

The Integrative Potential of Contemporary Perspectives on the Nature/Culture Conceptual Relationship

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Author:

Aleksandra Knežević

Institute for Philosophy and Social Theory, University of Belgrade

aleksandra.knezevic@ifdt.bg.ac.rs

Abstract: In this paper, I analyze and compare Maria Kronfeldner's and Tim Ingold's views on the conceptual relationship between nature and culture. I show that despite the differences, their views remain close particularly in terms of their integrative potential. The ultimate purpose of this examination is to lay the groundwork for further research on the problem of conceptual integration between sociocultural anthropology and evolutionary psychology. The paper comprises four main sections. First, I briefly explore the history of Darwinism to show how nature and culture were conceptualized within this framework. Second, I deal with Kronfeldner's separationist stance and Ingold's holistic perspective on the nature/culture conceptual relationship. Third, I discuss the implications of their views on the choice of research heuristics in the sciences that study human nature and cultures. While I interpret Ingold as supporting methodological integration, Kronfeldner argues for a version of integrative pluralism. Lastly, I provide an outlook for further discussions on conceptual integration and integrative pluralism.

Keywords: human nature, culture, integrative pluralism, conceptual integration, evolutionary psychology

Introduction

This paper explores the contemporary perspectives on the conceptual relationship between nature and culture. In the lines that follow, I analyze and compare two contemporary views regarding the issue at stake. I discuss the view developed by Maria Kronfeldner who argues in favor of the conceptual separation of these notions. I then explore Tim Ingold's account. Unlike Kronfeldner, Ingold holds that this divide is obsolete and that we need to move past it in a holistic fashion. Despite Kronfeldner's and Ingold's opposing ways of conceptualizing the relationship between nature and culture, I show that their perspectives exhibit important similarities, particularly in terms of their integrative potential for the sciences that study human nature and human cultures.

The paper is structured as follows. In Section 1, I present a brief history of the conceptual relationship between nature and culture. The historical overview has three purposes. Firstly, it provides a scientific context in which both Kronfeldner and Ingold develop their views. Secondly, it serves to highlight the political implications of the nature/culture debate. As I will discuss, our understanding of this debate has implications for both society (influencing our perception of the Other) and science (demarcating the boundaries between disciplines). Thirdly, I will show that how this relationship is conceptualized relates to one's choice of research heuristics, which I demonstrate throughout the paper in Section 1, and in more detail in Sections 3 and 4. By research heuristics, I simply mean a way of engaging with scientific theories, methods, or procedures in scientific research. In this paper, I consider genetic determinism, conceptual integration, methodological integration, and integrative pluralism as specific instances of research heuristics in the sciences that study human nature and cultures. Finally, the main body of the paper (Section 2) is dedicated to Kronfeldner's (as she calls it) separationist stance in relation to the conceptual nature/culture dichotomy and Ingold's holism. Let us, however, start with some history.

1. From Darwin to neo-Darwinism in social science

a) The entanglement of nature and culture in the 19th century

The separation between nature ("physis" or everything transmitted via biological reproduction) and culture ("nomos" or everything transmitted via social learning) traces back to ancient philosophy and science. However, I begin my investigation into the conceptual relationship between these two notions from Charles Darwin, and his intellectual legacy – Darwinism. Darwinism or the idea of evolution by natural selection is (roughly) a claim that natural species

change due to environmental pressures. Namely, the environment “favors” individuals that can survive and reproduce despite its pressures. Since they survive and reproduce, these individuals transmit, via biological reproduction, their traits, including the ones that enable them to adapt to their environment. Therefore, due to their heritability, these advantageous traits are inherited by the subsequent generation. On the other hand, the traits possessed by the individuals that did not survive and thus did not reproduce do not show up in the next generation. Evolutionary change, thus, occurs when there is a shift in the frequency of traits within a population of the same species. In other words, Darwin’s theory implies that evolution takes place at the level of populations (an idea referred to as populational thinking) when there is variation in traits between individuals of the same species. The question, however, arises: what is the source of this variation? This question is important for the present purposes since, as I explicate shortly, its answer requires the conceptual nature/culture dichotomy.

In its beginnings, during the second half of the 19th century, Darwin’s theory was intertwined with another view of evolution: Lamarckian evolution (Laland, Brown 2002: 40–47). Jean Baptiste de Lamarck held that evolutionary change occurs when the subsequent generations inherit traits their parents acquired during their lives due to, again, environmental pressures. Thus, unlike Darwin who believed that variation in traits is a given that “enables nature to select” the advantageous one and thus, thanks to their heritability, enables evolution to occur, Lamarck argued that evolution happens when the subsequent generation inherits advantageous traits their parents acquired during their life. Thus, for Lamarck, variation was not a given but a consequence of evolution.

In terms of the nature/culture dichotomy, Lamarck’s theory of evolution implies that nature and culture are not conceptually separate since culture, as the most important part of the human environment, becomes nature via the inheritance of acquired traits (Kronfeldner 2018: 65). This further implies that the differences between cultures indicate differences in the biological endowment of their members. In the realm of social science, Lamarckism, coupled with ethnocentrism, offered a scientific rationale for racism.

By the late 19th century, Lamarck’s theory made its way into sociocultural anthropology, most notably in the works of Lewis H. Morgan and Edward B. Tylor. Morgan and Tylor used the evolutionary theory to argue against, at that time, the widely held idea that people from different cultures are different biological species (i.e., different races) (Laland, Brown 2002: 46). This idea was used to justify slavery as natural since it was considered as an outcome of nature’s order. Instead, Morgan and Tylor argued that all people have a common ancestry, and thus a shared biological nature, emphasizing the concept of the *psychic unity of mankind*. However,

they also posited that some (i.e., their, Western) cultures are more progressive than others. Under the framework of Lamarckism, where culture becomes nature via the inheritance of acquired traits, the (alleged) progressiveness of some cultures was taken as evidence that their members had “larger and more effective brains” (Laland, Brown 2002: 45). Likewise, the (alleged) crudeness of other cultures was regarded as an indication of less developed cognitive features of their members. Therefore, although originally aimed at opposing slavery, 19th-century evolutionary sociocultural anthropology provided a new justification for the racist perception of the Other.

At the turn of the century, Lamarck’s theory gained prominence in both science and society while Darwin’s theory was in decline (Laland, Brown 2002: 40–47). The main reason behind this turn of events was Darwin’s inability to explain the origin of variation, a crucial factor for the mechanism of natural selection to operate (Kronfeldner 2009: 117). As a result, Darwin himself resorted to Lamarckism to account for the source of variation, deviating from the core principles of his theory. I do not go into details about how Darwinism and Lamarckism intertwined in Darwin’s work and the work of others like, for instance, Hebert Spencer (see e.g., Ingold 2004: 209–212). However, what needs to be emphasized is that Darwin, as an advocate for antiracism, employed a theory of evolution, which relies on common descent, to support the scientific case for the abolition of slavery (Kronfeldner 2018: 22). Regrettably, Darwin’s reliance on Lamarckism, which became evident in subsequent editions of his *Origin of Species* (the first edition being published in 1859) as well as in his later book *The Descent of Man* (1871), was interpreted as providing scientific justification of racist attitudes. As a consequence, the misuse of Darwin’s theory obscured the reception and understanding of Darwinism and the evolutionary approach in the social sciences in the years to come (Ingold 2006).

To recapitulate, the conceptual coupling of nature and culture, specific to Lamarckism, provided scientific support for racism and racist policies. However, Darwin’s theory initiated a process of decoupling these notions, leaving the question of the source of variation to be addressed. In the following, I explore how Darwin’s theory was further developed, ultimately leading to the conceptual separation of nature and culture, which was the final blow to the scientific justification of racism and secured the disciplinary independence of sociocultural anthropology.

b) The separation of nature and culture in the 20th century

A move forward in evolutionary thinking in the first half of the 20th century was driven by at least two key ideas: August Weismann’s notion of hard inheritance and Alfred Kroeber’s

cultural determinism. Weismann, influenced by Francis Galton, provided a theoretical foundation for the missing source of variation. He postulated the existence of material, fixed, innate, and heritable entities that contain all the instructions necessary to build an organism (Kronfeldner 2018: 62–66). He called them germ plasm and today we call them genotype, which refers to the full collection of genes in an organism. Most importantly, Weismann believed that germ plasm is unchangeable in response to environmental and cultural pressures. He understood it as being permanent and *hard*. As a consequence, any change in germ plasm, as he proclaimed, occurs independently of cultural change (Ingold 1990: 212–213). In this way, by postulating the existence of germ plasm, Weismann was able to provide the source of variation that was missing, making the final cut between Darwin’s theory and the Lamarckian inheritance of acquired characteristics.

Building upon Weismann’s insights, Kroeber (1917) argued that culture changes in an autonomous yet analogous way to nature. He famously proposed that from a particular moment in human history, when humans developed cognitive capacities for acquiring and learning culture, cultural evolution unfolds independently of biological evolution. Moreover, Kroeber’s insights about the causal independence of cultural change from human biology (not necessarily human action, see Kronfeldner 2009: 115–116) underscored the idea that culture can only be explained by culture itself, known as *cultural determinism*. As a consequence, cultural determinism solidified the conceptual separation of nature and culture. In this way, it challenged the notion that cultural differences reflect inherent biological, cognitive, or intellectual differences among individuals. Namely, if cultures differ, they do so because of historical, cultural, or environmental reasons that have nothing to do with the differences in the biological endowment of their members. This, in turn, meant that scientific justification of racism lost all its support within the Darwinian evolutionary framework.

Finally, by establishing culture as both the subject to be explained (explanandum), which cannot be reduced to human biology for the purposes of its explanation, and as the explanatory framework (explanans), Kroeber secured the disciplinary autonomy of sociocultural anthropology. At the time of his writing, this accomplishment was significant considering that there were no clear boundaries between this discipline and, on one hand, biological anthropology, and on the other, genetics, both of which were gaining more and more popularity (see Kronfeldner 2009).

The conceptual separation of nature and culture allowed new ways for the deployment of the evolutionary framework in the study of culture and cultural change. Unlike 19th-century evolutionary sociocultural anthropology, which did not make a clear conceptual distinction

between nature and culture, contemporary evolutionary social science such as dual inheritance theory recognizes both nature and culture as distinct conceptual systems of change in their own right. Importantly, it acknowledges both nature and culture as equally important channels of inheritance (the first transmitted via biological reproduction, the second via social learning), emphasizing their interaction as crucial in shaping the course of human evolution, be it biological or cultural (Kronfeldner 2011: 5–6; for more on dual inheritance theory see e.g., Cavalli-Sforza, Feldman 1981; Boyd, Richerson 1985; Richerson, Boyd 2005).

Once Kroeber's insights were confirmed by Mendelian laws of genetic inheritance, meaning that genes were finally introduced as a theoretical entity, the principle of natural selection, as the sole engine of evolution, was finally on solid ground. This "Modern Synthesis" of Darwin's theory and Mendelian genetics marked the beginning of neo-Darwinism in evolutionary biology. Moreover, neo-Darwinism found its way into social science as well.

In 1975, E. O. Wilson published the book *Sociobiology: The New Synthesis*. Wilson's observations of ant social behavior led him to propose that social behavior in all animals, including humans, can be explained by way of directly applying the principle of natural selection. What was controversial about sociobiology is the claim that cultural phenomena can and *should* be reduced to biological, that is, genetic factors, for the purposes of their explanation. This reductionist research heuristics, known as *biological* or *genetic determinism*, negates the significance of culture – since it reduces it to nature – both as the subject to be explained and as the explanatory framework. As a result, sociobiology poses a challenge to the autonomy and integrity of sociocultural anthropology since it calls for a "new synthesis" in which the social sciences, as nothing more than "the last branches of biology", are included in the Modern Synthesis (Wilson 1975: 4).

Sociobiology and its contemporary counterpart, evolutionary psychology, have faced significant criticisms stemming from evolutionary biology (Rose, Lewontin, Kamin 1984) philosophy of science (Bleier 1997; Kitcher 1985; Dupré 2001), sociocultural anthropology (Sahlins 1976), and multidisciplinary perspectives (Rose, Rose 2000). Evolutionary psychology states that human social behavior is determined by psychological mechanisms that evolved in response to ancestral environmental challenges. In other words, it assumes that our brain comprises numerous specialized units, known as modules, which were shaped by natural selection to solve specific environmental problems set in the past, namely in the Pleistocene, the period preceding human civilization by one or two million years (see Barkow, Cosmides, Tooby 1992).

Although evolutionary psychologists “reasonably enough protest when accused of holding that genes determine behavior, they do generally hold that genes determine psychological mechanism” (Dupré 2014: 249). As a result, a common critique of both sociobiology and evolutionary psychology is that by focusing solely on genes these disciplines neglect the role of culture in shaping human sociality, which ultimately renders their theories empirically inadequate (Kitcher 1985). In addition, many hold that sociobiology and evolutionary psychology offer unfalsifiable *just-so stories* about human evolutionary history (Rose, Lewontin, Kamin 1984).

These methodological critiques were accompanied by more political ones. For example, Sahlins (1976) and Bleier (1997) argue that sociobiology provides a scientific justification for the social and sexual *status quo*. That is, if the current (patriarchal, racist, competitive) social order is the consequence of human biology, and human biology is not something we can change easily, then the current social order is deemed almost inevitable. In a similar manner, Dupré writes “[b]iological determinism suggests political nihilism, as attempts to alter the natural biological state of human life must ultimately be futile” (2014: 275–276).

Dupré grants that evolutionary psychology’s search for the biological foundation of human sociality inherently involves the search for what is universally shared among all humans, namely human nature (2014: 277). As demonstrated by Darwin’s failed efforts, this objective can serve as a basis for refuting racist views. However, if we examine more closely the theoretical assumptions underpinning evolutionary psychology, we stumble upon a different set of politically and ideologically troubling implications. Namely, as Dupré explains, evolutionary psychology assumes that “our minds” are “shaped by natural selection to solve particular problems set in our evolutionary history” (2014: 246). Such a theoretical setting is problematic because, according to Dupré, it provides us with evolutionary arguments “presented in terms of universally optimal behavior for humans” (2014: 278).

The controversy surrounding evolutionary psychology could be summed up in the following way. By seeking what is universal to humans, evolutionary psychology inevitably, albeit not necessarily intentionally or explicitly, leads to making normative inferences about certain ways of being. That is to say, evolutionary psychology is more often than not received as justifying discriminatory perceptions of the Other (also within one’s own culture) who does not conform to what is considered an optimal way of life. For instance, when it comes to an explanation of gender differences, evolutionary psychologists use the principle of natural selection, which they interpret in terms of survival and reproduction. They argue that commonalities in gendered behaviors exist across cultures despite the diverse and fluid cultural expressions of gender. They

also hold that gender differences describe different mating strategies for men and women, where what is optimal for one gender may not be optimal for the other. While for men optimal behavior (which is as such because it ensures survival and reproduction) includes aggressiveness, promiscuity, and the constant search for sex, for women it is coyness, sexual manipulation, and cautious choosing of their mating partners – offering sex only in exchange for good genes or economic stability (see Dupré 2003: 112–118).

Certainly, there are behaviors that deviate from what is considered optimal. However, as the argument goes: what is optimal is inscribed in our universal human nature. Thus, deviating from the optimal means deviating from human nature.

To circumvent such normatively laden conclusions, and to make their theories empirically adequate, evolutionary psychologists are pressed to attend to cultural explanations of gender differences rather than explaining gendered behaviors solely in terms of survival and reproduction. And the same goes for other cultural phenomena. In the remainder of this section, I further problematize the implications of disciplinary differentiations along the nature/culture divide.

a) *The argument from “deep biology”*

Returning to the nature/culture debate, the trajectory of evolutionary thinking demonstrates that reliance on evolution by natural selection to explain the origin of life was received as a positive political statement. It meant that all peoples share a common descent and thus the same human nature, and sharing the same human nature grants them an equal share in human rights. However, the rise of sociobiology and evolutionary psychology, which directly apply the principle of natural selection to social behavior implying genetic determinism, with all its deeply worrying political implications, has led to a highly critical stance towards evolutionary research on human nature as a way of explaining human cultures.¹

However, despite the many forceful critiques of sociobiology and evolutionary psychology, the quest for the biological basis of human sociality continues. In this endeavor, evolutionary psychologists today reject any kind of reductionism and call for the *conceptual integration* of those disciplines that study human nature and human cultures. For them, such integration requires external consistency which “involves learning to accept with grace the intellectual gifts offered by other disciplines” (Cosmides, Tooby, Barkow 1992: 12).

¹ Moreover, this skepticism about evolutionary thinking in social science was accompanied by a paradigm turn in sociocultural anthropology (from evolutionism to cultural relativism), which I discuss shortly.

Despite the contemporary rejection of reductionism, what seems to remain as the legacy of genetic determinism is a conviction, a cultural presumption that *genetic causes are more important than cultural ones* in explaining evolution and human development. I call this claim the argument from “deep biology”. The argument from “deep biology” is noticeable in Kronfeldner’s study when she, for instance, writes: “The anti-Lamarckism has led to a separateness of nature and nurture that influenced the ‘century of the gene’ (...) as part of which ideas about genetic factors (equated with nature) were regarded as more important than other developmental resources [equated with nurture, that is, natural environment and *culture*]” (2018: 62). Furthermore, this argument is also found in Dupré’s writings. While arguing against the assumption about the immutable nature of genes inherent in evolutionary psychology, Dupré writes: “There is a widespread if inchoate intuition that there is something especially *deep* and important about genetic causes. One thing that may contribute to this is a sense of their immutability.” (2014: 286, emphasis added)

Considering the argument from “deep biology” and the plea for the integration of the sciences that study human nature and human cultures, the question in the background of this paper is: which disciplines should provide “irreplaceable intellectual gifts” and which disciplines should “accept [them] with grace”?² To put it differently, I wonder how to achieve conceptual integration between the sciences that explore different causes of the same cultural phenomena and in this endeavor provide, let us presume, inconsistent explanations. Or, simply, the question is what does conceptual integration amount to not only in theory but also in practice?

So far, I have presented some preliminary insights into the debate on the conceptual relationship between nature and culture to provide context for discussing the uneasy relationship between evolutionary psychology and sociocultural anthropology. Evolutionary psychology, as one of the most contested evolutionary approaches in the social sciences yet quite popular among the public as well as the academia, puts emphasis on human universals while for sociocultural anthropology cultural diversity is all there is. Regarding the relationship between these disciplines and conceptual integration, a research heuristics that arguably could overcome deep and hostile divisions, more will be said in Section 4.³ In what follows, I explore a separationist and a holistic stance concerning the conceptual relationship between nature and culture to show, in Section 3, what these positions imply for the integration of the disciplines that study them.

² To some extent, Kronfeldner (2010, 2017a) has already emphasized the complexity of this question. I return to her points in the last section.

³ See Ingold’s (2007) commentary on Mesoudi et al. (2006) paper for a vivid depiction of this hostility.

2. Introducing the contemporary views on the nature/culture debate

In her 2018 study, Kronfeldner uses an evolutionary approach to defend the concept of human nature. In doing so, she is meticulous in her analysis of, as she calls it, “the politics of human nature” (see Kronfeldner 2017; 2018: 15–32, 213–242).

“The politics of human nature” refers to the political use of claims about universal human nature. Namely, as discussed, these claims were received as a resistance to race thinking. Nevertheless, they can also be employed to justify marginalizing and dehumanizing others, that is, to justify perceiving others as *less* or *no* humans, if others do not exhibit traits considered part of human nature (Kronfeldner 2018: 15–31). This was exemplified in the case of evolutionary psychology. In her conceptual analysis, Kronfeldner offers a pluralist perspective on the notion of human nature that aims to minimize the dehumanizing potential of claims about universal human nature by leaving the question of what human nature is essentially open and contested.

As a sociocultural anthropologist, Ingold acknowledges the paradigm shift that occurred within his field, in the first half of the 20th century, which rejected 19th-century evolutionism and progressivism in favor of Boasian *cultural relativism*. Cultural relativism is a methodological stance that emphasizes the need to understand another culture “from within” by analyzing, interpreting, and explaining its social norms, rules of behavior, habits, and practices on the basis of that culture’s own beliefs. As a consequence, in contrast to the inherently racist perspective of evolutionism and progressivism, which placed different cultures on a hierarchical scale ranging from less developed to more advanced, cultural relativism asserts that different cultures cannot be compared or evaluated in either descriptive or normative terms, as social norms, standards, rules, and ways of life differ and are incommensurable across cultures (Koskinen 2020; Kulenović 2016: 38–59). Thus, in addition to being a methodological stance, cultural relativism is a political statement as well.

Even though Ingold comes from a tradition that is generally cautious, if not openly opposed (for both methodological and political reasons), to the use of evolutionary thinking in the social sciences, he nevertheless dedicates much of his research to understanding how human biology interacts with the social aspects of human life (Ingold 1986, 1990, 1998, 2004, 2006, 2007; Ingold and Palsson 2013).

In the next section, I discuss the differences between Kronfeldner's and Ingold's perspectives on evolutionary thinking and the nature/culture divide.

a) *The nature/culture separation*

Populational thinking. In her defense of the human nature concept, Kronfeldner relies on populational thinking. Populational thinking locates evolutionary change at the level of populations. In other words, in line with the theory of evolution by natural selection, populational thinking assumes that evolution happens when there is a change in the frequency of genes within a population of the same species.

Note that with the conceptions of genes as the source of variation of traits on which natural selection acts, evolution can be defined by reference to the change in the frequency of genes. Previously, I defined Darwin's theory of evolution as the change in the frequency of traits since I had not yet introduced the underlying mechanism of genes. However, although not precise, this way of putting it is not incorrect. Namely, since the principle of natural selection specifies the mechanism and not the units of selection, it allows for natural selection to act on different kinds of things. For example, for the purpose of explaining cultural evolution and gene-culture coevolution, dual inheritance theory assumes that natural selection operates on cultural traits.

Why does Kronfeldner need populational thinking in her account of the human nature concept? Firstly, it needs to be mentioned that the concept of human nature was rendered obsolete due to its essentialist implications. Traditionally, human nature was used to define who is and who is not human (Ingold 2006). This means that the traits associated with human nature – according to which humans are classified as such if they possess them – are considered as the essential features of what makes us humans. That is to say that human nature traits are, from the essentialist perspective, shared by *all* and *only* humans. However, this view was challenged by both evolutionary biology and sociocultural anthropology. In evolutionary biology, David Hull (1986) notably argued that there are no traits uniquely shared by all humans; variation is all there is. Similarly, in light of the ethnographic evidence that attests to diversity rather than universality in the ways how humans are, sociocultural anthropology dismissed the claims about the universality of human nature traits implied by essentialism and as a result, rejected this view on human nature.

While abandoning essentialism, Kronfeldner argues in favor of a post-essentialist notion of human nature. To do so, she uses populational thinking to claim that human nature is not a bundle of traits that *all* and *only* humans possess, but traits that are typical and stable across the population shared by *most* humans. Importantly, not every typical and stable trait is part of

human nature; rather, only traits that are inherited by subsequent generations via biological reproduction are considered as such (2018: 121–145). This leaves us with the question of how culture fits into Kronfeldner’s perspective.

Separation. In Kronfeldner’s post-essentialist account, the concept of human nature comprises three different epistemic roles: description, explanation, and classification. For this reason, she argues in favor of three kinds of human nature (i.e., descriptive, explanatory, and classificatory human nature), making her perspective a pragmatist and a pluralist one.⁴ In terms of explanatory human nature, she argues that nature and culture remain conceptually separate channels of inheritance that also function as causal factors relevant to the explanation of human development and evolution. While human nature is transmitted via biological reproduction, culture is transmitted via social learning. Therefore, much like dual inheritance theory, she remains strongly committed to Weismann’s and Kroeber’s legacy that recognizes the conceptual separation of nature and culture despite the developmentalist challenge, and the resulting interactionist consensus, both of which she does not deny.

The developmentalist challenge, as she explains (2018: 59–88), questions this conceptual separation by emphasizing the entanglement and interaction between nature and culture at the level of individual development. However, the developmentalist challenge is later widened so that it refers to the interaction between nature and culture not only at the developmental (ontogenetic) level but at the evolutionary (populational) and intergenerational (short-time epigenetic) levels as well. The interactionist consensus is the outcome of the developmentalist challenge. It states that since nature and culture interact at all levels, they are too entangled to regard them as separate and parallel channels of inheritance and kinds of causes.

Kronfeldner’s defense of the conceptual separation between nature and culture as separate channels of inheritance and explanatory resources – which is compatible with the interactionist consensus since, according to Kronfeldner (2021: 2), separation does not exclude interaction, and vice versa – rests on three arguments: the argument from the autonomy of culture, the argument from near-decomposability, and the argument from temporal order (2018: 102–114; 2021). Briefly, these arguments (intended to show that the divide is not only conceptual but *real*) state that on the level of population changes in cultural resources are independent of any changes in biological resources, that biological reproduction and social learning are channels of inheritance that can be empirically distinguished, and that culture unlike nature lacks stability.

⁴ For more details see Kronfeldner (2018), and the précis to this special issue.

Important for current purposes, I demonstrate how Kronfeldner states her case about nature and culture as separate causally relevant developmental resources by way of an example. Basically, the claim that nature and culture are separate developmental resources means that we can frame a trait as being “due to nature” or “due to culture”. This is precisely what the developmentalist challenge and the interactionist consensus do not allow. However, Kronfeldner (2018: 157–164) argues that we can use this talk if we deploy the following epistemological strategies: if we make a distinction between explaining a trait and explaining a difference between traits and if we use abstraction from a disjunction to reconstitute a phenomenon in need of explanation.

Is speaking the Japanese language a trait that is “due to nature” or “due to culture”? If we consider this particular trait, Kronfeldner is clear that it is caused by both nature *and* culture, as the interactionist consensus states. However, if we consider the difference between, let’s say, the Japanese and the Swedish language, then “nature averages out”, to use her phrase. That is, the causal influence of nature on this difference becomes epistemically insignificant because it does not make a difference to this difference. Instead, if we want to explain the differences between Japanese and Swedish, we need an explanation that refers to culture since these languages differ, as Kronfeldner (2018: 160) holds, “due to culture” alone. In a similar manner, we can use abstraction from a disjunction to claim that regardless of the culturally produced differences in specific languages, all humans share the capacity for having *a* language. In the case of explaining this capacity, “culture averages out”. Namely, the causal influence of culture on the capacity for having *a* language becomes epistemically irrelevant since it no longer makes any difference. In other words, the capacity for having *a* language is “due to nature” alone (Kronfeldner 2018: 161). I move now to Ingold to demonstrate a holistic way of conceptualizing the relationship between nature and culture.

b) The nature/culture holism

Relational thinking. “Neo-Darwinism is dead”. With this opening, Ingold (2013: 1) begins the collection of essays on evolution edited by himself and Gisli Palsson. His views on neo-Darwinism are important here since they connect to his rejection of the nature/culture conceptual separation.

How does Ingold criticize neo-Darwinism? Firstly, his primary concern is neo-Darwinism’s exclusive focus on genes as the most important factor in explaining evolution. Much of his criticism of gene-centrism centers around the idea that genes contain all the information necessary to build an organism; information that is predetermined, fixed, and remains unchanged throughout one’s lifetime (Ingold 2004: 214–215). In contrast, following

developmental systems theory (DTS), an alternative evolutionary biology, Ingold (2007: 16) holds that the information relevant to evolution emerges during the process of development: it is “beyond the gene but beneath the skin”, to use Keller’s (2001) phrase. Furthermore, Ingold strongly disagrees with the claim that evolution can be fully explained by invoking the principle of natural selection. According to him, “natural selection may occur *within* evolution, it does not *explain* evolution” (2004: 219, emphasis in the original). As a consequence, he rejects populational thinking, stating that it “systematically disrupts any attempt to understand” evolution since it assumes that the locus of evolutionary change is at the level of populations (2004: 219). Consequently, populational thinking provides a “strictly statistical” account of evolution, in terms of the changes in the frequency of genes, which remains fully inadequate to explain human development (1990: 216). However, if we want to explain human life, which Ingold sees as the ultimate goal of an evolutionary theory, humans, their development, and the relations they have with others and their environment must be at its center. For this reason, instead of populational thinking, Ingold proposes *relational thinking* (see e.g., Ingold 1990, 2004, 2013).

Thus, Ingold is critical of all the basic tenets of neo-Darwinism: gene-centrism, the assumption that “natural selection alone can explain the evolution of life”, and populational thinking (Ingold 2013).

Since evolutionary psychology gives primacy to genes and deploys natural selection and populational thinking in its explanation, this discipline is Ingold’s main opponent. However, regardless of whether one agrees or disagrees neo-Darwinian assumptions inherent in evolutionary psychology, it seems more difficult to get over the presumption of genetic determinism evolutionary psychology is so often accused of making – since it “reduces everything to a ‘long leash’ of the genes, as did their predecessor, sociobiology” (Kronfeldner 2021: 2), thus putting strong constraints on what culture can be. Since genetic determinism had been rejected half a century before Wilson revived it, a different evolutionary social science was pressured to include culture, emancipated from genes, in its explanations. Therefore, dual inheritance theory emerged.

Although one might not consider dual inheritance theory as a neo-Darwinian social science since it does not give primacy to genes but includes culture, it seems that Ingold is not reluctant to view it as such due to its reliance on natural selection and populational thinking (1990: 219–220). Furthermore, Ingold is critical of this theory because it rests on the conceptual separation of genes (nature) and culture, as separate but parallel channels of inheritance, which, as Ingold claims, implies that humans are “passive sites of evolutionary change” (1998: 31), no more than

the “*products* which are assembled, if not entirely from genetic instructions, then from genetic *plus* cultural instructions (1990: 219, emphasis in the original). For Ingold, on the contrary, humans are “creative agents, producers as well as products of their own evolution” since they, “through their activity, can influence the environmental conditions for their own future development and that of others to which they relate” (1998: 31).

Therefore, in contrast to the neo-Darwinian approach, which puts emphasis on genes and populations, and in which the environment that puts pressure on the evolution of traits is set in the distant past, Ingold holds that for a proper understanding of human life and evolution, one must take a processual, developmental, and relational perspective (Ingold 2013: 20). The processual perspective highlights the importance of understanding evolution as an ongoing process. The developmental perspective emphasizes the need to study human lifecycles to truly understand their development and thus evolution. Finally, the relational perspective posits that humans are best understood within the context of their relationship with others and their environment, which they actively construct and reconstruct through their activity, thereby influencing the course of their own development and evolution. As a result of these perspectives, Ingold states that humans bear full responsibility for the present order of things. Therefore, the *status quo* is not an option since “[l]ife is a task, and it is one in which we have, perpetually, never-endingly and collaboratively, to be creating ourselves” (Ingold 2013: 8). This brings us to the question of what does relational thinking imply for the conceptualization of the nature/culture relationship?

Holism. Boas’ cultural relativism initiated the process of decoupling nature and culture. Namely, inherent to cultural relativism is the assumption that cultural differences do not covary with biological differences. Kroeber’s contribution was in recognizing that Lamarckism does not allow the full conceptual separation of nature and culture, and thus needed to be discarded. In other words, cultural relativism, alongside cultural determinism, acknowledges that *facts of culture are distinct from facts of biology*. As I have explicated earlier, this claim signified progress in understanding different cultures in a way that is unencumbered by ethnocentrism and progressivism. However, somewhat controversially, Ingold takes a step further to argue that facts of culture *are* facts of biology and vice versa, with the crucial caveat that the biology in question pertains not to genetics but to development (see e.g., Ingold 1998: 26–29; 2004: 215–218).

Let us consider an example to elucidate this viewpoint. Neo-Darwinism recognizes two separate kinds of inheritance that run in parallel: biological and cultural. This implies that traits such as bipedal locomotion, being universal and thus transmitted through biological reproduction, are

biologically inherited. Conversely, a skill like playing the cello is specific to particular human cultures. Therefore, like other cultural skills, it is transmitted via social learning, thereby culturally inherited. Ingold (2004) challenges this divide by arguing that both types of traits are outcomes of developmental processes. In other words, Ingold believes that for the expression of both traits nature *and* culture are equally relevant. The absence of a “natural” way of walking illustrates the point: the way humans walk is conditioned by various environmental factors like geological terrain, traditional customs, ethnic footwear, and other aspects of their cultures. Similarly, culturally specific activities like playing the cello are not possible without certain biological predispositions, let’s say, having good hearing (Ingold 2004: 215–218).

What Ingold ultimately claims is that simply acknowledging the interaction between nature (genes) and culture, wherein humans are viewed merely as products of this interplay, is not enough. From his developmental perspective, not genes but humans are those who interact with the environment, leading to continual changes in both. For this reason, Ingold argues that the nature/culture divide has to go considering that it does not help us in explaining this interaction, thus development and evolution. Instead, he takes a holistic approach in which nature and culture are integrated within developmental systems – whose existence stems from various causes, which cannot be subsumed under the traditional nature/culture divide (Ingold 2004: 218). In the remainder, I demonstrate what Kronfeldner’s and Ingold’s perspectives on the nature/culture divide imply for the choice of research heuristics in the sciences that study human nature and cultures. Moreover, I show that despite their differences in conceptualizing the nature/culture relationship, their views exhibit closeness in terms of having strong integrative potential.

3. Concluding remarks on integration

When it comes to Ingold, I believe his holism leads him to advocate methodological integration. Namely, after lowering the focus of evolutionary explanation from the level of populations to the level of individual development, Ingold argues that from a developmental perspective, nature and culture are so deeply intertwined within developmental systems that their conceptual separation is not possible. This entails that traits traditionally conceived as biological cannot be explained on purely biological grounds without taking into account the environment in which they develop. The same goes for cultural traits: they cannot be explained if biological constraints and circumstances are not included in the explanation. As a consequence, Ingold (1998) claims that disciplines, traditionally separated along the nature/culture divide, should

dissolve their boundaries since the theoretical foundation of their division no longer holds. This especially goes for the division between biological and sociocultural anthropology (Ingold 2013: 12–13). Nevertheless, Ingold (1998: 50) acknowledges that if there are divisions within the field of anthropology they are not absolute and established a priori, but rather relative to one's research focus.

Unfortunately, Ingold does not specify what this dissolution entails in practice. However, in a slightly different context, he states that there should be “no absolute division of method” within the humanities and the social sciences. He then continues praising participant observation as the most adequate approach to understanding the human-environment interaction, which he sees as crucial to explaining human development (1998: 48–50). For this reason, I interpret Ingold's position as endorsing methodological integration.

While Ingold posits that the nature/culture divide does not survive the latest developments in evolutionary and developmental biology, Kronfeldner holds that the divide can and should be made, both on populational and developmental levels. I have provided some details concerning the claim that we *can* conceptually separate nature and culture despite the interactionist consensus. In essence, Kronfeldner argues that nature and culture compromise distinct developmental resources traveling through separate channels of inheritance. Even if we agree, the question remains: why *should* we make this distinction?

Kronfeldner argues in favor of a separationist epistemic stance, which she specifies as “an epistemic research heuristics that defends the right to ignore a specific phenomenon (e.g., human nature) or a specific causal factor in an explanation typical for a disciplinary field” (2017a: 210). By “the right to ignore” Kronfeldner means that in cases of causally complex phenomena (i.e., phenomena with multiple causes), it is epistemically legitimate to study only the causes that align with one's disciplinary interests. In that sense, her (2018: 182) criticism of the holistic perspective on the nature/culture divide amounts to claiming that although both nature and culture matter for the production of traits, one simply cannot study all the causes relevant to development due to their sheer number. Furthermore, her (2010; 2017a) support of the separationist research heuristics rests on the recognition that separation is equally epistemically fruitful, that is, equally generative of new knowledge, as integration. Her claim goes against the view she associates with evolutionary psychology that only integration can be epistemically fruitful, which she refutes by using Kroeber's case that demonstrates, as she argues, the fruitfulness of the separationist stance. For this reason, even though Kronfeldner grants that the knowledge of the human is indeed truly fragmented, she holds that striving towards integration should not be an a priori goal.

Kronfelder, however, does endorse integration but integration in which different perspectives are “united – as separate ones” (2010: 122). More specifically, she (2015) argues in favor of integrative pluralism. In Kronfeldner’s version of integrative pluralism, disciplines that study the same phenomenon (e.g., body height) are separate, however, the explanations they offer provide partial perspectives that complement each other given that they study different differences regarding the phenomenon in question. For example, a biological perspective studies the average difference in body height between women and men, and for these purposes, it ignores environmental factors and focuses only on the impact of genes. In a similar manner, social constructivist perspectives study the average difference in body height between, let’s say, the Middle Ages and the twentieth century, and for these purposes, they ignore the causal influence of genes and focus on environmental, historical, and cultural trajectories in their explanations (Kronfeldner 2015; 2018: 70–71).

To conclude, while Ingold advocates the dissolution of boundaries between biological and social constructivist perspectives given that the causes they study (nature and culture, respectively) cannot be decoupled due to their interaction, Kronfeldner states that the division between disciplines is legitimate as long as they study different differences of the same phenomenon. Even though they provide opposing accounts, I understand both Ingold’s holism and Kronfeldner’s separationist stance as cautious solutions to the problem of giving primacy to genetic factors in the explanation of evolution and development – the problem I call the argument from “deep biology”. Moreover, as I have shown, their positions are close in terms of enabling the integration of different aspects of the sciences that study human nature and human cultures. In the remainder of this paper, I identify topics and questions for future research.

4. Outlook for further discussion

a) Conceptual integration in theory and practice

So far, I have mentioned two research heuristics. There was, first, the reductionism of sociobiology in the form of genetic determinism. Second, conceptual integration of evolutionary psychology, which recognizes, in (arguably) a non-reductionist manner, both genes and culture as separate kinds of explanatory factors. As Kronfeldner (2017a) explains, achieving conceptual integration requires consistency between one’s own theory and other related external theories in the field. This can be attained through “corrective consistency-checking”, a process where a theory corrects its assumptions to ensure consistency with another previously inconsistent theory. Corrective consistency-checking can be asymmetrical or

symmetrical: it can either assume hierarchy between disciplines, meaning that only the subordinate theory needs to adjust its assumptions, or it can go in both directions, making both theories liable to changes in relation to each other. Returning to Cosmides, Tooby, and Barkow's proposal that conceptual integration entails "learning to accept with grace the intellectual gifts offered by other disciplines" (1992: 12), Kronfeldner (2017a: 4–7) grants that they, in principle, have in mind corrective symmetry. Even though, as one might speculate, the passage seems to suggest that sociocultural anthropology should be the only one that needs to adjust its theoretical assumptions to embrace the well-established knowledge of evolutionary theory in order to secure external consistency.

If two theories are inconsistent and there is no higher-level evidence that provides direction for symmetrical corrective consistency-checking – which means that this process is underdetermined by data – the decision about who needs to correct their theory cannot be made on purely epistemic grounds. In other words, this decision will have to rely on factors external to science. That is, it will become relevant *who* decides and in *whose* interest. If I am correct, then new questions arise.

Presuming that we live in a society where genetic factors seem to be more important than cultural ones in explaining development and evolution and that science and society interact and intersect in ways that are crucial for the functioning of science, how should the symmetry of corrective consistency-checking between sociocultural anthropology and evolutionary psychology be secured in practice? To put it more bluntly, if evolutionary psychology for various reasons remains a discipline with greater power than sociocultural anthropology, in both the scientific and social arenas, I wonder if corrective symmetry remains achievable.

b) Integrative pluralism and inconsistent explanations of the same difference of the same phenomenon

While I agree with Kronfeldner that the conceptual separation of nature and culture, and consequential disciplinary separation is an epistemic stance that provides clarity, facilitates analysis, and in the end, enables integration, I do not see how integrative pluralism is reached in cases when two disciplines study the same difference of the same phenomenon but provide inconsistent explanations. For instance, Haslanger (2003: 317) reports that some feminist researchers argue that the average body height between men and women is the causal outcome of the long history of exposure to gender norms related to access to nutrition and exercise. These types of explanations wholeheartedly embrace their "right to ignore" and go fully social constructivist. That is to say, they do not consider any relevant biological circumstances and

constraints that might play a role in the explanations they seek. What they appear to arrive at is an account that is rather antagonistic from a biological perspective. Moreover, I think this is the case with most evolutionary psychology and sociocultural anthropology. These disciplines study different causes of the same difference of the same phenomenon (e.g., the difference in mating strategies between genders), and in this endeavor offer inconsistent explanations. This brings me to the question: does integrative pluralism under Kronfeldner's framework require external consistency in cases like these? In other words, if integrative pluralism ultimately seeks to unite disciplines (as separate ones), then does it need to overcome external inconsistency, and if yes, then how?

Conclusion

The purpose of this paper is to showcase two views on the conceptual relationship between nature and culture: the separationist stance, which views nature and culture as conceptually decoupled notions, and an Ingold'ian holistic perspective, which integrates nature and culture in a non-reductionist manner. A nuanced understanding of these views allows us to make further inferences regarding the choice of research heuristics in the sciences that study human nature and cultures. In particular, I aimed to show that how we conceptualize this relationship matters for our understanding of the prospects of integration between evolutionary psychology, a discipline that studies human universals by way of evolutionary theory, and sociocultural anthropology, a social constructivist perspective that in most cases recognizes only culture, as an explanatory resource, in its explanations of human traits.

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