Divide and Conquer

The Authority of Nature and Why We Disagree about Human Nature

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ABSTRACT

The term 'human nature' can refer to different things in the world and fulfil different epistemic roles. Human nature can refer to a classificatory nature (classificatory criteria that determine the boundaries of, and membership in, a biological or social group called 'human'), a descriptive nature (a bundle of properties describing the respective group's life form), or an explanatory nature (a set of factors explaining that life form). This chapter will first introduce these three kinds of human nature, together with seven reasons why we disagree about human nature. In the main, this chapter focuses on the explanatory concept of human nature, which is related to one of the seven reasons for disagreement, namely, the scientific authority inherent in the term 'nature'. I will examine why, in a number of historical contexts, it was attractive to refer to 'nature' as an explanatory category, and why this usage has led to the continual contestation of the term within the sciences. The claim is that even if the contents of talk about 'nature' varied historically, the term's pragmatic function of demarcation stayed the same. The term 'nature' conveys scientific authority over a territory; 'human nature' is a

concept used to divide causes, as well as experts, and thereby conquer others who threaten to invade one's epistemic territory. Analysing this demarcation, which has social as well as epistemic aspects, will help us to understand why the explanatory role has been important and why it is unlikely that people will ever agree on either the meaning or the importance of 'human nature' as an explanatory category.

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10.1 SEVEN REASONS WHY WE DISAGREE ABOUT HUMAN NATURE

There are at least seven reasons why we disagree about human nature. The first two are connected to what I call the politics of human nature, and the rest are connected to scientific issues. The last of these reasons is the focus of this chapter.

First, human nature is about 'our' nature. David Hull (1986: 6) noted that we often describe other species in a careful statistical and non-normative manner, but when it comes to our species, we often fall back into essentialist traps, involving normalcy and normativity. Hull regarded this 'coincidence [as] highly suspicious'. In the words of Proctor (2003: 220), we do not ask about an entity 'being "fully cockroach" or "fully chimpanzee"', but we do regard some humans as more fully human than others, or as realizing more natural goodness. The source of this exceptionalist way of dealing with our nature lies, first and foremost, not in any epistemic functions of the concept, but rather in its normative function for us, which is after all a political function. With respect to this function, the concept is essentially contested in the sense of Gallie (1956): the only essence in that concept is that it is contested. In terms of a slogan: by continuously contesting what it means to be human, we continuously become human.[1]

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Second, the history of the vernacular (or folk) concept of human nature suggests that 'being human' is an empty category that simply says, in the words of Marshall Sahlins (2008), 'L'espèce, c'est moi.' If 'human nature', in a broad descriptive sense, simply refers to 'what it means to be human', then this concept has been used—historically and in different cultures—for whatever characterizes the respective in-group. The respective out-groups are consequently dehumanized, that is, regarded as less human.[2] Evidence from historical, anthropological, and

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1 For human nature as an essentially contested concept, see Kronfeldner (forthcoming). 'Becoming human' by contesting the meaning of human nature involves not only 'making meaning' (e.g. in the sense of Toren, Ch. 9 this volume) but also 'making people' (in the sense of Hacking's (1995) looping effects).

2 See Kronfeldner (2016), where I discuss the connection between dehumanization and human nature in detail. Dehumanization does not require a concept of human nature in a narrow sense (i.e. contrasted to culture); all it requires is either a graded genealogical association (people as more or less genealogically related) or a differential attribution of properties deemed to be central for 'what it means to be human'. However, the idea that these properties are part of a human nature is a catalyzer for dehumanization.

psychological scholarship supports this claim about the exchangeability of the content (or 'indexicality', as Smith 2013 termed it). As a result, the content of the concepts 'human' and 'human nature' varies, even when the political function of social demarcation—of demarcating the in-group from the out-group—stays the same. Consequently, different human groups will (explicitly or implicitly) disagree about 'what it means to be human' and thus about human nature.

Contemporary scientific approaches that use the concept of human nature will try to prevent the exchangeability of the content of the vernacular concept.[3] Nonetheless, scientific approaches will face their own set of disagreements, based on differences in usage. Usage differs, for instance, depending on the epistemic goal, since from the scientific point of view, the term 'human nature' can be used for the purposes of description, explanation, or classification. In turn, these goals guide the production of knowledge. The term 'human nature' can, accordingly, refer to one of three 'natures':

- to a descriptive nature: a bundle of properties describing the respective group's life form, that is, what it means to be human;
- to an explanatory nature: a set of factors with explanatory relevance for the respective life form;
- to a classificatory nature: classificatory criteria that determine the boundaries of, and membership in, a biological or social group called 'human'.

According to the traditional essentialist picture, an essence or nature is, by contrast, a thing that fulfils all three of these epistemic roles simultaneously. An essence is first and foremost classificatory and explanatory. It is what 'makes' individuals human, definitionally and causally. The descriptive role is derivative but covered too, since the description of the properties that are characteristic of the respective kind at issue (e.g. human beings) is the explanandum, i.e. what is explained by the essence. Thus, if you do not yet know the characteristic properties of the kind and you learn about the 'essence', then you can derive the properties explained by the essence. In addition, 'essence' often had a normative connotation: what is part of human nature is not just classificatory and explanatory (and derivatively descriptive), but also what a 'normal' human should exhibit.[4]

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3 With this and the following, I restrict my analysis to the history of the tradition from which modern science emerged. There are certainly ways of having things completely different, e.g. on the basis of alternative ontologies, such as those described by Descola (2005). For a comparison and discussion of traditions other than those of the West, see Lloyd (2012, 2015). If these traditions are taken into account, at least two further reasons for disagreement come to the fore: different ontologies (process ontology, relational ontology, substance ontology, and so on), as addressed by Dupré (Ch. 5 this volume) and Toren (Ch. 9), and different meanings of the nature/culture divide. Space does not suffice to discuss these issues.

4 The connection between the normative role and the three epistemic roles is not easy to capture, especially since it has a long history, with all the variation that comes with that. As Lloyd makes clear: 'When certain phenomena or practices are labelled "unnatural",

In the current philosophy of science literature on human nature, there is only one significant consensus, namely, that traditional essentialism is wrong. What remains is a pluralism of human nature concepts.[5] This pluralism, derived from anti-essentialism, has a couple of important aspects that can help us to understand why, even within science, we can (and likely often will) disagree about human nature.

First, there is a plurality of referents for the term 'human'; often the assumption is that it refers to members of the species *Homo sapiens*, but even that is contested.[6] Consequently, the term 'human' can be interpreted to refer to recent humans only, to a larger biological group (e.g. to one including the Neanderthals), or even to a purely social group (e.g. to all those able to communicate and interact in rational and moral ways with others). None of these interpretations is, in and of itself, more scientific or objective than any other, and which referent is chosen depends on the disciplinary focus. Sociology is unlikely to be interested in biological groups and will focus on social groups. Biologically oriented disciplines will tend to focus on one of the biological groupings. This 'relativity of human nature', as Machery (Chapter 1 this volume) calls it, causes a considerable amount of disagreement. Without fixing the group to which the term refers, everything else about 'human nature' will float around loosely. Unfortunately, in many discussions the referent is left implicit.

Second, there is disagreement about the classificatory criteria, even if there is agreement on the reference to a respective group. Hull (1986), for instance, takes the genealogical nexus (i.e. the genealogical relations between people) as the classificatory criterion for delineating *Homo sapiens*; others disagree, opting for a cluster of properties to delineate the species. By contrast, if 'human' refers to a social group, a social nexus (analogous to the genealogical nexus) or social trait clusters can be taken as definitional.

Third, people are unlikely to fully agree on which properties are part of the descriptive nature. Darwinian ontology tells us that variation is not just ubiquitous in all biological species, but necessary for evolution to occur. Thus none of the traditional, intrinsic candidate properties for a descriptive human nature—rationality, intentionality, morality, language, and so on—are strictly instantiated by all and only humans. Furthermore, depending on what evidence is taken into

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that is sometimes just an expression of disapproval […] with no reference to how frequent ("normal" in that sense) the "unnatural" may be. The antecedents of that use go back (again) to Aristotle […] What is para phusin can be more common than what is kata phusin' (pers. comm., 25 Nov 2015). For general discussion of the normative role of human nature and how it connects to the concept of 'normal', see Foot (2001), Thompson (2008). For a critical take on it, see Antony (1998, 2000); Silvers (1998).

5 As described in detail in Kronfeldner et al. (2014). I will here only summarize the resulting pluralism and add the points that relate to the kinds of disagreements resulting from it.

6 See e.g. Smith (2013).

account, any claim about a property's typicality and uniqueness can be challenged. One researcher might stress that non-human animals are also rational, though not moral; another might argue that they are moral in some sense, but do not have the same intentionality. Can there ever be an end to this kind of reasoning, given that it is likely that whatever property we choose, we will eventually find something similar in other animals if we search for it hard enough? Furthermore, since these candidate properties are presumably all connected, and since no one property describes better than any other what is typical and/or unique about the human life form, there is a choice involved if people focus on specific candidate properties that 'make us human'. Taking these two problems together (one about evidence, one about relationships among the properties), an interesting underdetermination results: certain properties can be prioritized without science providing any objective foundation for this priority. Some researchers will highlight rationality, others morality, still others the opposable thumb, and so on. As is often the case with underdetermination, both disciplinary focus and social values affect what is considered to be the most important property (or properties) of 'being human'; and there is often no way to find agreement on this choice from within science.

Fourth, a descriptive property (or property cluster) is not necessarily the same thing as a classificatory criterion. For instance, relations between people in a group are simply not the same as the cluster of properties characteristic of that group. Thus, if the classificatory criterion is the genealogical nexus, then that 'nature' is simply not the same as the descriptive nature. Equally, clustered properties are not the same as the factors explaining these properties. Consequently, there are different things in the world that we can call a 'human nature'. It follows that the term 'human nature' can refer to whatever it is that fulfils the classificatory role, the descriptive role, or the explanatory role. As Kronfeldner et al. (2014) show, none of the candidates for a post-essentialist nature can do the same epistemological work as traditional, essentialist accounts, since none of them will fulfil a classificatory, descriptive, and explanatory role simultaneously. Disagreement among the anti-essentialists (i.e. those that agree that traditional essentialism does not apply to biological species) results mainly from this post-essentialist pluralism.

Fifth, even though the disagreement rests on the anti-essentialism of the field, it is often catalysed by the normative dimension of the term 'nature' in the sciences. At the core of this normativity is the idea of 'nature' as a contrastive term. While some prioritize what they call 'human nature', others prioritize its contrast—for instance, human culture. Since scientists disagree on what is important, given the disciplinary structure of science (among other things), they also disagree about the importance of human nature as an explanatory principle, despite the fact that their approaches can be understood as complementary. Some want to appropriate the term for what they consider to be important, while others oppose it because they deem something else to be important. For instance, 'nature' in the explanatory sense will be important for explanatory fields such as cognitive psy-

chology; 'nature' in the descriptive sense will be important for fields that simply want to describe humans (e.g. anatomy, physiology); others still (e.g. cultural anthropologists) will regard 'nature' as explanatorily and descriptively unimportant for what they study.

In the rest of this chapter, I will show in detail that there is an inherited, normativity-generating authority in the term 'nature' that derives from the pragmatics of legitimizing one's style of inquiry in the marketplace of knowledge production. The importance of appropriating the term 'nature' for the causes and phenomena one is studying is analogous to the importance of appropriating the term 'truth' for the resulting claims. To call what one studies 'nature' is to give one's research a seal of quality and importance, as it is traditionally a seal of quality and vital to call one's research findings a 'truth'.

It is because of this pragmatic dimension that different parties appropriate the term or oppose its use; it is used to highlight their research and what it is they believe to be important. Since there will be no agreement on what is scientifically important (as this is usually determined by the scientist's particular research interests), there will be no agreement on what constitutes human nature, despite agreement on matters of fact.

I will argue that this fifth scientific source of disagreement, resulting from the authority that the term 'nature' imbues, is the reason why some contemporary post-essentialist accounts—even those in this volume—are unlikely to agree on how we should use the term 'human nature'.

10.2 THE IMPORTANCE OF UNDERSTANDING THE AUTHORITY INHERENT IN THE TERM 'NATURE'

If the pragmatic function of a concept is ignored, it will be hard to see why people care, why people fight for or against a concept or specific term. To understand the pragmatic function, we need to understand the authority that the term 'nature' imbues. The claim that I will defend in the following is an extension of what Geoffrey Lloyd (1991: 432) claimed for the concept of nature in Greek Antiquity:

> "the idea of nature was supposed to stand simply for what is there, for what can be taken for granted. Yet what that comprised was repeatedly contested, not just so far as the natural world in general went, but also as far as human nature is concerned […] Nature was what was presupposed to be there to investigate: its supposed objective reality was what guaranteed the viability of the investigation. Yet what that vaunted objective reality consisted in was contested in every conceivable respect."

10.3 NATURE?

Even though there is a mind-boggling variety of meanings attached to the term 'nature' (derived from the Latin *natura*, and going back to the Greek *physis*), two aspects are quite basic, according to Lloyd (1991): that 'nature' refers to the nature of things, and that it refers to the things of nature. The first meaning concerns the essences of kinds, which has strong connections to growth and reproduction, etymologically. The things of nature, by contrast, can be understood as those things that can be investigated in a systematic manner, oriented towards accessible evidence. The rainbow and further 'natural' phenomena were the first things in the Western history of philosophy that became naturalized in this sense. The moment they were no longer conceived of as mythological, they became part of nature.[7]

What unites these two basic meanings is that since Greek antiquity they have both been used in a dualistic (i.e. antithetical) manner. They carry a contrast: natural versus supranatural and natural versus cultural, to name just two of the contrasts that form part of a dualistic landscape.[8] The contrast between nature and culture is under much attack, including in this volume. Elsewhere, I defend the contrast against its critics (Kronfeldner forthcoming), but here I aim to analyse (rather than criticize or defend) the nature/culture divide as one instantiation of the contrastiveness in 'nature'.

10.4 A CORE CLAIM AND TWO MAIN FOLLOW-UP THESES

There are pragmatic reasons for these contrasts: they are used not only to demarcate phenomena and to explain those phenomena, but also to demarcate expertise over the phenomena and explanations, i.e. to establish epistemic authority for a special group of people.

I will establish this core claim by looking at historical cases from Greek antiquity, Enlightenment philosophy, the advent of the study of heredity at the beginning of the twentieth century, and contemporary evolutionary psychology. Each case highlights a time when the term 'nature' was used in contrast to something else and was used pragmatically, to assert authority.

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7 The term 'nature' is quite fundamental in many diverse philosophical fields. That might explain why it has so many meanings and why, interestingly, there are no articles on 'nature' in any of the major philosophy encyclopedias (e.g. the Stanford Encyclopedia of Philosophy or the Routledge Encyclopedia of Philosophy); 'nature' might be too fundamental. For an insightful and classic discussion, see Mill (1874), as well as Collingwood (1945) and Lewis (1960).

8 In feminist and post-structuralist discourse, the contrastiveness of nature is often regarded as hierarchical: '"Otherness" entails boundaries, exclusions and inclusions policed by categories and rules […] Otherness is not reciprocal' (Haste 2000: 177). This means that nature is primary and that the contrasts depend on it. What I defend here is compatible with such a claim about hierarchy, but does not rely on it.

The first follow-up thesis that can be derived from looking at the historical cases is that, even if the assumed contrasts to, and the contents of, talk about 'nature' (in the context of understanding human life) varied historically, the pragmatic function of demarcation and exclusion—to demarcate and then exclude kinds of explanations and the experts offering them—stayed the same, at least in the cases mentioned. The second follow-up thesis will be that given this history, it is plausible that the term 'nature' is often used in this pragmatic sense, namely, to gain authority for one's style of inquiry—i.e. the methods one uses, which also depend on what one regards as important. Since styles of inquiry will vary, the term's referent will vary too, and there will be no way to settle on one variant.

10.5 THE INVENTION OF NATURE IN GREEK ANTIQUITY

> "… some of those who insisted on the category of the natural [in Greek Antiquity] used it to demarcate and justify their style of inquiry, their methodology, in contrast to those of rivals whom they were hoping to put out of business." (Lloyd 1991: 422)

In this quotation, 'some of those' refers to some of the Hippocratic authors, and the contrast at issue was that between the natural and the supranatural. The author of the Hippocratic treatise *On the Sacred Disease*, for instance, claimed that all diseases are naturally (rather than divinely) caused, including the 'sacred disease', a disease probably most similar to what is now called epilepsy. It is a disease, as the author of the Hippocratic treatise claimed, that is 'nowise more divine than others […] it has its nature such as other diseases have, and a cause whence it originates, and its nature and cause are divine only just as much as all others are, and it is curable no less than the others' (Hippocrates 1849: 847).

At that time, such all-inclusive claims about natures and causes tended to be made on the basis of faith, rather than because of any knowledge of facts, even though the Hippocratic authors certainly had some knowledge about diseases, and offered sketches of naturalistic explanations for particular diseases. They used these sketches (and the related all-inclusive claims) to argue against those whom they wanted to put out of business—that is, those who believed that the cause of disease was divine visitation and that the cure lay in ritual purification and incantation. There was often no consensus about what knowledge was available, even among the Hippocratic authors and practitioners. Thus, since the positive explanations were sketchy, often rather speculative, and controversial, the naturalness of all diseases was assumed. This was important for the demarcation of their business and the exclusion of others from it. The Hippocratics not only offered arguments against those attributing the disease to divine influences, the 'con-jurors, purificators, mountebanks, and charlatans' (Hippocrates 1849: 841), but also complained that their enemies were in the business of understanding diseases for money. However, the Hippocratics were in it for money as well, and sometimes for a lot (Lloyd 1978: 18–19). In the words of the Hippocratic treatise *The Law*, the practical problem was that 'in the cities there is no punishment con-

nected with the practice of medicine' (Hippocrates 1849: 784). By contrast, the Babylonians had the Hammurabic Code, and Egypt had a state-controlled medical hierarchy (Porter 1997: 53f.). These institutions regulated and, in so doing, demarcated the behaviour of those in the business of healing people. Given that in ancient Greece there was no legal means to demarcate the Hippocratic style of inquiry from temple medicine—for instance, by academic titles or similar qualifications—the battle of demarcation had to be fought by different means.

The tools that were used as a stand-in for legal methods were conceptual. The Hippocratics utilized their epistemic tools to defend their lot from their competitors. They established an explicit and general concept of nature that they called *physis*. This was a concept that Aristotle (influenced by the Hippocratics) brought to full bloom, but that earlier Greek writers—Thales, Anaximander, Anaximenes, Xenophanes, and so on—were already using. An important point to keep in mind, however, is that the way we interpret these philosophers now tends to be anachronistic: it is only given later developments that pre-Socratic philosophers appear as natural philosophers, as we now call them. If we try to keep this in mind, Lloyd (1991: 418–20) claims, then what was new in the Hippocratic treatises and then in Aristotle was that *physis* had changed from merely referring to the nature of things to also explicitly referring to the things of nature—that is, to a general 'domain of nature' (p. 420). Lloyd admits that there had been some idea of a domain with 'regularities of what *we* call natural phenomena' (p. 419, emphasis added) already in existence, but 'there is all the difference in the world between an implicit assumption and the *explicit* concept' (p. 419, emphasis original).[9]

Consequently, that the Greeks (and not the Babylonians nor the Egyptians) developed an explicit, general, and systematic concept of naturally caused versus supranaturally caused things is less surprising if we take into account that they could make practical, pragmatic use of it: they could use it for social demarcation and exclusion. There are, of course, other factors relevant in the explanation of why the general notion of nature was invented in the context of Greek antiquity and not elsewhere. Nonetheless, epistemic and social demarcation was an important function, it seems. In Lloyd's (1991: 432) words, 'the category of the natural was used to legitimate a point of view specific to the interests of some particular group'. Hippocratic authors organized around naturalism and against any divine interference, uniting—despite disagreement about the precise causes of particular diseases—against an enemy (theurgy, magic) in the marketplace of healing people.

9 For further details and justification, see also Hager's section (1971–207) on Greek antiquity in the entry on 'nature' in Historisches Wörterbuch der Philosophie. Lloyd's claim is compatible with Lehoux's (2012: 57), namely, that the idea of laws of nature (even in its non-modern form) was not yet part of the Greek 'invention of nature'. For more on the connection between Greek philosophy and Hippocratic medicine, see Lloyd (2003).

The content of the concept of nature at this time, in the context of explaining the traits of people (e.g. the 'sacred disease'), depended on its contrast with the supranatural. The pragmatic function of the concept and of the term was to legitimize styles of explanation and to appropriate phenomena—to define and circumscribe a specific medical practice. In this way, the concept (and the term) 'nature' *divided* (kinds of causes, methods to study these causes) and thereby *conquered* (competitors for authority over certain phenomena). Dividing kinds of practices entails dividing kinds of causes (in this case, natural and supranatural). Thus the pragmatic function of both concept and term was connected with a specific epistemic role of the concept, namely, explanation: via demarcation, it was decided which kinds of causes were relevant for the explanandum.

The pragmatic function of demarcation is thus not only social, but epistemic. This is so in two senses. First, it is concepts (rather than titles or degrees) that are used for demarcation. Second, the demarcation does something to our epistemic activities (such as causal explanations): it legitimizes them as adequate. The concept of nature thus acted as a framework, defining kinds of causes via contrast (natural versus supranatural) and deciding which causes were relevant and which tools (medical practice, Hippocratic style of inquiry) could and should be used to study the phenomena at issue (in this case, diseases).

Why is this relevant for a discussion of human nature? The term 'human nature' is seldom used these days with the contrast between natural and supranatural in mind. The concept has changed. However, the Hippocratics' use of it in Greek antiquity gives support to the idea that 'nature' can be used to define kinds of relevant causes and thus function as an authority-granting epistemic tool, determining who can legitimately study and claim expertise about a given phenomenon. In the following, I will provide further evidence for this idea.

10.6 ENLIGHTENMENT PHILOSOPHERS AND THE SCIENCE OF HUMAN NATURE

Roger Smith (1995, 1997) found a similar process of demarcation and exclusion when human nature became a major philosophical topic during the Enlightenment.[10] Again, it was a common enemy that united those involved. For the Enlightenment philosophers interested in a naturalized and empirical 'science of man', the enemy was metaphysics in general, and Christianity and Renaissance humanism more specifically.

As with the Hippocratics, the concept of nature was treated as an a priori concept: that there is such a nature was taken for granted. Furthermore, the concept defined an area of study, the new 'science of man'. The concept of nature, and in

10 Smith writes: 'To quote references to human nature in the eighteenth century is a bit like quoting references to God in the Bible: it is the subject around which everything else revolves' (1997: 216).

this case 'human nature', once again determined the framework within which diverse content or explanations were discussed and appropriated. The dominant contrast was between empirical investigation and speculative metaphysics. A science of human nature did not necessarily entail a naturalization of human nature or thinking about it in physicalist terms, but the new experimental methods stimulated interested philosophers to seek out systematic, empirical knowledge about humans.

David Hume, for instance, used the term 'human nature' to specify the target of the envisioned 'science of man' and, within that framework, aspired to do for moral philosophy (the 'science of man') what Bacon, Galileo, Newton, and the like did for natural philosophy (Smith 1995, 1997). Even though Hume hoped to develop an 'accurate anatomy of human nature' (Hume 1978: 263), his aim was not to equate human nature with physical nature. The general demarcation at issue was between the practice of a science of human nature and metaphysical speculation. The contrast (and thus the content of the concept of human nature) was not between the natural and the supranatural, but between empirical investigations and speculative metaphysics. Yet the pragmatic function stayed the same: the demarcation and exclusion of styles of inquiry.

The term 'nature' in 'human nature' had two different epistemic roles to play in this context. Hume was invoking, in my terms, both a descriptive and an explanatory nature. As a descriptive category, the term was used, as just mentioned, to describe the explanandum of the 'science of man'. Hume was looking to establish a science with human nature as the explanandum, a science that would uncover our typical and species-specific ways of being (the human life form), which in turn would be subject to law-like generalizations similar to the laws of nature. Simultaneously, the term 'nature' was used as an explanatory category. It referred to capacities, and the goal was to explain overt behaviour in terms of a nature (a set of capacities) that was atemporally given, and more or less inhering in (i.e. internal to) more or less all people. In his famous account of causation, for instance, Hume argued that our causal inferences rely on habit, and that habit was part of human nature (i.e. how humans naturally function). Thus Hume held that if we want to understand why we talk and think about causation the way we do, then we have to understand human nature. However, internal natural capacities such as habit were not themselves Hume's target of explanation; they were taken as generalizations about humans that were assumed to be part of the explanans, i.e. part of what explains human behaviour (i.e. causal reasoning). He used the term 'human nature' to refer to an explanatory nature that was assumed. According to Hume, we cannot study this explanatory nature, since hypotheses about its cause should 'be rejected as presumptions and chimerical' (Hume 1978: xvii). Thus habit is 'a principle of human nature, which is universally acknowledged, and which is well known by its effects' (Hume 1975: 43); it is a 'primitive element' of human understanding, as Norton (1993: 158) writes, interpreting Hume as I do here.

Smith (1995, 1997) concludes from Hume and other Enlightenment philosophers' talk about human nature that a shared aim at that time was to describe the characteristics of humans in an empirical—i.e. in an evidence-based and systematic manner—rather than in a speculative, metaphysical manner. Thus the same kind of demarcation and exclusion as in ancient Greek medicine is intended, even though the contrast has changed somewhat.

But how was it the case that 'human nature' was able to play this demarcation function? First, this was all that these Enlightenment thinkers could agree on, since opinion on the precise contents of what it 'means to be human' varied widely. Hobbes rallied for the egoistic man, Rousseau for the noble savage, and La Mettrie for man as a machine, to name just three philosophers involved in Enlightenment discussions about human nature. Smith (1995, 1997) concludes that during the Enlightenment, the concept of a 'human nature' helped to create and maintain a common language, a framework for discourse, which in turn allowed for discussion of the differences in opinion about the specific qualities of human nature (as explanandum). It helped to unite and demarcate a specific kind of Enlightenment philosophy, just as the concept of natural diseases helped to unite and demarcate the Hippocratics. Second, modern science—an institution of systematic and empirical study—was being established at this time, but did not yet have a secure enough foundation from which to defend its style of inquiry against speculative philosophy. As with the Hippocratics, in the absence of secure legal or other institutional means with which to defend one's epistemic authority over a subject matter, concepts—epistemic tools—were used to demarcate and exclude styles of inquiry.

The historical conclusion that I want to draw from this is that the content of the concept of human nature may have varied, but the pragmatic function remained the same: the demarcation and legitimization of a specific style of inquiry, and the exclusion of other styles as irrelevant or illegitimate. Having used only two cases, the conclusion I can draw is limited. But the comparison of the two cases gives us something at least: the contents of the concept of 'nature' or 'the natural' varied, whereas the demarcation function of the concept stayed the same. The concept (and term) 'nature' united people against an enemy with a different style of inquiry. And in both cases, this demarcation was connected to a distinction between different kinds of explanations. Even so, the contents only varied narrowly, since the contrast at issue was similar. I will now turn to a clearly different contrast, that between physis and nomos, or nature and culture.

10.7 *PHYSIS* AND *NOMOS* IN GREEK ANTIQUITY

As with the origin of the contrast between natural and supranatural, the origin of the contrast between *physis* (nature) and *nomos* (culture) is believed to lie in Greek antiquity. Has the distinction also been motivated by the need for demarcation between styles of inquiry? The author(s) of *Airs, Waters, and Places* might have believed something like, 'we medical scientists will take care of *physis*,

physical characteristics, while you philosophers, please take care of *nomos'*. Unlike the divide between the natural and supranatural, finding evidence that the divide between nature and culture had a social demarcation role in Greek antiquity is difficult.

In Greek antiquity, the contrast between *physis* and *nomos* was not yet fully developed. First and foremost, the Hippocratic authors—for example, those of *Airs, Waters, and Places*, as well as those of *On the Sacred Disease*—assumed an inheritance of acquired characteristics. Indeed, the inheritance of acquired characteristics was assumed by almost everyone in Greek antiquity; it was simply common sense, and stayed so well into the nineteenth century.[11] If acquired characters can be inherited—if *nomos* successively turns into *physis*—then *physis* and *nomos* are so entangled that demarcation based on them seems unlikely.

Second, philosophers had not fully developed a strong contrast between these two ideas either, primarily because of the teleological way nature was conceived of at that time—a point that is of utmost importance for understanding the historical connections between nature, natural law, and laws of nature.[12] Nature (often capitalized, to refer to the 'things of Nature') and the natures of things were connected to a goal or *telos*. For Aristotle, the connection between *physis* and *nomos* was thus quite tight. In his *Politics*, Aristotle spells out that by nature, humans form male–female bonds, then households, and then, to secure the reproductive bonds and those things necessary to make that bond successful, they form the Greek *polis*, with its laws and customs—that is, *nomos*. It is a part of fulfilling our nature (i.e. our *physis* and natural *telos*) for humans to form male–female bonds, households, a *polis*, and *nomos*. Thus it is not only the case that Aristotle can be understood as the first theoretical biologist (his biological treatises often contained more scientific detail than the Hippocratic treatises); he also regarded *nomos* (part of the life form and *telos* of the human species) as an integral part of nature, not as contrasted with it.

Certainly, Aristotle is just one example, and it is almost sinful to ignore all the other philosophers of his time who also had something to say on the matter of *physis* and *nomos*;[13] but given what we know about the situation generally, it would be a surprise if the dichotomy were fully developed at that time. In addition to the fact that the belief in inheritance of acquired characteristics was standard, there was no need to use the divide in order to exclude a certain group of people from a certain epistemic practice (be it descriptive, classificatory, or explanatory), since biology and political philosophy were mostly the preserve of the same set of people, namely, Greek philosophers like Aristotle. Granted, there

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11 See Zirkle (1946) on the long history of the belief in inheritance of acquired characteristics.

12 See Collingwood (1945) on nature teleologically conceived.

13 See Heinimann (1945) for a book length in-depth analysis of the contrast in Greek antiquity.

were the Hippocratics, specializing in diseases; but the philosophers seem (to the best of my knowledge) to have had no stake in, and didn't interfere with, the business of these experts. In turn, these experts had other enemies to fight in the marketplace of healing people, as illustrated above.

Things changed towards the end of the nineteenth century. The divide between nature and culture hardened, and became generalized as 'nature versus nurture'. This development created a gap or, as in the title of Evelyn Fox Keller's (2010) book on this subject, a 'mirage of space between nature and nurture'. Increasingly, this gap was perceived as unbridgeable. The hardening of the divide was again connected with a marketplace, no longer the *polis* but the developing institutions of academia, with its emerging disciplinary separations. The divide between nature and culture came to mark the boundaries of different academic fields, helping to make disciplines and the divisions of authority clear-cut.

10.8 THE ADVENT OF HEREDITY AND THE RALLY AGAINST LAMARCKIAN INHERITANCE

According to the received view, Charles Darwin's cousin Francis Galton introduced the 'modern' nature/nurture divide (a variant of the nature/culture divide). He famously used the phrase 'nature and nurture' as 'a convenient jingle of words, for it separates under two distinct heads the innumerable elements of which personality is composed. Nature is all that a man brings with himself into the world; nurture is every influence from without that affects him after his birth' (Galton 1874: 12). Galton believed that the 'distinction is clear' (p. 12). In the context in which he was writing, the distinction was indeed clear, since it was a context that had heredity as a new field-structuring explanandum, uniting people against its opponents. And, as before, words (Galton's 'convenient jingle of words') were important to mark the boundary. The term 'nature' (here referring to hereditary developmental resources) and its contrast (nurture as an inclusive term for culture, environment, and everything else not transmitted via biological reproduction) became crucial to defending the line between those studying biological heredity in a new (i.e. statistical as well as experimental) manner and those doing something else.

In the nineteenth century, historians such as López-Beltrán (1994) claim, there was an intellectual shift: reference to the adjective 'hereditary' (as in 'hereditary disease') was increasingly replaced by a nominal use of the noun 'heredity' as a field-defining phenomenon in need of explanation. This amounts to a reification, bringing with it new ontological commitments and the creation of, in Müller-Wille and Rheinberger's (2007) terms, a new 'epistemic space'. But most importantly,

> "[it] also implies a concomitant shift, namely the erosion of a set of very ancient distinctions with respect to similarities between parents and offspring, which the modern notion of heredity systematically cuts across.

> Distinctions had been made between specific versus individual, paternal versus maternal, ancestral versus parental, normal versus pathological similarities, and even between similarities pertaining to the left and the right halves of the body. Such distinctions gave way to a *generalized notion of heredity* that focused on elementary traits or dispositions independent of the particular life forms they were part of, whether pathological or normal, maternal or paternal, individual or specific." (Müller-Wille and Rheinberger 2007: 13; emphasis added)

Galton replaced these older distinctions with a new generalized distinction, the nature/nurture divide. The establishment of this contrast was strongly influenced by Galton's anti-Lamarckism.

Galton developed the idea of particulate inheritance—an idea already discussed by Charles Darwin—which took biologically inherited developmental resources as material substances—'gemmules' in Darwin's case and 'stirps' in Galton's. For Galton, the hereditary units were material and internal to individuals, as they were for Darwin; contra Darwin, however, for Galton they were also fixed, unchangeable—as ahistoric as the units of the physical and chemical world. They are elements: 'elements of which personality is composed' (Galton 1874: 12). As elements, they cannot be changed during individual development. Thus, inheritance was 'hard' (relying on unchangeable elements), rather than 'soft' (as in the Lamarckian picture). Consequently, Galton's distinction between stirp and person (between latent and patent elements) counts as predecessor of the germ/soma distinction, later introduced by Weismann. With respect to Lamarckian inheritance, Galton stood against most of his peers, and also against his cousin Charles Darwin. Others, such as Wallace and most famously Weismann, later joined in to form a front against Lamarckian inheritance.

Using the term 'nature', with its history of playing an authority-establishing demarcation role, was part and parcel of Galton's theory of particulate and hard heredity. Since Galton's view on heredity and the nature/nurture contrast also involved a specific style of inquiry (namely, statistics and the use of twin studies, combined with experimental studies), we can regard the case as analogous to the other case studies: 'nature' is used to demarcate, though the demarcation does not make distinct disciplines so much as distinct styles of inquiry in the emerging study of heredity, development, and evolution. In conclusion, this nineteenth-century case tells a similar story to those of the previous two.

10.9 THE FORMATION OF CULTURAL ANTHROPOLOGY AS AN ACADEMIC DISCIPLINE

Mirroring the formation of heredity as a field-defining explanandum, 'culture' played a similar role, and did so at roughly the same time (the turn of the twentieth century), when cultural anthropology began to assert its identity among the other aspiring scientific disciplines (mainly the new experimental genetics and

psychology), as well as the traditional physical anthropology, and a tradition of museum-based anthropology with its strong racist leanings. In the mid-nineteenth century, anthropology was not yet a separate academic discipline, even though interest in studying the differences between cultures dates back to at least Greek antiquity; it arises, for example, in the Hippocratic Treatise on *Airs, Waters, and Places*.

Edward B. Tylor (1871), often treated as the grandfather of scientific anthropology, saw 'culture' contrasted with 'nature', but culture was mainly an explanandum. In other words, the concept of culture in the mid-nineteenth century did not yet serve the function of demarcating causes: it was not used to divide kinds of causes to explain behaviour, either explicitly or at the theoretical level. There was an awareness of different kinds of causes influencing development, but the dominant pragmatic function of the concept of culture was to define kinds of people (rather than kinds of causes), and to point at historical change (often called 'civilization') or the emergence of institutions. Culture described behaviour (the explanandum), but it was not yet used as the label for a field-defining style of explanation that contrasted nature with culture. And how could it be otherwise, given that Tylor, as most people at his time, believed in the intricate connection between nature and nurture through the inheritance of acquired characteristics?

It was Alfred L. Kroeber who radicalized the nature/culture divide. He took the perspective of his teacher Franz Boas, who studied, among other things, the influence of culture on physical traits among immigrants to the United States, as illustrated by Stocking (1968: 195–233). Boas explicitly treated culture as a specific explanatory factor in the development of the traits of individuals. Kroeber went further, taking culture to be not only a factor in the development of individuals, but a field-defining explanandum in its own right. As with Tylor, culture was the explanandum, but one that was explicitly, theoretically, and completely decoupled from nature. This was the basis of his 'cultural determinism': culture is explained by culture alone, and what is inherited by nature is explained by nature alone.

Kroeber felt the need to demarcate his own and his peers' business from that of others. Kroeber and his fellow anthropologists had degrees to secure their intellectual authority (in fact, he was Columbia University's first PhD in anthropology, and the ninth in the US), but these degrees—with their potential to be symbolic capital, seals of quality, and weapons to defend their authority over a field of study—were not yet taken very seriously. In the absence of a secured voice and a secured authority over their subject area, concepts (as in the case of the Hippocratics) were their weapon of choice.

Kroeber was outspoken about his goal of defending the exclusive authority of cultural anthropologists over the study of culture, leaving individual development for the aspiring psychologists and nature for physical anthropologists and geneticists. As a result, his case is rather well known. With the exception of

Stocking (1968: 259), however, what has often been ignored is that when Kroeber claimed autonomy for culture, he was assuming Weismann's theory of inheritance as proof that the decoupling of culture from nature was possible, and thus that traits caused by culture could be explained independently of nature, and vice versa. I have said more on his case elsewhere (Kronfeldner 2009). The most important point for our purposes here is that the decoupling he defended rested on a denial of the possibility of the inheritance of acquired characteristics, and was done in the service of disciplinary demarcation and the exclusion of any style of explanation of culture that relied on biology.[14] Like the Hippocratics, he regarded nature as given. However, he gave the attached pragmatic function a negative twist: human nature was taken as a disciplinary primitive; it was again taken for granted, but only in order to have the right to ignore it.[15] Still, 'nature' demarcated kinds of causes (but those to be ignored), united those in the same business of studying a particular kind of cause, and served to demarcate their work from others.

To sum up this case: if we look at the formation of cultural anthropology at the beginning of the twentieth century and compare it to the other cases we have looked at, we see that the enemies have changed, the contrast has changed, but what stayed the same was the pragmatic function the term 'nature' played in demarcating expertise and excluding styles of inquiry, and be it via its contrast.

10.10 MOVING TO THE TWENTY-FIRST CENTURY

When we move to the twenty-first century, we see the same pattern. Edouard Machery (2008) defends what he calls a 'nomological notion of human nature' (contrasted with essentialist ones). He discusses why his concept is 'worth fighting for' and writes:

> "saying that a given property, say a behaviour, such as biparental investment, or a psychological trait, such as outgroup bias, belongs to human nature [...] is also to say that some kinds of explanation for the occurrence of this trait among humans are inappropriate. Particularly, this is to reject any explanation to the effect that its occurrence is exclusively due to enculturation or to social learning." (Machery 2008: 326)

Machery regards 'explanations […] exclusively due to enculturation or to social learning' as mere 'proximate explanations', and explanations 'due to nature' as

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14 Interestingly, geneticists joined in with this division of labour—e.g. Thomas H. Morgan and later Dobzhansky—which Richerson (Ch. 8 this volume) describes as agreeing to a 'peace treaty'. This very much fits the picture developed here.

15 For a philosophical defence of what I have called here 'the right to ignore' certain causal factors—e.g. to ignore human nature or to ignore human culture in one's explanation of behaviour—see Kronfeldner (2017).

'ultimate explanations'. According to him, the latter are the appropriate explanations for typical features of human behaviour and cognition.

Irrespective of whether it makes sense, philosophically and scientifically, to divvy up things that way, this fits the historical pattern I describe: Machery uses 'human nature' for epistemic demarcation, dividing causes into different kinds and defending a specific style of explanation (in his case, a kind of evolutionary psychology) as the appropriate and specialized style of inquiry for the kind of causes—evolutionary causes—that are deemed to be 'natural' rather than 'cultural'.[16]

This kind of appropriation is likely to continue, I reckon, be it with respect to the discussion of whether cognitive science has its own way of carving out a concept of human nature (see Heyes, Chapter 4 in this volume) or whether anthropology can reclaim human nature for its explanatory goal of studying constrained diversity.[17]

10.11 CONCLUSIONS

That the concept and the term 'nature', and its contrasts in the context of studying humans, have the pragmatic function of demarcating expertise and excluding styles of inquiry is an important reason why the concept is still with us; the concept can be used to exclude certain kinds of causal factors as being relevant in a given context. The contexts I discussed were:

- Hippocratic versus divine healers;
- Enlightenment philosophers defending a 'science of man' versus speculative metaphysics;
- the study of 'hard heredity' versus the Lamarckian approach;
- genetics and physical anthropology versus cultural anthropology;
- evolutionary psychology versus the social sciences.

Further contexts and an open-ended amount of detail could be added to each item on the list, but this kind of historical completeness is not my aim here.[18] To sum up, without reaching any such completeness: even though the methods, the implied contrasts, as well as the content of the term 'nature' (and thus the con-

16 Machery has revised his account in a couple of ways (see 2012, and Ch. 1 this volume), but the demarcation remains.

17 As argued by Fiona Jordan and Heidi Colleran in their paper delivered at the 'Why We Disagree about Human Nature' conference, in Cambridge, 2015, and which gave rise to this volume.

18 As Raymond Williams (2011: 186) once said with respect to the history of the word 'nature', because of the intricate and many-layered texture of the landscape of contrasts and cognates, 'Any full history of the uses of nature would be a history of a large part of human thought.'

cept) all varied in the cases mentioned in this chapter, the function of demarcating kinds of relevant causes and styles of inquiry stayed the same.

'Nature' was always what could be taken for granted, established as solid, authoritative, as 'what was presupposed to be there to investigate: its supposed objective reality was what guaranteed the viability of the investigation. Yet what that vaunted objective reality consisted in was contested in every conceivable respect' (Lloyd 1991: 432). I showed that this dictum of Lloyd holds in all the cases surveyed here. In the case of the Hippocratics, some Enlightenment philosophers, and the study of heredity in the nineteenth century, 'nature' and 'human nature' served to define a style of inquiry (or practice) in a positive sense, as a field-defining explanandum. In the case of Kroeber, it did so in a negative sense, since he regarded human nature as a disciplinary primitive. In all cases, 'nature' demarcated kinds of causes, united those in the same business of studying a particular kind of cause, and served to demarcate their work from others. Demarcation and exclusion is connected with rather non-epistemic pragmatic aims—securing jobs, money, and power—but it is also connected to epistemic issues in two ways: it involves concepts, and it serves to distinguish kinds of causal explanations (e.g. proximate versus ultimate) and the experts devoted to them.

What I have shown also helps us to understand parts of contemporary debates concerning human nature. Machery (2008, 2012, Chapter 1 in this volume) defends a descriptive concept of human nature that caters to the needs of certain evolution-minded fields, such as evolutionary psychology, that prioritize evolutionary explanations. Stotz (2010), Griffiths (2011), Lewens (2012), Ramsey (2013, Chapter 2 in this volume), and Stotz and Griffiths (Chapter 3 in this volume) are sceptical about these needs because it involves the nature/culture divide in a manner that is now contested. They opt for a different concept of human nature, one that is most inclusive and does not divide between kinds of causes, but they ignore that their choice might also serve specific needs. In the case of Stotz and Griffiths, it is the needs of those who care most about explaining development and stressing the importance of development for evolutionary thinking. But that is not the only explanandum in which human nature plays a role. Samuels (2012) defends a concept of human nature that is explanatory in a sense that serves the needs of cognitive scientists, who are not necessarily interested in explaining development. Ramsey (Chapter 2) is concerned with 'how traits come about', and presents his account as tracking the regularities of the human life form that can also be explained mechanistically. Lewens (2015) is most interested, like Machery, in a human nature concept serving the needs of evolutionary thinking, but he disagrees about which concept of human nature fits these needs, especially if cultural evolution is taken into account.

What is common to most of these authors is that they still look at the issue from a monistic perspective: they look for one concept that will replace the outdated, essentialist concept of human nature. They all want to appropriate the term for their preferred epistemic role, presumably sometimes even to utilize the authori-

ty in the term 'nature'. But, I contend, there will be no one concept that fits all the needs of the diverse range of styles of inquiry that employ the term 'human nature'. As part of an essentialist picture (as described in Section 10.1, and in more detail in Kronfeldner et al. 2014), all epistemic roles were supposed to be fulfilled by one entity in the world. In the post-essentialist picture, there are at least three scientific 'natures' replacing an essence: a classificatory nature, a descriptive nature, and an explanatory nature. Criteria for membership of a particular form of life, descriptions of forms of life, and causal factors (or mechanisms) of special importance for explaining these forms of life are simply not the same things. These three kinds of 'natures' have an equal right to be regarded as a replacement candidate for the outdated essentialist concept, since they each retain one of the epistemic roles of the essentialist concept. But they can claim only one epistemic role directly; the others are reconstructed indirectly, if at all. Finally, with respect to the explanatory nature, specific disagreements arise because of the complexity of causation (namely, there are always multiple causes involved). Given this complexity, there are different ways to divvy up the totality of developmental and evolutionary causes. Consequently, one can focus on one or another kind of cause as more important, and the focus will depend on the disciplinary affiliation of the experts. It is not an 'anything goes pluralism' that is defended here (as claimed in Stotz and Griffiths, Chapter 3). Rather, it is a pluralism that applies explanatory parity not only ontologically (at the level of causal factors involved) but also at the level of the multitude of epistemic interests involved in talk about human nature.

This chapter described (rather than evaluated) the authority inherent in the term 'nature' to elucidate one of the reasons we disagree about human nature. I close with a few points connecting to the discussion in this chapter. Some will argue that, as a matter of principle, science should not rely on power and identity politics. Independently of such an in-principle argument, one can also argue that using the term 'nature' for demarcation is no longer necessary, given the disciplinary differentiations firmly established in the architecture of contemporary academia. One might further support such an 'eliminative' stance by stressing that aside from demarcation, the cost of eliminating the term 'human nature' in scientific discourse is rather low. Everything we might want to say about what we above called 'descriptive nature', 'explanatory nature', or 'classificatory nature' could be said without using the term 'nature'. Some, however, might reply that if serious scientific work eliminates the term 'human nature', then others will still use it for their goals and do so without relying on the standards of scientific reasoning.[19] Is it thus better to appropriate the term for scientific usage? In any case, a detailed discussion of this 'elimination question' must take into account

[19] As argued by Fiona Jordan and Heidi Colleran in their paper delivered at the 'Why We Disagree about Human Nature' conference, in Cambridge, 2015.

pragmatic aspects of the term 'nature'. This paper tried to analyse one such pragmatic aspect, the authority in the term 'nature'.[20]

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[20] For further pragmatic aspects of the elimination question, see Kronfeldner (forthcoming).

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