far too complex to describe or even interpret solely through a monocausal biologism. Accordingly, for contemporary evolutionary biology, human culture does not represent a mere epiphenomenon, as it ultimately promoted humans into a niche that enables the human species to exceed the limits of natural evolution. Rather, at this point we are deliberately referring to natural and cultural evolution, which on the one hand overlap and on the other hand offer specific development opportunities. Charles Darwin already pointed this out when he decidedly wanted to understand humans as natural and cultural beings. Using this as a basis, Michael Tomasello develops the idea of human evolution from a social to an ultrasocial primate: this unique ability of ultrasociality represents the foundation for a unique cultural evolution of humans. On the one hand, it enabled them to build up increasingly complex social structures (up to societies and cultures) and, on the other, to reach the intercultural level by expanding their own reference group to include an increasing number of relationships with members of alien groups, societies and cultures, as has become the status quo in our globalized existence today.

In addition, contemporary evolutionary ethics, as a sub-discipline of evolutionary biology, firmly identifies the moral capacity as a basic condition of human coexistence. In direct reference to Charles Darwin, the approaches of Frans de Waal and Michael Tomasello aim to outline an evolutionary biological anthropology that seeks to understand humans as fundamentally moral primates. From an evolutionary-ethical perspective, two developmental pathways can be identified regarding the genesis of human morality:

- **Morality of Compassion:** The abilities for empathy and altruistic behavior (toward both relatives and non-relatives) form the underlying foundation of human moral capacity as *natural-evolutionarily* developed traits.
- **Morality of Responsibility and Fairness:** Collectively generated systems of norms are *cultural-evolutionary* products of symbolic tradition and ultra-cooperative intentionality. They are fundamental to the development of human ultra-social existence, as they regulate individual behavior and play a crucial role in the construction of social identity. As Tomasello emphasizes, it is essential to recognize that these norms are not quasi-static “eternal truths” or entirely “genetically determined dispositions,” but rather cultural achievements that are passed down through generations, while also being subject to change and further development.

For an interculturally operating theological ethics, the latter approach is of particular importance, in that it refers decidedly to the evolutionary-dynamic character in the cultural generation of norm systems. In a nutshell: the evolution of norm systems reflects the vital transformation of social and cultural contexts. This approach can prove to be extremely valuable for a theological ethics that wants to understand itself as intercultural: in the face of a globally active Catholic Church and an increasingly globalized humanity, it is confronted with the enormous challenge of finding common ethical foundations and principles that apply across cultural boundaries on the one hand and respectfully reflect the particularities and inherent values of cultural and religious traditions (such as normative practice) on the other.

At some point, theological ethics is faced with the task of not simply adopting this evolutionary-biological foundation of an intercultural human condition into its system of thought without reflection. Precisely because evolutionary ethics, as a dedicated sub-discipline of evolutionary

biology, generates its findings solely by means of methodological naturalism (in the sense of a non-interventionist agreement) and thus excludes all non-empirically tangible facts from its investigations, it requires theological ethics, among other things, to expand its deliberately limited framework of knowledge. Theological ethics in particular should enter into a “critical-solidary” discourse partnership with it in order to limit the risk of simply deriving naturalistic ideologies from findings, as is the case in sociology, for example.



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