

Please cite the Published Version

Sandford, S  (2018) Kant, race, and natural history. *Philosophy and Social Criticism*, 44 (9). pp. 950-977. ISSN 0191-4537

DOI: <https://doi.org/10.1177/0191453718768358>

Publisher: SAGE Publications

Version: Published Version

Downloaded from: <https://e-space.mmu.ac.uk/642634/>

Usage rights:  [Creative Commons: Attribution-Noncommercial 4.0](https://creativecommons.org/licenses/by-nc/4.0/)

Additional Information: This is an open access article published in *Philosophy and Social Criticism*, by SAGE Publications.

Enquiries:

If you have questions about this document, contact openresearch@mmu.ac.uk. Please include the URL of the record in e-space. If you believe that your, or a third party's rights have been compromised through this document please see our Take Down policy (available from <https://www.mmu.ac.uk/library/using-the-library/policies-and-guidelines>)

Kant, race, and natural history

Philosophy and Social Criticism

2018, Vol. 44(9) 950–977

© The Author(s) 2018



Article reuse guidelines:

sagepub.com/journals-permissions

DOI: 10.1177/0191453718768358

journals.sagepub.com/home/psc**Stella Sandford** 

Centre for Research in Modern European Philosophy, Kingston University, London, UK

Abstract

This article presents a new argument concerning the relation between Kant's theory of race and aspects of the critical philosophy. It argues that Kant's treatment of the problem of the systematic unity of nature and knowledge in the *Critique of Pure Reason* and the *Critique of the Power of Judgment* can be traced back a methodological problem in the natural history of the period – that of the possibility of a natural system of nature. Kant's transformation of the methodological problem from natural history into a set of philosophical (and specifically epistemological) problems proceeds by way of the working out of his own problem in natural history – the problem of the natural history of the human races – and specifically the problem of the unity in diversity of the human species, in response to which he develops a theory of race. This theory of race is, further, the first developed model of the use of teleological judgment in Kant's work. The article thus argues that Kant's philosophical position on the systematic unity of nature and of knowledge in the first and third Critiques, and his account and defense of teleological judgment, are developed out of problems first articulated in his solution to the problem of the unity in diversity of the human species – that is, in his theory of race. The article does not seek to establish that these aspects of the critical philosophy are therefore racialised. But it does demonstrate, against those who deny its salience to his philosophy, how the problem of the unity in diversity of the human species and Kant's theory of race is significant for the development of aspects of the critical philosophy and thus contributes to their philosophical problematics.

Keywords

Kant, race, natural history, critical philosophy, systematic unity, teleological judgment

It is now well known that Kant, as well as being the author of the critical philosophy, was one of the first – some would say *the* first – to theorise 'race' (*Rasse*). Scholarly opinion is divided, but there are compelling arguments for the view that, although the word 'race'

Corresponding author:

Stella Sandford, Centre for Research in Modern European Philosophy, Kingston University, Penrhyn Road Campus, Kingston upon Thames, London, KT1 2EE, UK.

Email: S.Sandford@Kingston.ac.uk

and its various synonyms in various languages had been used to note and comment on human diversity before Kant, he was, as Bernasconi and Lott put it, 'the first to propose a rigorous scientific concept of race' (2000, viii). Of course, the theory is not 'rigorous' and 'scientific' from the standpoint of contemporary science. Describing Kant as the 'inventor of the concept of race', Bernasconi clarifies that this means: 'the one who gave the concept sufficient definition for subsequent users to believe that they were addressing something whose scientific status could at least be debated' (Bernasconi 2001, 11).

Kant's theory of race was an important and influential contribution to the late 18th-century life sciences in Germany. It was taken up and defended by natural scientists with more professional credibility than Kant, notably Christoph Girtanner and Hans Blumenbach, and taken seriously, albeit criticised, by the respected naturalist Georg Forster. To the extent that interpretations of Kant's theory – regardless of their correctness – contributed to the essentialist, biological theories of race that, since the late 18th century, underpinned European racism, it clearly calls for investigation and criticism.¹ Further, when we put the theory side-by-side with the racist remarks that pepper Kant's work, Kant scholars are faced with a considerable embarrassment.² As the discipline of European philosophy, in some quarters at least, begins to face up to uncomfortable questions concerning discrimination, exclusion and diversity in its history and its reproduction in teaching and research, the problem of Kant's theory of race, his racism and their possible relations to the other parts of his philosophy needs to be addressed.

The growing literature on what are beginning to be referred to as Kant's *Rassenschriften* has shown that in crucial respects there can be no historical and programmatic separation between them and the broader development of Kant's philosophy, including his critical philosophy – which is perhaps not surprising when we are dealing with a systematic philosopher. But it is still not clear exactly what the place of the concept of race and the theory of race is in that oeuvre. The demonstration of shared elements between the essays on race and the critical philosophy does not in itself give an answer to the question that goes to the heart of the matter for students and teachers of Kant's works: what, if anything, is the significance of the concept of race and the theory of race in the development of the critical philosophy?

In Jon M. Mikkelsen's survey of the reception of Kant's theory of race (up to 2013), his main criticism of Robert Bernasconi's work is that Bernasconi tends to promise more than he delivers and thus fails to answer this question directly. According to Mikkelsen, even if Bernasconi demonstrates that Kant 'invented' the concept of race, he does not fill in the details of his case against Kant by 'identifying the specific connection between his race theory and the "core" beliefs of the critical philosophy' (Mikkelsen 2013, 13). More particularly, Mikkelsen reprimands Bernasconi for not identifying the 'specific logical point of connection' (Mikkelsen 2013, 312) when Bernasconi claims that Kant's essays on race are important for understanding the genesis of the *Critique of the Power of Judgment*. Although Mikkelsen's remarks are uncharitable, criticising Bernasconi for failing to do something that he had not claimed to do, Mikkelsen is right that the central question is left hanging.

The central question, to repeat, is this: what, if anything, is the significance of the concept of race and the theory of race in the development of the critical philosophy? But

what exactly is this question asking us to identify? Is it traces of the concept of race or the theory of race in the terms of the critical philosophy? The dependence of critical categories on racial thinking? Racism in the critical philosophy? This article starts from the presumption that these are the wrong questions, to the extent that they seem to presume that the question of the relation between the theory of race and the critical philosophy is actually a demand to reveal a kind of crypto-racism in or crypto-racialisation of the critical philosophy. Because we find no such revelation in, for example, Bernasconi's work, the path towards a rejection of any further investigation of the relation is smoothed. Thus Mikkelsen (2013, 12) is able to characterise Kant's views on race as 'an unfortunate episode in the history of science', with Kant's philosophy proper supplying the means to criticise it.³

This article approaches the question of the relation between the theory of race and aspects of the critical philosophy from a different angle. The first section explores the idea that the problem of the systematic unity of nature and knowledge in the *Critique of Pure Reason* and the *Critique of the Power of Judgment* can be traced back to problems in the natural history of the period, and particularly to the problem of the possibility of a natural *system* of nature (second section). It then argues (third section) that Kant's transformation of the methodological problem from natural history into a set of philosophical (and specifically epistemological) problems proceeds by way of the working out of his own problem in natural history – the problem of the natural history of the human races – and specifically the problem of the unity in diversity of the human species. The final section shows, further, how Kant's theory of race is the first developed model of the use of teleological judgment in Kant's work. Thus this article argues that Kant's philosophical position on the systematic unity of nature and of knowledge in the first and third Critiques, and his account and defence of teleological judgment, are developed out of problems first articulated in his solution to the problem of the unity in diversity of the human species – that is, in his theory of race. This argument does not claim that the relevant aspects of the critical philosophy are racialised or that the concept of 'race' is hiding in the *Critique of Pure Reason*. It does not claim that the philosophical categories of the critical period are based on or grounded in any categories from the life sciences. But it does demonstrate how the *problem* of the unity in diversity of the human species, which for Kant was solved with the determination of the concept of race and a theory of generation that depends on the principle of purposiveness, is significant for the development of aspects of the critical philosophy and thus how the theory of race is in one respect crucial to it.

Systematicity and purposiveness in the first and third critiques

In the *Critique of Pure Reason* Kant speaks of the unity of nature in two senses. First, there is the *transcendental* unity of nature, derived from the postulation of the understanding as the law-giver of nature. Second there is the *systematic* unity of nature postulated by reason. In the first case: 'All appearances lie in one nature, and must lie therein, since without this a priori unity no unity of experience, thus also no determination of the objects in it, would be possible' (CPR, A216/B263). The 'unity of nature' here effectively equates with the law-like structure of experience within which empirical laws

of nature are discoverable. But this unity of empirical laws is, Kant later says, merely 'distributive'. The cognitions of the understanding form 'merely a contingent aggregate' (CPR, A645/B673), which it is the role of reason to systematise. In the section 'On the Regulative Use of the Ideas of Pure Reason' Kant writes: 'just as the understanding unites the manifold into an object through concepts, so reason on its side unites the manifold of concepts through ideas by positing a certain collective unity as the goal of the understanding's actions, which are otherwise concerned only with distributive unity' (CPR, A644/B672). The 'distributive unity' with which the understanding concerns itself has to do with the relations between cognitions and the causal series that connect them and the *experiential* coherence of the various cognitions themselves, but without any reference to a necessary *order*. It is reason that *orders*, systematises, the 'entire range' of the understanding's cognitions, seeking 'its interconnection based on one principle' and postulating a 'complete unity' (CPR, A645/B673).

In the 'Transcendental Doctrine of Method', Kant makes it more explicit that the systematic unity of nature thus prescribed by reason (which is at the same time the systematic unity of reason itself) is 'that which first makes ordinary cognition into science, i.e. makes a system out of a mere aggregate of it'. In a systematic unity the whole is 'articulated (*articulatio*) and not heaped together (*coacervatio*)' (CPR, A832/B860). As prescribed by reason, the systematic unity of the understanding's cognitions is 'only a projected unity; this unity, however, helps to find a principle for the manifold and particular uses of the understanding, thereby guiding it even in those cases that are not given and making it coherently connected' (CPR, A647/B675). Reason's principle is regulative and not constitutive: it does not determine any object for cognition. It is a 'logical principle' which helps understanding, through ideas, to 'create' unanimity amongst its various rules, creating interconnection 'as far as this can be done' (CPR, A648/B676). Systematic unity is the projection of *order* in law-like nature. This projected unity is said to be 'merely hypothetical' (CPR, A649/B677); that is, reason does not declare apodictically that there exists such a unity in nature. It is not even, Kant first suggests, a transcendental principle, which says that all possible cognitions of the understanding must conform to this as objectively necessary principle. It does not have the objective necessity of the categories for experience. And yet, the logical principle of rational unity amongst rules makes no sense unless we do presuppose a transcendental principle 'through which such a systematic unity, as pertaining to the object itself, is assumed a priori as necessary' (CPR, A650–1/B678–9), because otherwise there would be no necessary relation between the principle and the objects of the knowledge that is systematised by it. This means that the principle of reason is not exactly a transcendental principle, but its peculiarity is that we must treat it *as if* it were. Reason irresistibly demands that we assume its principle and this means that, if reason is not to contradict its own aim, we have also to presuppose that the systematic unity of reason and the systematic unity of nature are in conformity with each other. Because reason cannot set itself as a goal an idea that 'entirely contradicts the arrangement of nature . . . we simply have to presuppose the systematic unity of nature as objectively valid and necessary' (CPR, A651/B679).⁴ Although the principle of reason is not in itself teleological, it seems, for Kant, to lead inexorably to an expression of it that is. To 'consider every connection in the world according to principles of systematic unity' is to consider them

'as if they had all arisen from one single all-encompassing being, as supreme and all-sufficient cause'. The highest formal unity is 'the purposive unity of things; and the speculative interest of reason makes it necessary to regard every ordinance in the world as if it had sprouted from the intention of a highest reason' (CPR, A686/B714).

It is noticeable that the First Introduction to the *Critique of the Power of Judgment* avoids all such references to a creator. It begins, instead, with a consideration of systematicity in philosophy and of the investigation of nature that picks up where the most general considerations of the Appendix to the *Critique of Pure Reason* left off. The threat from the merely distributive unity of the laws of the understanding is restated in stronger terms (Kant refers to 'a disturbingly unbounded diversity of empirical laws and heterogeneity of natural forms', CPJ, FI IV, 14) and its rational supplement is more immediately identified with the highest principle of purposiveness. The concept of the purposiveness of nature, Kant writes,

is that of an experience as a system in accordance with empirical laws. For although experience constitutes a system in accordance with transcendental laws [of the understanding], which contain the condition of the possibility of experience in general, there is still possible such an infinite multiplicity of empirical laws and such a great heterogeneity of forms of nature, which would belong to particular experience, that the concept of a system in accordance with these (empirical) laws must be entirely alien to the understanding, and neither the possibility, let alone the necessity, of such a whole can be conceived. Nevertheless particular experience, thoroughly interconnected in accordance with constant principles, also requires this systematic interconnection of empirical laws, whereby it becomes possible for the power of judgment to subsume the particular under the general, however empirical it may be, and so on, right up to the highest empirical laws and the forms of nature corresponding to them, and thus to regard the aggregate of particular experiences as system of them; for without this presupposition no thoroughly lawlike interconnection, i.e. empirical unity of these experiences can obtain. (CPJ, FI II, 9)⁵

This is the principle of the subjective purposiveness of nature, which is re-affirmed at the beginning of the 'Critique of the Teleological Power of Judgment' – a subjective purposiveness of nature 'for the human power of judgment and the possibility of the connection of the particular experiences in one system of nature . . . just as if they had actually been designed for our power of judgment' (CPJ, §61, 233). As in the *Critique of Pure Reason* this is still a regulative principle, based on an analogy with causality according to ends (such that we conceive of nature as 'technical'), but now it is a principle belonging to the reflecting power of judgment, rather than the faculty of reason.

However, as we know, the 'Critique of the Teleological Power of Judgment' also identifies an exception to the mechanical view of nature (called above 'a system in accordance with empirical laws'): 'organised beings'. To the extent that these are *given as organised*, 'it is quite certain', Kant says, that the investigator of nature will 'never adequately come to know the organized beings and their internal possibility in accordance with merely mechanical principles of nature, let alone explain them' (CPJ, §75, 271). It is the *generation* of (in modern terminology) biological organisms that is

particularly inscrutable, and which the investigator of nature cannot even approach as a problem without conceiving them as the products of a non-mechanical kind of causality to which we must ascribe an 'end'. Indeed, an organised being is a 'natural end', which is to say that it must be both cause and effect of itself (*CPJ*, §64, 243), self-organising (*CPJ*, §65, 245), possessing a self-propagating formative power (*CPJ*, §66, 246).

Once again, the concept of a thing as a natural end is a regulative concept for the reflecting power of judgment, grounded in a 'remote analogy' with our own causality in relation to ends (*CPJ*, §65, 247). It does not say that organised beings are in themselves purposive, only that they must be thought of as such. The concept of a natural end, being as it were forced upon us by the impossibility of understanding organised beings merely mechanically, 'leads reason into an order of things entirely different from that of a mere mechanism of nature' (*CPJ*, §66, 248), and then to the idea of the whole of nature as a purposive system (*CPJ*, §67, 250). The principle of teleology is not an internal principle of natural science, but an unavoidable 'way of judging . . . with regard to a special class of its objects' (*CPJ*, §68, 254).

The problem of a natural system of nature

Granted that there are significant differences between the presentation of the presumption of systematicity in the *Critique of Pure Reason* and the *Critique of the Power of Judgment*, they do, nevertheless, address a common problem – the merely distributive unity of nature cognised according to the laws of the understanding. To explain the connection between this problem and Kant's theory of race, it is first necessary to understand the origin of the form of the problem in one of the central issues in the natural history of the period and Kant's relation to it.

In brief, this is the issue of the possibility of a natural (as opposed to artificial) system of nature, or the possibility of a 'natural' system or scheme of the classification and ordered presentation of the natural world. The issue is particularly clear in Linnaeus's *System of Nature*, first published in 1735, where the problem of the relationship between the presumption of a natural order (immanent to nature, albeit divinely ordained) and the recognition of the artificiality of the systems of classification by which we know it is perfectly explicit.⁶ Linnaeus naturalised Aristotle's logical categories of genus (*genos*) and species (*eidos*), which, together with the categories of 'order' and 'class', allowed for the in-principle systematic allocation of every natural form to a specific place in the order of nature.⁷ Buffon, Linnaeus's best-known antagonist in these matters, objected to the artificiality of Linnaeus's system. In his 'Initial Discourse' on natural history (1749), Buffon cautioned against allowing our natural tendency to imagine order and uniformity in everything to persuade us that nature worked everywhere according to the same means and according to similar mechanisms. This way of thinking, he said, has led us to 'invent an infinity of false connections between the things nature produces . . . bringing the abstractions of our limited mind to bear upon the reality of the works of the Creator' (Buffon 1749, 101).

Mutatis mutandis, it is not hard to recognise this problem in Kant's discussion of the systematic unity of nature and knowledge in the *Critique of Pure Reason* and, more explicitly, in the First Introduction to the *Critique of the Power of Judgment*. Much of

what Kant says in the *Critique of Pure Reason* concerning systematicity and purposiveness can be seen as an attempt to make explicit and to justify through critique (in his precise sense of determining the limits) the assumptions already operative in natural history. That is, the natural historian can be seen to be enacting what the *Critique of Pure Reason* postulates as reason's systematisation of cognition via 'logical' principles. In this systematisation, reason presupposes an idea: 'Namely that of the form of a whole of cognition, which precedes the determinate cognition of the parts and contains the conditions for determining a priori the place of each part and its relation to the others' (CPR, A645/B673). The 'concepts of reason' employed in this effort – for example, those of 'pure earth, pure water, pure air' – are not 'created by nature, rather we question nature according to these ideas' (CPR, A646/B674). Even if, Kant says, things are not actually expressed in this way, 'it is still very easy to discover the influence of reason on the classifications of students of nature' (CPR, A646/B674). Investigators of nature and philosophers employ these principles even if they do not recognise or admit it:

That all the manifoldness of individual things does not exclude the identity of species; that the several species must be treated only as various determinations of fewer genera, and the latter of still higher families, etc.; that therefore a certain systematic unity of all possible empirical concepts must be sought insofar as they can be derived from higher and more general ones: this is a scholastic rule or logical principle, without which there could be no use of reason, because we can infer from the universal to the particular only on the ground of the universal properties of things under which the particular properties stand. (CPR, A651–2/B679–10)

This is the logical 'principle of genera' (*Prinzip der Gattungen*) (also called the 'law of homogeneity', CPR, A659/B687), to which Kant opposes the logical principle of specification (*Prinzip der Arten*) 'which needs manifoldness and variety in things despite their agreement under the same genus [*Gattung*], and prescribes to the understanding that it be no less attentive to variety than to agreement' (CPR, A654/B682). While the one 'guards against excess in the manifold variety of original genera', the other 'demands that one distinguish subspecies [*Unterarten*] before one turns to the individuals with one's universal concepts' (CPR, A660/B688). The two principles are united in the principle of affinity or continuity, 'prescribing even in the case of the highest manifoldness a sameness of kind [*Gleichartigkeit*] through the graduated transition from one species [*Spezies*] to others, which shows a kind of affinity of various branches, insofar as they have all sprouted from one stem [*Stamme*]' (CPR, A660/B688).

In the *Critique of Pure Reason* the problem of the relation of these logical principles to nature leads, as we have seen, to the postulation of their transcendental, but merely regulative, counterparts.

If among the appearances offering themselves to us there were such a great variety – I will not say of form (for they might be similar to one another in that) but of content, i.e. regarding the manifoldness of existing beings – that even the most acute human understanding could not detect the least similarity (a case which can at least be thought), then the

logical law of genera would not obtain at all . . . The logical principle of genera therefore presupposes a transcendental one if it is to be applied to nature. (*CPR*, A653–4/B681–2)

In the *Critique of the Power of Judgment* it is in part this presupposition itself that is further justified through the analysis of the reflecting power of judgment. According to Kant, reflecting judgment, like determining judgment, requires a principle in which the underlying concept of the object prescribes the rule. For reflecting judgment this is the principle that ‘for all things in nature empirically determinate **concepts** can be found.’ This ‘condition of the possibility of the application of logic to nature is a principle of the representation of nature as a system for our power of judgment, in which the manifold, divided into genera and species [*Gattungen und Arten*], makes it possible to bring all the natural forms that are forthcoming to concepts (of greater or lesser generality) through comparison’. In addition to the thought (which is the teaching of pure understanding) of nature as contained within a system according to a priori concepts, the reflecting power of judgment, seeking concepts for empirical representations,

must further assume for this purpose that nature in its boundless multiplicity has hit upon a division of itself into genera and species [*Gattungen und Arten*] that makes it possible for our power of judgment to find consensus in the comparison of natural forms and to arrive at empirical concepts, and their interconnection with each other, through ascent to more general but still empirical concepts; i.e. the power of judgment presupposes a system of nature which is also in accordance with empirical laws and does so a priori, consequently by means of a transcendental principle. (*CPJ*, FI V, 15–16)

Whether or not Kant is successful in justifying the principle of the purposiveness of nature for the power of judgment, it is clear that the principle is his philosophical answer to the methodological problem confronting the natural historians of his time: the applicability of logical systems of classification to nature, or the problem of a natural system of nature.⁸ In both the first and the third Critiques the possibility of the systematic unity of knowledge is the unity of a system of logical relations, of genus to species, which is at the same time the possibility of a systematic unity of nature, of natural relations of genus to species, there being no other possible way to know nature than through the transcendental principles and subjective maxims of human cognition and reason.⁹

In the *Critique of the Power of Judgment* the subjective purposiveness of nature for the faculty of judgment must also make room for the concept of an objective and material purposiveness, or the internal purposiveness of natural beings (*CPJ* §63, 239). Consideration of natural products, the origin or generation of which cannot be explained mechanically and which are possible only as natural ends, requires another form of judgment, which is of course teleological. Concerning organised beings ‘it is not merely permissible but is even unavoidable to use the teleological way of judging as the principle of the theory of nature with regard to a special class of its objects’. Like the principles of pure reason and the principle of the subjective purposiveness of nature, the principle of teleology is not determining; it is a principle of the reflecting power of judgment; a principle for ‘another kind of research besides that in accordance with

mechanical laws' (CPJ §68, 254). However, the teleological judgment of natural products as natural ends leads, according to Kant, to 'the idea of the whole of nature as a system in accordance with the rule of ends' (CPJ §67, 250). This time it is absolutely explicit that this is primarily a principle for the natural historian, that is, for the investigation of organised beings and their relations in 'a system in accordance with the rule of ends'.

Cassirer interprets Kant, as I have interpreted him above, as dealing in the third Critique with a problem 'as he found it in the science of his day': 'One can say that in establishing the principle of formal purposiveness [Kant] spoke as the *logician* of Linnaeus' descriptive science, just as in the *Critique of Pure Reason* and the *Metaphysical Elements of Natural Science* he had appeared as logician for the Newtonian system' (Cassirer 1950, 127). But it would be wrong to take this to mean that Kant acted as a philosopher of biology (to use the modern terminology) in the service of others, or that his interest was only in transforming the methodological problem of natural history into an epistemological problem for philosophy. Because an examination of the essays on race and other texts outside of the famous critical trilogy show that Kant's concerns were part of the working out of *his own problem* in natural history: the problem of the natural history of the human races.

Description of nature vs the natural history of the human 'races'

Kant often addressed the problem of the possibility of a natural classificatory system of nature explicitly, and he always made this problem part of his discussion of the concept of race. In the pre-critical period, to characterise the difference between an artificial, merely logical system of classification and one that, in some deeper way, took its cue from nature itself (to speak in a pre-critical terminology, for the time being), Kant distinguished between what he called 'description of nature' and 'natural history'. In the published version of his *Lectures on Physical Geography*, which are most probably based on Kant's dictation notes prior to 1760 and lecture notes from 1775 and 1778,¹⁰ Kant distinguished between 'logical' and 'physical' 'knowledge from experience':

Division of knowledge according to concepts is **logical**; according to time and space it is **physical**. By means of the former we obtain a **system of nature** [*Natursystem*] (*systema Naturae*), as for example that of **Linnaeus**. With the latter we obtain a **geographical description of nature** [*Naturbeschreibung*]. (Kant 1802, 448)

If, for example, I say that the species 'cattle' [*die Rinderart*] is one of the kinds [*Geschlecht*] of four-footed animals, or is one of the kinds [*Gattung*] of animals with cloven hooves, then this is a division I make in my head: it is a logical division. The *systema naturae* is, as it were, a kind of register of the whole, wherein I situate all things, each in its class [*Classe*] to which it belongs, even if on earth they are to be found in widely separated areas.

Whereas the logical division 'allocates [things] a place in the classification', the physical division considers things in terms of the places that they occupy on earth. In

the physical division it matters where the things are actually found; in a logical division what matters is simply 'similarity of form.' However:

The systems of nature that have been drawn up so far are probably more properly called aggregates of nature, for a system presupposes an idea of the whole, from which the diversity of things is derived. Actually we do not yet have a *systema naturae*. In the so-called systems of this type available at present, the things are simply put together and arranged in series. (Kant 1802, 448)

The *Physical Geography* then claims that 'true history' is the history of occurrences at different times, which is 'nothing other than a consecutive geography'. (449) Accordingly, 'we can have a **description of nature** [*Naturbeschreibung*], but not a **natural history** [*Naturgeschichte*]', despite the fact that the latter name is in frequent use.

The history of nature [*Geschichte der Natur*] comprehends the diversity of geography, as it has been at different times, but not how it is now, at a single moment; for the latter would be a description of nature [*Naturbeschreibung*]. Only if one were to describe the events of the whole of nature as it has been through all time, then and only then would one write a real so-called natural history [*Naturgeschichte*]. (Kant 1802, 450)¹¹

At this point the inaccessibility of the relevant information makes a 'natural history' in this sense impossible as far as Kant is concerned. When he comes to consider the differences between human beings in the *Physical Geography*, these are therefore part of the 'Physical Description of the Earth', more specifically part of the 'Particular Observations Concerning What is Found on Earth', and the differences in the form and colour of human beings are described according as they are found in various parts of the earth, that is, geographically (Kant 1802, 572).¹² This seems to contradict Kant's earlier, confident *Universal Natural History and Theory of the Heavens* (1755) in which the origin of the universe is explained according to the nebular hypothesis. However, for Kant the origin of the universe can be explained (presupposing an initial state of chaos) in purely mechanical terms with Newtonian principles, 'reduced to the simplest mechanical causes', and we will, he says, sooner understand the origin and constitution of the entire universe than 'the creation of a single plant or caterpillar' (Kant 1755, 201). Thus in *Universal Natural History* and the *Physical Geography* (that is, from the mid-1770s at the latest) we can already see a concern with (a) the methodological problem of natural history and the problem of a mere aggregate of knowledge of nature; (b) the idea, in contrast to this, of a system of nature or of knowledge; (c) the distinction between description of nature and natural history; (d) an interest in what will later be called the natural history of the human races; and (e) an acknowledgement of the gulf between investigation of the origin of physical phenomena according to mechanical laws and the investigation of living organisms, or the specificity of the living organism as an object of investigation.

The 1775/1777 essay 'Of the Different Races of Human Beings' ('Von den Verschiedenen Rassen der Menschen') was first published as an announcement for the lectures on Physical Geography for 1775 (student notes from which form part of the basis for the

published version of the lectures). In these lectures the section 'Concerning Human Beings' is relatively short, comprising considerably less than 5% of the text. It is interesting, therefore, that the announcement of the lectures focuses exclusively on the question of the different races (*Rassen*) of humankind in the context of an argument that there is only one human genus (*Gattung*) – that is, focuses exclusively on the question of the unity in diversity of humankind. The distinction between description of nature and natural history is crucial to this argument.

In the opening of the essay, the distinction between a logical and a physical division of nature reappears as the distinction between the 'school division' and the 'natural division' of genus [*Gattung*]. Here Kant's choice of terminology is inseparable from his argument and requires some comment. In the translations of Kant's essays on race in the Cambridge edition of his works, *Gattung* is usually translated as 'species' and *Art* as 'kind'. Further, *Stamm* is usually translated with the 19th-century neologism 'phylum'. But to render the translation of Kant's terminology consistent across his works there is good reason to translate *Stamm* as 'stem', *Gattung* as 'genus' and *Art* as 'species' (and these are therefore changed in all subsequent quotations in this essay). 'Genus' and 'species' are the more usual translations for *Gattung* and *Art*, and are the translations used in the Cambridge edition of the *Critique of Pure Reason* and translations of Kant's logic. As Sloan points out, Kant's technical uses of *Rasse* and *Stamm* seem to have been derived from Buffon's French terms *race* and *souche* (Sloan 1979, 150 (fn 93)). Kant's use of the term *Gattung* to refer to the taxonomic level at which all humans are unified and the use of the term *Rasse* to refer to the taxonomic level at which they are differentiated means that there is no place for an intermediate 'species' division in the natural history of the human. (In a later essay he writes that the different classes (*Klassen*) of the human genus may only be called 'races' (*Racen*) and not 'species' (*Arten*): 'The class [*Klasse*] of the whites is not distinguished from that of the blacks as special species [*Art*] within the human genus [*Menschengattung*], and there are no different species [*Arten*] of human beings' (Kant 1785a, 153)). In this it seems he again follows Buffon. Buffon begins his essay 'De la dégénération des Animaux', in Volume XIV of his *Histoire naturelle*, with a discussion of human diversity. Since humans have moved across the globe from their (unspecified) place of origin they have undergone such changes that, Buffon writes, one might be inclined to believe that 'le Nègre, le Lappon et le Blanc' constituted different species (*espèces*). However, biblical history (only one man was originally created) and – more importantly – natural history (the inter-fertility of these different types) point instead to their unification in 'the great and unique family [*famille*] of our human genus [*notre genre human*]'. The different human kinds (Black, Lapp, White) are then referred to as 'races'. Later, comparing domesticated small sheep (*nos chétives brebis*) with the wild sheep (*mouflon*) from which the former are descended, Buffon describes the *mouflon* as 'the common father of all the races of this species' (*le père commun de toutes les races de cette espèce*).¹³ Thus, it seems, whereas the animal genera are divided into species, the human genus is not.

However, no clear and absolute demarcation between taxonomic levels (especially family and genus) are always possible in Buffon's natural history; that, indeed, is part and parcel of his critical response to Linnaean taxonomy.¹⁴ Similarly, we have no clear indication of what, for Kant, constituted the distinction between genus and species in

natural history. As subsequent controversies in natural history and philosophy of science tend to concentrate on 'the species problem', and as Buffon became famous for his definition of the species (not the genus), the decision to translate *Gattung* as 'species' in Kant's essays on race is therefore understandable. But this both disallows the possibility that Kant really did mean genus and not species, and – what is germane to the concerns of this current article – obscures for the English reader the continuity between the terminology in those essays and the *Critique of Pure Reason* and the *Critique of the Power of Judgment*,¹⁵ effectively eliminating any reference to 'genus'. But in Kant's essays on race his use of the term *Gattung* does seem deliberate, as if the unity in diversity of the human is to be sought at a higher level than is suggested by *Art*. And, after all, what would be the genus to which the human species belonged, for Kant?

This continuity between the logical and natural historical terminology should be borne in mind in the discussion of the distinction between the logical (school) and the physical (natural) division of nature. The school division concerns only classes (*Klassen*), dividing animals according to resemblances to provide a 'school system for the memory'. A 'natural genus' (*Naturgattung*), on the other hand, is defined according to what Kant calls 'Buffon's rule': 'that animals which produce fertile young with one another (whatever difference in shape there may be) still belong to one and the same physical genus'. The natural division concerns the ancestral 'stems' [*Stämme*], dividing animals 'according to *relationships* in terms of generation'. The school system 'aims at bringing creatures under titles; the [natural division] aims at bringing them under laws' (Kant 1777, 84).¹⁶ In a footnote a few pages later, the distinction is reasserted.

We generally take the designation *description of nature* and *natural history* to mean the same. Yet it is clear that the cognition of natural things as they *are now* always leaves us desirous of the cognition of that which they once *were* and of the series of changes they underwent to arrive at each place in their present state. *Natural history*, which we still lack almost entirely, would teach us about the changes in the shape of the earth, likewise that of its creatures (plants and animals)[,] that they have undergone through natural migrations and the resultant deviations [*Abartungen*]¹⁷ from the prototype of the stem genus [*Stammgattung*]. It would presumably trace a great many of seemingly different species [*Arten*] to races [*Rassen*] of the same genus [*Gattung*] and would transform the school system of the description of nature, which is now so extensive, into a physical system for the understanding. (Kant 1777, 89)

Here 'natural history' concerns both the changes that the earth has undergone and the changes in the animals and plants on the earth. In fact, it is notable that, like the *Universal Natural History*, Kant's works on the natural history of the earth are broadly Newtonian, and aim to provide physical, mechanical and natural causal explanations for phenomena that might otherwise invite supernatural explanations.¹⁸ To the extent that the essays on race, albeit in slightly different ways, claim to be a practice of natural history as opposed to natural description, they follow a significantly different procedure dependent on the presumption of the principle of purposiveness or, as the 1785 essay specifies, on the use of teleological principles. It is natural history in this sense – concerned with animals and plants – that is associated with the possibility of a natural

system via the justified naturalisation of logical categories and that will find its mature critical expression in the 'Critique of the Power of Teleological Judgment'.

In 'Of the Different Races' Kant deploys Buffon's definition to argue that there is only one human genus because human beings of all kinds 'consistently beget fertile young with one another, no matter what great differences may otherwise be encountered in their shape' (1777, 84–5) – that is, no matter how great the differences in the mere *description* of different human beings may be. The problem addressed in this essay is the reconciliation of this unity of the genus with the diversity of what Kant will call the different 'races', which was required for a convincing rebuttal of the idea of polygenesis.¹⁹ According to Kant, the undisputed fact of inter-fertility between different 'races' can be explained in only two ways: either it is because all human beings are indeed members of the same genus with the same ancestral origin or stem (monogenesis), or the different kinds of humans are not related and are the result of many 'local creations' (polygenesis) – separate but inter-fertile species. The latter explanation 'needlessly multiplies the number of causes' (85). Although Kant does not say so explicitly, it either requires divine intention (which is not therefore a natural historical interpretation) or has to be understood as the effect of chance – which, as is clear later, is never an adequate explanation for living phenomena for Kant. Further, the polygenesist position, which purports to explain diversity, does not have a good scientific explanation for inter-fertility (i.e. unity). Inter-fertility, on the other hand, is analytically contained in the monogenesist position, which has instead to explain the *diversity* of the different kinds of human beings. No mere 'description of nature (condition of nature in the present time)' could ever explain this; thus it is necessary to 'venture a *history* of nature' (97). It is this – that is, the specific problem of the unity in diversity of humankind – that appears to lead Kant to a theory of generation based on the idea of the development of germs (*Keime*) and natural predispositions (*natürliche Anlagen*).

According to Kant, an animal genus (*Thiergattung*) with a common stem contains not species (*Arten*) (since *Arten* signifies precisely difference in descent) but deviations (*Abartungen*) (which signifies that the differences are hereditary). Among the *Abartungen*,

i.e. the hereditary differences of the animals which belong to a single stem, those which persistently preserve themselves in all transplantings (transpositions to other regions) over prolonged generations among themselves and which also always beget half-breed young in the mixing with other deviations [*Abartungen*] of the same stem are called *races*. (85)²⁰

Here, as in Linnaeus, we see the naturalisation of the logical categories of genus and species, but also the application of logic to nature justified through the identification of a 'physical' relation between the terms, turning what would otherwise be a school system into a natural system. It is fascinating that in the *Jäsche Logic*, Kant's discussion of the relation between higher and lower concepts, which is followed by the section on the categories of genus and species (*Gattung* and *Art*), is illustrated with an example that refers to the relation between (human) genus and race. Since 'higher' and 'lower' are relative designations, 'one and the same concept, in different relations, can be at once a higher and a lower concept. The concept *man*, for example, is in

reference to the concept *negro* a higher one, in reference to the concept *animal* a lower one' (Kant 1800, 102–3).²¹

Granted that it is the inter-fertility criterion that justifies the assertion of the historical relation between the genus and its subordinate term 'race', *how* is it that the common stem, which is the mark of the unity of the species, can give rise to different 'genuine races' which remain, however, inter-fertile? Kant speculates that organisms contain 'germs' or 'seeds' (*Keime*) and 'natural predispositions' (*natürliche Anlagen*), the 'unfolding' of which determines the species nature, the particular parts, the relation of the parts and the size of the organism. Not all germs will always be developed. In this essay Kant says, for example, that in birds of the same kind, which populate different climates, the germs for an extra layer of feathers will be developed in those that live in colder climates but not in those in the more temperate region. Nature thus equips her creature 'through hidden inner provisions for all kinds of future circumstances, so that it may preserve itself and be suited to the difference of the climate or the soil' (Kant 1777, 89). Migration gives rise to new forms that may have the semblance of new species, but which are in fact, according to Kant, merely different races or variations of the same genus. Even where we do not see purposive adaptation, the mere fact that genera propagate their own kind shows that 'a particular germ or natural predisposition for it was to be found in the organic creature'. No 'outer thing', neither chance nor physical-mechanical causes (such as climate), could have produced such self-propagating and self-organising organisms, though outer things may be 'occasioning causes'. All this prepares us for the claim about the human races.

The human being was destined [*bestimmt*] for all climates and for every soil; consequently, various germs and natural predispositions had to lie ready in him to be on occasion either unfolded or restrained, so that he would become suited to his place in the world and over the course of the generations would appear to be as it were native and made for that place. With these concepts, let us go through the whole human genus [*Menschengattung*] on the wide earth and adduce purposive causes of its deviations [*Abartungen*] therein in cases where the natural causes are not easily recognizable and again adduce natural causes where we do not perceive ends. (Kant 1777, 90)

Kant then suggests that some of the germs within human beings developed in response to the environment, 'suffocating' other germs, giving rise to four 'races' which are now fixed. According to Kant one is compelled to assume only four races of the human genus; all the classificatory lower varieties can be derived from these (Kant 1777, 87).

Thus it seems that the theory of germs and natural predispositions is offered in fulfillment of the earlier promise of a natural history which would teach us about the changes that animals – specifically, human animals – 'have undergone through natural migrations and the resultant deviations [*Abartungen*] from the prototype of the stem genus [*Stammgattung*]'. It purports to explain how one can 'trace a great many of seemingly different kinds to races of the same genus' and so begins the task of 'transform[ing] the school system of the description of nature, which is now so extensive, into a physical system for the understanding' (Kant 1777, 89). The role of the theory in the

defence of monogenesis is not that it secures the unity of the human genus – Buffon’s inter-fertility criterion does most of the work there – but that it explains the ‘racial’ diversity within that unity. The theory gives a natural systematic account of the relation between the classificatory categories of genus and race, specifying, beyond Buffon, the precise meaning of the latter. Phillip Sloan and others emphasise that Kant’s conception of natural history concerns a science primarily characterised by its dealings with *historical* changes from a posited original state, as opposed to the static synchrony of description of nature.²² But as Kant’s specific contribution to natural history in ‘Of the Different Races’ shows, in 1775 the principle of purposiveness was for Kant already a defining element in investigations in natural history, as opposed to description of nature. The defence of monogenesis falls without the explanation of diversity, which itself relies in the last instance on the presumption of purposiveness. As this shows, then, the theory of race is thus the context in which the general problem of a natural system of nature and of the systematic unity of nature, beyond the aggregate of empirical knowledge, is first fully addressed by Kant and in which the role of the principle of purposiveness is first significantly employed in its elaboration.²³

Sloan (2006, 636) says that there is no further explicit discussion of the natural history/description of nature distinction in Kant’s published writings and correspondence between ‘Of the Different Races of Human Beings’ and the second essay on race in 1785. This is right, but the problem of the unity in diversity of the human species crops up in the *Critique of Pure Reason* (1781/1787), and appears precisely as a problem in the discussion of the principles of systematic unity: manifoldness, affinity, and unity (CPR, A662/B690), otherwise called the principles of specification, affinity and genera. The peculiarity of these principles is that they seem to be transcendental even though they contain mere ideas; they are objectively valid but indeterminate synthetic a priori propositions incapable of deduction (CPR, A663/B691). As subjective principles they are maxims of reason ‘which rest solely on reason’s speculative interest, even though it may seem as if they were objective principles’ (CPR, A666/B694). If they are actually taken to be objective principles and considered to be constitutive, yielding objective insights concerning the objects of nature, the principles can be in conflict; but considered as maxims there is no ‘true conflict’ between them, only the expression of different interests of reason, or different aspects of the ‘single unified interest’ of reason (CPR, A666/B694). To illustrate this Kant refers to a specific scientific controversy:

If I see insightful men in conflict with one another over the characteristics of human beings, animals or plants, or even of bodies in the mineral realm, where some, e.g. assume particular characters of peoples based on their descent [*Abstammung*] or on decisive and hereditary distinctions between families, races [*Rassen*], etc. while others, by contrast, fix their minds on the thought that nature has set up no predispositions [*Anlagen*] at all in this matter, and that all differences rest only on external contingency, then I need only consider the constitution of the object in order to comprehend that it lies too deeply hidden for either of them to be able to speak from an insight into the nature of the object. There is nothing here but the twofold interest of reason, where each party takes to heart one interest or the other... either the maxim of the manifoldness of nature or that of the unity of nature. (CPR, A667/B695)

Here Kant refers to the opposition between the identification of different hereditarily determined racial categories within his own monogenesist position, following the principle of specification, and the view of the mere describer of nature whose interest in unity is said in the previous paragraph to follow ‘the principle of aggregation’ (*CPR*, A666/B694) – presumably the position of the investigator of nature who sees human diversity as an effect of the environment, not naturally determined in advance by any germs or predispositions.²⁴ The claim that ‘the constitution of the object is too deeply hidden’ to be able to make determinate claims is not a reference to the hidden constitution of objects as they may be in themselves, independently of our cognition of them, both because Kant is talking here about objects (people) that are given in experience and because the relation between appearances of other kinds and things in themselves does not similarly disallow determinate or constitutive judgments about those appearances. It is, rather, a reference to the special status of organised beings and their resistance to explanation in purely mechanical terms. The controversy over the unity in diversity of the human species cannot be decided with recourse only to the cognitions resulting from the relation between understanding and sensibility. The solution, as we know from ‘Of the Different Races’ must be to ‘venture a history of nature’ (Kant 1777, 97) with its basis in the principle of purposiveness, the ultimate principle of the systematic unity of nature.

‘Race’: The model of teleological judgment

Commentators do not usually emphasise, as I have done here, the principle of purposiveness in their readings of Kant’s earliest discussions of the natural history/description of nature distinction.²⁵ But three things justify this emphasis. First, when the specificity of Kant’s conception of natural history in relation to animals and plants (as opposed to the earth itself) is noted, the principle of purposiveness asserts itself from the very beginning. Second, it also makes sense if, as I have suggested, the methodological problem of natural history is central to Kant’s discussion of the problem of the systematic unity of nature as it appears in the *Critique of Pure Reason*. Finally, Kant’s own problem in natural history – the unity in diversity of the human species, or the natural history of the human races – is one whose solution, from the first significant discussion in ‘Of the Different Races of Human Beings’, always looks to final causes.

However, commentators do generally agree that the methodological problem, which requires a teleological solution, dominates Kant’s discussions of the distinction in his writings from 1785. In Kant’s 1785 review of Herder’s *Ideas*, he responds to Herder’s criticism of his position on race by suggesting that Herder reaches an arbitrary position based on an indiscriminate interpretation of aspects of the description of nature. He says, further, that ‘[t]he division of the human species into *races* is not favored by our author, primarily not that grounded on inherited colours, presumably because the concept of a race is for him not distinctly enough determined’ (Kant 1785b, 139). Although Herder’s *Ideas* had only been published the year before, this perhaps goes quite some way to explain Kant’s 1785 essay ‘Determination of the Concept of a Human Race’ (‘Bestimmung des Begriffs einer Menschenrasse’), published in the same month as the review of Herder. The essay begins with the claim that empirical investigation must be guided beforehand by something not itself based on experience; in this case questions about the

'manifoldness of the human genus' must be preceded by the determination of a concept of race. Any explanation of the origin of the actual races is subsidiary to this determination. Kant complains that his critics have failed to see that this was already the point of the earlier 1775/77 essay, focusing only on what was hypothetically derived from the principle – claims about numbers of races and what gave rise to them – rather than principle itself (Kant 1785a, 145). If, as Sloan suggests, the meaning of 'natural history' in 1775/1777 was for Kant concerned primarily with historical changes and the original state of things, Kant's 1785 defence of the earlier essay would not really make sense because there would have been no methodological principle in play. If, on the other hand, we interpret Kant's idea of 'natural history' to include more – a priori maxims of reason, and particularly the principle of purposiveness – Kant's chagrin at Herder's interpretation of the earlier essay is at least intelligible.

In 'Determination of the Concept of a Human Race' Kant is less concerned with the argument for the unity of the genus than the specific question of the classificatory differences within the genus. According to Kant, only what is unfailingly hereditary can justify a classificatory difference within a genus, and the only unfailingly hereditary quality common to all humans is skin colour (i.e. whatever skin colour a human being has, that colour is inherited by its offspring). As racial classification concerns both what is common to the genus (unfailing heredity of skin colour) and what differentiates within the genus (different skin colours), the definition of the concept of a race is twofold: 'the concept of a race contains first the concept of a common stem, second *necessarily hereditary* characters of the classificatory difference among the latter's descendants'. Because of the common stem the different classes of human beings are races, and not species (*Arten*).

As in the 1775/77 essay, the existence of races, so defined, is only intelligible to Kant on the assumption of the theory of germs and natural predispositions. Thus although the definition of a race is ostensibly the methodological principle 'for the investigation in natural history' (Kant 1785a, 154) that Kant sets out to defend, the principles underlying the theory of germs and natural predispositions guide the way for the definition of race. For Kant only something originary could have become necessarily hereditary; this is a reason to place the germs in the original stem. But how to explain why germs would be present in the original stem if they were only later to be developed? According to Kant: 'The *purposive character* in an organization is surely the general reason for inferring a preparation that is originally placed in the nature of a creature with this intent, and for inferring created germs, if this end could only be obtained later on' (156). Thus the difference between the races is first and foremost a purposive difference, and considerations of purposiveness once more distinguish the investigations of natural history (concerned with real genera) from natural description of its nominal classifications.²⁶ And indeed in 1788, in the third of Kant's essays on race, 'On the Use of Teleological Principles in Philosophy', Kant refers back to the 1785 essay thus: 'In a small essay on the human races I have attempted to prove... a need to start from a teleological principle where theory abandons us' (Kant 1788, 195).

This dependence on the principle of purposiveness becomes fully explicit in the 1788 essay. This essay is in great part a reply to Georg Forster's 'Something More About the Human Races', which criticises Kant for the distinction between natural history and

description of nature and for what Forster evidently saw as the precedence of theory over observation in the previous essay. Forster defends Linnaeus's descriptive approach and denies that skin colour is an adequate criterion for distinguishing what Kant called 'races' (Forster 1786, 146–7, 152–4). If, as Kant claims, natural history is concerned with generative origin and descent, then it is, Forster says 'a science for gods and not for human beings' (156), given that the origin of species in general and of the 'original, common parental couple' of the human genus in particular (159) is unknown and perhaps unknowable. Ironically, Forster accuses Kant of exactly that error that Kant earlier (1775/1777) attributed to the school systems of nature: inventing categories of difference and confounding these conceptual entities and attendant hypotheses with 'the matter of fact itself' (157). In the absence of our being able to trace human differences back to their point of origination the distinction between natural history and description of nature becomes, for Forster, 'altogether void' (164).

Kant distills Forster's criticisms into two objections against, first, 'the concept and origin of the *human races*' and second, against the distinction between natural history and description of nature. He traces both objections to a misunderstanding 'of the principle from which I start' (Kant 1788, 196), that is, to a methodological misunderstanding. The essay then concentrates on two things: the limits of and warrant for the use of teleological principles; and the meaning of a natural history in distinction from mere description of nature. At first glance, the relation between these two things in Kant's essay is not clear. The clue lies in the presumption of the principle of purposiveness which, as I have argued, is the red thread in Kant's discussions of the method of natural history and his contribution to it: the theory of the unity in diversity of the human races.

Kant begins the 1788 essay with the claim that there are two paths in the investigation of nature, the theoretical (looking for physical–mechanical explanations) and the teleological. The teleological path may only be taken – and then only reluctantly – when theory abandons us. According to Kant: 'In all examination of nature reason rightly calls first for theory and only later for the determination of ends [*Zweckbestimmung*]. No teleology or practical purposiveness [*Zweckmäßigkeit*] can compensate for the lack of the former. We always remain ignorant with respect to the efficient causes, no matter how evident we can make the suitability of our presupposition with final causes' (Kant 1788, 195). This seems to be a version of the point that Kant repeatedly makes about teleological judgment elsewhere: that it does not *explain* anything (explanation belonging only to 'theory'). The juxtaposition of this point and the identification of the source of Forster's misunderstanding (failure to understand the guiding principle) once again strongly suggests that the guiding principle in the earlier essay was teleological. Kant says further, that description of nature stays on the theoretical path, whereas natural history is obliged to take the teleological path where the first fails. Here the identification of the specificity of natural history with the presumption of the principle of purposiveness is clear.

Concerning Forster's 'first scruple' (i.e. the objection to 'the concept and origin of the *human races*'), Kant goes on to say: 'it is undoubtedly certain that nothing of a purposive [*Zweckmäßiges*] nature could ever be found through the mere empirical groping without a guiding principle of what to search for; for only *methodically* conducted experience can be called *observing*' (Kant 1788, 197). That is, it is true that the purposive nature of

'race' could not have been found had the description of the empirical diversity in the human species not been guided by an a priori principle. But what is that principle? It is not easy to answer this question, as the presentation of the development of Kant's argument in the 1788 essay is not linear. However, when we reconstruct the argument we see that the answer to the question is bound up with Kant's reply to Forster's second objection, concerning the distinction between natural history and description of nature and ultimately to the principle of purposiveness.

Kant begins this part of the argument by specifying what he means by 'natural history'. If that is taken to mean 'a *narrative* of events in nature not to be reached by any human reason, for example, the first origin of the plants and the animals, then indeed that would be, as Hr. F. puts it, a science for gods, who were present then or were even the authors, and not one for human beings'. But according to Kant's usage of the phrase:

natural history would only consist in tracing back, as far as the analogy permits, the connection between certain present-day conditions of the things in nature and their causes in earlier times according to laws of efficient causality, which we do not make up but derive from the powers of nature as it presents itself to us now. (Kant 1788, 197)

As such a natural history is said to be not only possible but actual, this seems to contradict the previous claim that '[w]e always remain ignorant with respect to the efficient causes' in the investigation of nature. But here Kant refers primarily to the investigation of the natural history of the earth – which, as we have seen, proceeds with nothing more than the Newtonian principles of physical science – and to the precedence of theoretical-speculative investigation in all research, of whatever kind. Granted, such a natural history remains in its infancy: it can only point to 'fragments or shaky hypotheses'. However, there is, according to Kant, reason to hope for more, once we 'get to know more closely... the principles according to which natural history could be enlarged in the best possible manner' (Kant 1788, 198); presumably, the methodological principle that sets natural history on the teleological path.

It is then initially confusing that, as an alternative to the interpretation of natural history as narrative, Kant proposes that it be taken to mean 'the investigation of origin in nature', or 'physiogony' (Kant 1788, 198). Clearly, though, this is how he would then have the reader understand his natural history of the human races, the result of which is to locate the origin of the races *in a common stem*. This is not a matter of tracing the development of the 'races' back, in a historical narrative, to their empirical origin in a single stem; this origin is, for Kant, a matter of *rational inference* from the fact of inter-fertility between the 'races' and the necessity to explain (as he sees it) a hereditary particularity (skin colour) that is not part of the concept of the human genus and yet common to all humans.

However, this rational inference is not simply a formal matter, as in general logic; it is based on a priori concepts and principles. Although the rational, logical principle of specification is undoubtedly part of what Kant refers to here, this principle alone could not, for Kant, justify his concept of race, which requires (for him) the concept of a

natural genus. In a system of natural history the human genus can be divided into races or deviations and different human sorts (*Menschenschlag*), but this is

so far merely an idea of the way in which the greatest degree of manifoldness in the generation can be united by reason with the greatest unity of descent [*Abstammung*]. Whether there really is such an affinity in the human genus must be decided through the observations that make known the unity of the ancestral stem. And here one sees clearly that one must be guided by a determinate principle merely in order to *observe*, i.e. to indicate the ancestral stem, not just the resemblance of characters, since in that case we are dealing with a problem of natural history, not of the description of nature and of mere methodological nomenclature. Someone who has not made his investigation according to that principle will have to search again; for what he needs in order to decide whether there is a real or merely nominal affinity among the creatures will not present itself to him on its own. (Kant 1788, 200)

The selection of the inter-fertility criterion and of the character of the heritability of skin colour (both physical, not logical principles) leads to the postulation of the concept of race, not as a merely logical category, but as a natural category *within a natural history of the human genus*:

What is a *race*? The word does not figure in a system of the description of nature, therefore presumably the thing itself is nowhere in nature either. Yet the *concept* designated by this expression is well grounded in the reason of each observer of nature who infers from a hereditary particularity of different interbreeding animals that does not at all lie in the concept of their genus a common cause, namely a cause that lies originally in the stem of the genus. The fact that this word does not occur in the description of nature (but instead of it that of *variety* [*Varietät*]) cannot prevent the observer of nature from finding it necessary with respect to natural history. (Kant 1788, 199)

'Race' is thus not an empirical category for determining judgment; effectively all such concepts belong only to a description of nature. Nor is 'race' a merely regulative Idea of reason, precisely because it belongs to a *natural* history of the human species (rather than a merely logical system of nature). The concept of 'race' is a postulate of reflecting, teleological judgment – indeed, it is the very model of such a concept.

It is as well an emblem of unity in diversity. That the 'races' can still '*unite* through generation into a product that contains characters of both' shows, for Kant, that they were 'able to *divide* through generation out of one *stem*, which had the predispositions for the development of both characters originally hidden in it, into that many races' (Kant 1788, 200). The theory of germs and natural predispositions is not then supplementary to the positing of the concept of race, it is part of it, and the theory of germs and predispositions is driven by the a priori presupposition of the principle of purposiveness. A little later this becomes quite explicit. Kant explains that his difference from Forster's position concerns not observation (description of nature) but 'the theory of be assumed (natural history) . . . on my view it is possible and indeed more appropriate to the philosophical mode of explanation to view [the different characters of the races] . . . as a development of purposive first predispositions implanted in one stem'. Kant's natural history of the

human races is the elaboration of 'the system according to which the germs are originally implanted in one and the same stem and subsequently develop *purposively for the first general population*' (Kant 1788, 204). The 'races belong together in a "system of generation of nature"' (Kant 1788, 201) and 'in the case of organised beings as regards the preservation of their kind' teleological judgment ('namely to follow only the *principle of ends* in those matters') is not to be avoided (Kant 1788, 205). The principle being followed in the investigation of the natural history of the human genus is thus a particular instantiation of the general principle of purposiveness: the theory of the purposive development of germs and predispositions leading to the different races of the one human genus. It is true that this means that the principle is the result and the result is the principle; this circularity accounts for much of the difficulty in expounding the argument of Kant's 1788 essay. But this circularity is a general problem with the postulation of the principle of the subjective purposiveness of nature for human judgment, and is ultimately a consequence of the position of immanence resulting from the transcendental turn. However, the presupposition of purposiveness is no longer an Idea of pure reason which guides the investigation of nature from above, but a concept arising from the investigation of nature, or at least arising from the analysis of the act of judgment in the investigation of nature.²⁷

Conclusion

I have argued (as have others) that the scientific context of the problem of systematicity and the threat of a merely distributive unity in the *Critique of Pure Reason* and the *Critique of the Power of Judgment* is the field of natural history and the general problem of the possibility of a natural system of nature.²⁸ But I have also tried to show, further, that the specific problem in natural history through which Kant addresses the more general problem, and to which he repeatedly returns, is that of the natural history of the human races. Kant's writings on race were his major concern in and his major contribution to the natural history of this period. Some might reply that, on the contrary, his major contribution to the life sciences was, more generally, the theory of germs and natural predispositions, with which he contributed to the debates over the competing theories of preformation and epigenesis, leading Kant to the mediating idea of 'generic preformation' in the third Critique (*CPJ*, §81, 291). But there can be no doubt that the topic in relation to which the theory of germs and natural predispositions was worked out was, again, the natural history of the human races.²⁹ The theory of germs and natural predispositions is developed as the answer to the problem of the unity in diversity of the human genus, which also requires, for Kant, the specification of the concept of race. Further, the unity in diversity of the human species in Kant's oeuvre is emblematic of the unity in diversity of nature itself and the natural historical and teleological concept of race is an emblematic achievement of a natural system of nature. If, as Zuckert claims, the principle of purposiveness 'establishes a unity of the diverse as such, a form of lawfulness that holds for the contingent aspects of nature as such' (2007, 24) we could say, further, that the concept of race is emblematic for the principle of purposiveness.³⁰

It seems beyond doubt, given the consistency and persistence of Kant's work on the natural history of the human, that the question of race was of abiding importance in

Kant's thought in the period including the *Critique of Pure Reason*.³¹ This article has sought to show, further, that 'race' is the privileged case in thinking the problem of a natural system of nature, and that the search for a solution to this problem plays a fundamental role in the development of the transcendental, critical problem of the systematic unity of knowledge. This means that the question of the natural history of the human and the development of the concept of race are a fundamentally important part of the theoretical context of the *Critique of Pure Reason* and the *Critique of the Power of Judgment*; that is, that the question of the natural history of the human and the development of the concept of race comprise an important contribution to the working out of the *philosophical problems* of the first and third Critiques. This is *not* to claim that the relevant aspects of the critical philosophy are in any way 'grounded' in biology, or that any of Kant's critical, philosophical categories have any biological basis.³² As previously stated, it also does not mean that the relevant aspects of the critical philosophy are racialised or that the concept of 'race' is hiding in the *Critique of Pure Reason*, for example. But it does mean that there is a closer relationship between the essays on race and the critical philosophy than has hitherto been accepted, and that the direction of influence goes both ways at the very least. It may take some time to work out and come to terms with the general implications of this; but this is not, I think, a task, which can be avoided.

Acknowledgements

I am grateful for the critical comments and suggestions from an anonymous reviewer of an earlier version of this article.

ORCID iD

Stella Sandford  <http://orcid.org/0000-0002-7490-2977>

Notes

1. See Eze 1997a, 5; Eze 1997b, 103; Serequeberhan 1996. Blum (2002) and, more recently, Smith (2015) both argue that while modern 'racial thinking' (Blum, *passim*) rarely holds explicitly to any essentialist or biological theory of natural racial kinds, contemporary 'racialization' treats groups as 'races' as if they were essential biological kinds. Whatever the racial theorists of the 18th century intended, the effect of their work was to make the various taxonomic distinctions between people appear as natural (Smith 2015, 35).
2. Bernasconi (2002) quotes numerous examples of Kant's racist comments.
3. Charles Mills identifies this strategy in those who defend Kant against his own racism. This strategy does not deny his racist views but does deny that they have the kind of philosophical implications claimed by Eze and Bernasconi, for example. Mills writes that, according to this strategy, 'either Kant's racial views do not affect his philosophy at all (the extreme position), or they do not affect it in its key/central/essential/basic claims (the more moderate position). The assumption, obviously, is that we have a principled, non-question-begging way to demarcate what is central from what is peripheral to his philosophy, and a similarly principled way of showing how the racial views (and, of course, their implications) fail to penetrate this "inner circle"' (Mills 2005, 175). For an example of the quarantining approach see Hill Jr. and Boxill (2001). For a critique of the centre/periphery presumption see Sandford (2018).

4. In its presentation in the *Critique of Pure Reason*, the subjective necessity of the presupposition of reason's principle of systematic unity and the withdrawal from any claims about nature itself seems to leave open the possibility, as Huneman puts it, of 'a law like but order less nature' (2007b, 78). Accordingly, the principle of reason seems to be required not for experience, nor even for the discoverability of empirical laws of nature, but only for a scientific project connecting empirical laws of nature. However, commentators increasingly interpret Kant's position here as a claim about the basic methodological requirements for scientific investigation and knowledge, giving the principle of reason and the presupposition of systematic unity a stronger transcendental status than its presentation as subjective maxim suggests. This unity is, as Morrison says, 'first and foremost methodological rather than being grounded in the objects themselves'. But the understanding cannot function unless it is systematically employed; its systematic employment – that is, its coherence – is the condition of possibility for judgment of empirical truth (Morrison 2008, 39, 43). Zuckert (2007, 5, 24) similarly argues that the expression of the demand for systematic unity as the principle of purposiveness is a necessary, transcendental principle for empirical knowledge.
5. See also *CPJ*, FI IV, 13.
6. 'No natural system of plants, though one or the other approaches it quite closely, has so far been constructed; nor do I contend that this system is really natural (perhaps some other time I may issue fragments of one); nor can it become a natural system before all details in connection with our system will be known. In the meantime, however, as long as a natural system is lacking, artificial systems will definitely be needed' (Linnaeus 1735, 23).
7. Although, as Ernst Cassirer points out (1950, 124), to call Aristotle's categories 'logical' in this way risks ignoring the 'inner bond between logic and biology' in Aristotle.
8. See Cassirer 1950, 124–8. Of course, we could also see Kant responding here to the treatment of the problem of species in John Locke's *Essay Concerning Human Understanding*. (On Locke on species in relation to Kant, see Mensch 2013, 16–28.) However, Kant's repeated references to Linnaeus and Buffon suggest that it was primarily in relation to debates among natural historians, and as I am arguing here, in relation to the problem of the unity in diversity of the human genus, that the problem figured prominently for him.
9. Cf. Morrison 2008 48, 61. See also the comments in fn 4.
10. See Watkins 2012, 435.
11. Here, and elsewhere, Kant uses the phrases 'history of nature' and 'natural history' interchangeably. Unless otherwise stated 'description of nature' always translates *Naturbeschreibung* and 'natural history' always translates *Naturgeschichte*. The lecture notes on which the *Physical Geography* is based are perhaps unreliable, but unless we believe that Kant's students or his trusted editor Friedrich Theodor Rink invented the terms *Naturbeschreibung* and *Naturgeschichte*, the lectures are admissible as evidence in the argument here.
12. In these sections the relative perfection of the 'white race' over all others is asserted (576) and the descriptions of the other 'races' is racist and often ridiculous, based on travellers' hearsay (572–9). As is common in the literature of the time, the lectures are particularly concerned with the 'Peculiarities of the Black Colour of Humans' and the causes thereof (573–5).
13. Buffon, *Histoire naturelle: l'édition en ligne*, Vol. XIV, pp. 311, 317–18 (<http://www.buffon.cnrs.fr/>).
14. See Sloan 1979, 119; Atran 1990, 194–5.

15. For example, *CPR*, A653–4/B681–2 and A659/B687 (*Gattung* and *Art*), A660/B688 (*Stamm*) and *CPJ*, FI V 15–16 (*Gattung* and *Art*).
16. The 1775 version of the essay begins with a paragraph referring to the fact that the text is an announcement of a lecture series; the paragraph is excised in the 1777 version, which was published as a stand-alone essay (no longer presented as announcing the lectures) in a volume edited by Jacob Engel entitled *Der Philosoph für die Welt* (*The Worldly Philosopher*).
17. It is difficult to know how to translate Kant's terms *Abartung* and *Ausartung*, both of which seem to speak of derivation from the *Art* or species, when – as in the essays on race – they are explicitly derivations of the genus. In 'Of the Different Races', *Abartungen* – which tends to be translated as 'subspecies' – are said to be different types descended from the same stem whose differences are hereditary. If the hereditary marks of the *Abartung* 'agree with their point of origination' they are called *Nachartungen*; if they are no longer capable of 'providing the original formation of the stem (ursprüngliche Stammbildung)' they are called *Ausartungen* – 'degenerations' (Kant 1777, 84). In the discussion of the principle of specification in the *Critique of Pure Reason*, Kant refers to *Unterarten*, which, it seems clear, means 'subspecies' (*CPR*, A660/B688) To distinguish *Abartung* from *Unterart* I have chosen to translate the former as 'derivation'.
18. Notably, 'Examination of the Question' (1754); 'The Question whether the Earth is Ageing' (1754); 'On the Causes of Earthquakes' (1756); 'History and Natural Description of the . . . Earthquake that Struck' (1756); and 'On the Volcanoes on the Moon' (1785).
19. On polygenesis see Smith 2015, Ch. 4; Bernasconi 2001, 18–21.
20. It is not entirely clear if Kant is claiming that the 'deviation' (*Abartung*) and the 'race' have the same status or the same place in the relations of classifications, or if 'race' is a subcategory of 'deviation'. He writes: 'Unter den Abartungen . . . heißen diejenigen, welche sich sowohl bei allen Verpflanzungen . . . in langen Zeugnungen unter sich beständig erhalten, als auch, in der Vermischung mit andern Abartungen desselbigen Stamms, jederzeit halbschlächtige Junge zeugen, Rassen.' 'Unter den Abartungen' could be 'under the deviations', or 'among the deviations'.
21. Translation amended. In the *Akademie Ausgabe* (IX, 96) we read: 'so kann also Ein und derselbe Begriff in verschiedenen Beziehungen, zugleich ein höherer und ein niederer sein. So ist z. B. der Begriff Mensch in Beziehung auf den Begriff Neger ein höherer, in Beziehung auf den Begriff Thier aber ein niederer.' The English translation by Hartman and Schwarz says that there is a mistake in the 'original version' of this example which, they claim, compared the relations of the three terms 'man' (*Mensch*), 'horse' and 'animal'. According to Hartman and Schwarz, the *Akademie Ausgabe* changes the second term to *Neger*, 'in line with an example found in a transcript of Kant's lectures by Benno Erdmann'. Hartman and Schwarz then change both of these, and compare the three terms 'mammal', 'horse' and 'animal', to 'eliminate the subordination of man to animal, a quite un-Kantian example' (101–2). This conveniently eliminates the reference to the racial category and overlooks the fact that Kant's essays on race – given the natural historical context – do effectively subordinate the concept of man to that of animal. Elsewhere, Kant is happy to talk of the animal aspects of man, for example in the *Lectures on Anthropology*: 'The human being has two determinations, one with regard to humanity, and one with regard to animality' (Kant 1788–89, 217)
22. See, for example, Sloan 1979, 125–9, 131–5; Sloan 2006, 635; Sloan 2014, 193; Huneman 2007a, 8; Fisher 2007, 105–6, 111.

23. Thus we cannot agree with Huneman's claim (2007b, 82) that the essays on race do not link teleology to the problem of systematicity.
24. As, for example, Kant's critic Georg Forster (1786) seemed to believe. Lagier (2004, 147–8) also discusses this example in the *Critique of Pure Reason*. Lagier writes that the argument of 'Determination of the Concept of a Human Race' (1785) synthesises the otherwise incompatible interests of reason in generality and specificity with its presentation of the diversity at the heart of the unity of the human genus. Thus: 'The theory of the races, in advance of any empirical confirmation, finds a justification in the fact that it conforms particularly well to the demands of the Appendix, to the extent that, in its explication of human diversity, it proposes a subdivision of the human genus [*genre humain*] into a small number of logical subspecies [*sous-espèces*] – a perfect example of the application of the principle of the affinity of concepts just mentioned' (Lagier 2004, 147). This kind of relation between the essays on race and the *Critique of Pure Reason*, pointing out the ways in which the essays can be understood with the categories of the critical philosophy, treats the latter as the key to the former. As in Bernasconi's important essay from 2001, this contradicts the idea that the essays on race belong to some anthropological genre that can be separated from Kant's philosophy proper, such that they can continue to be treated in isolation from each other (and the essays on race ignored by philosophers). However, my aim in this article is somewhat different: to argue for the ways in which certain problems in natural history, dealt with in the essays on race, give rise to philosophical issues that find their mature expression in the critical philosophy. This is not to say that the essays on race provide the key to the critical philosophy, but it is to deny that the direction of influence is always from the critical philosophy to the essays on race.
25. Zammito (1992, 200–1) and Mensch (2013, 104–6) do emphasise the methodological issue of teleological judgment.
26. Kant (1785a, 155), following Buffon, distinguishes between a nominal species (*Nominalgattung*) and a real species (*Realgattung*) and says that while someone engaged in the description of nature, concerned to classify creations according to their similarities, could be content with the former, to find the latter is a task of natural history.
27. See Zuckert 2007, 35: 'In pressing this "threat of diversity" in the *Critique of Judgment*, Kant seems to recognise the insufficiency of [his] earlier sketch of a transcendental argument [in the *Critique of Pure Reason*]. We must discover the empirical character of nature through investigation, not stipulation.' On the insufficiency of the analysis in the first Critique, see also Zammito 1992, 159–61.
28. As Huneman puts it (2007a, 4): 'Because of the necessity to classify, and because this biologically primary feature called "heredity" or "conservation of form" requires classification and separation of species, a philosophical perspective on the life sciences should be situated within the general problem of the order of nature. This metaphysical problem, transferred to a transcendental framework – that is, questions about conditions of knowledge rather than kinds of being – becomes the epistemological problem of the systematicity of knowledge.' See also Cassirer 1950 and Fisher 2007, 10.
29. Mikkelsen's claim (2013, 4) that 'race theory seems to have been little more than a minor, but nevertheless vexing, problem within . . . natural history' is not at all borne out. In 1796 Christoph Girtanner (1796, 211) claimed that Kant's three articles on the human races gave rise to ideas that, 'had they been subjected to a careful examination, might necessarily have given a totally new direction to the study of natural history . . . the Kantian principle . . . is valid not

- only for the human races, to which the great philosopher has applied it, but [it] is a universal law that can be applied to the whole of organized nature'. It is not entirely clear exactly what this 'principle' amounts to for Girtanner; the point stands, however, that he saw Kant's writings on race as a model for natural history more generally.
30. Sloan's argument that Blumenbach's criticism of the germ theory led Kant to drop all reference to *Keime* in the *Critique of the Power of Judgment* is now widely accepted (see Sloan 2002, 247–53). As Sloan demonstrates, in Kant's 1790 text the 'natural dispositions' of the earlier theory are retained, having now 'taken on a new, dynamic role. No longer are they static structural relations of parts. *Anlagen* have become "inner purposive predispositions" [*inneren zweckmässigen Anlagen*]' (Sloan 2002, 48). This is a significant change that would have required Kant to revise the theory of race accordingly; it may be (as suggested in Sloan 2014, 194) that this is related to the apparent softening of Kant's racism in the 1790s. Whatever the case may be, the general point of this essay – that natural historical problems addressed in the essays on race contribute importantly to the development of philosophical problems that find their mature expression in the critical philosophy – is not affected.
 31. See Lagier 2004, 10–11.
 32. Thus the kind of objections that Marcel Quarfood raises against the 'biological interpretation of transcendental philosophy' (2004, 116) do not apply to the argument presented here. Unlike Sloan, for example, I am not claiming that Kant built any 'aspects of his philosophical project' on any 'scientific understructure' (Sloan 2002, 248).

References

- Atran, Scott. 1990. *Cognitive Foundations of Natural History: Toward an Anthropology of Science*. Cambridge/Paris: Cambridge University Press/Editions de la Maison des Sciences de l'Homme.
- Bernasconi, Robert. 2001. 'Who Invented the Concept of Race? Kant's Role in the Enlightenment Construction of Race', in Bernasconi, ed., *Race*, Malden MA & Oxford: Blackwell.
- Bernasconi, Robert. 2002. 'Kant: An Unfamiliar Source of Racism'. In *Philosophers on Race: Critical Essays*, edited by Julie K. Ward and Tommy L. Lott, 145–166. Oxford: Blackwell.
- Bernasconi, Robert and Tommy Lott. 2000. 'Introduction'. In *The Idea of Race*, edited by Bernasconi and Lott, vi–xviii. Indianapolis/Cambridge: Hackett.
- Blum, Laurence. 2002. *I'm Not a Racist But . . . The Moral Quandary of Race*. Ithaca and London: Cornell University Press.
- Buffon, Georges-Louis Leclerc, Comte de. 1749. 'Initial Discourse: On the Manner of Studying and Expounding Natural History', trans. John Lyon. In *From Natural History to History of Nature: Readings from Buffon and his Critics*, edited by Lyon and Phillip Sloan. Notre Dame and London: University of Notre Dame Press, 1981.
- Cassirer, Ernst. 1950. *The Problem of Knowledge: Philosophy, Science and History Since Hegel*, trans. William H. Woglom and Charles W. Hendel. New Haven and London: Yale University Press.
- Eze, Emmanuel Chukwudi. 1997a. 'Introduction'. In *Race and the Enlightenment: A Reader*, edited by Eze. Cambridge MA and Oxford: Blackwell.
- Eze, Emmanuel Chukwudi. 1997b. 'The Colour of Reason: The Idea of "Race" in Kant's Anthropology'. In *Postcolonial African Philosophy: A Critical Reader*, edited by Eze. Cambridge MA and Oxford: Blackwell.

- Fisher, Mark. 2007. 'Kant's Explanatory Natural History: Generation and Classification of Organisms in Kant's Natural Philosophy'. In *Understanding Purpose: Kant and the Philosophy of Biology*, edited by Philippe Huneman. Rochester, NY: University of Rochester Press.
- Forster, Georg. 1786. 'Something More about the Human Races', trans. Mikkelsen. In *Kant and the Concept of Race: Late Eighteenth-Century Writings*, edited by Mikkelsen. Albany: SUNY Press, 2013.
- Girtanner, Christoph. 1796. 'Concerning the Kantian Principle in Natural History'. In *Kant and the Concept of Race: Late Eighteenth-Century Writings*, edited by Mikkelsen. Albany: SUNY Press, 2013.
- Hill Jr., Thomas E. and Bernard Boxill. 2001. 'Kant and Race'. In *Race and Racism*, edited by Bernard Boxill. Oxford: Oxford University Press.
- Huneman, Philippe. 2007a. 'Introduction: Kant and Biology? A Quick Survey'. In *Understanding Purpose: Kant and the Philosophy of Biology*, edited by Huneman. Rochester, NY: University of Rochester Press.
- Huneman, Philippe. 2007b. 'Reflexive Judgement and Wolffian Embryology: Kant's Shift Between the First and Third Critiques'. In *Understanding Purpose: Kant and the Philosophy of Biology*, edited by Huneman. Rochester, NY: University of Rochester Press.
- Kant, Immanuel. 1755. *Universal Natural History and Theory of the Heavens*, trans. Olaf Reinhardt. In *Kant, Natural Science* edited by Eric Watkins. Cambridge: Cambridge University Press, 2012.
- Kant, Immanuel. 1777. 'Of the Different Races of Human Beings', trans. Holly Wilson and Günter Zöller. In *Kant: Anthropology, History, and Education*, edited by Günter Zöller and Robert B. Louden. Cambridge: Cambridge University Press, 2007.
- Kant, Immanuel. 1781/1787. *Critique of Pure Reason*, trans. Paul Guyer and Allen W. Wood. Cambridge: Cambridge University Press, 1998. [abbreviated as *CPR* in text]
- Kant, Immanuel. 1785a. 'Determination of the Concept of a Human Race', trans. Holly Wilson and Günter Zöller. In *Kant: Anthropology, History, and Education*, edited by Louden and Zöller. Cambridge: Cambridge University Press, 2007.
- Kant, Immanuel. 1785b. 'Review of J.G. Herder's *Ideas for the Philosophy of the History of Humanity*, Parts 1 and 2', trans. Allen W. Wood. In *Kant: Anthropology, History, and Education*, edited by Robert B. Louden and Günter Zöller. Cambridge: Cambridge University Press, 2007.
- Kant, Immanuel. 1788. 'On the Use of Teleological Principles in Philosophy', trans. Günter Zöller. In *Kant: Anthropology, History, and Education*, edited by Robert B. Louden and Günter Zöller. Cambridge: Cambridge University Press, 2007.
- Kant, Immanuel. 1788–1789. *Lectures on Anthropology*. Edited by Allen W. Wood and Robert B. Louden. Cambridge: Cambridge University Press, 2012.
- Kant, Immanuel. 1790. *Critique of the Power of Judgment*, trans. Paul Guyer and Eric Matthews. Cambridge: Cambridge University Press, 2000. [abbreviated as *CPJ* in text]
- Kant, Immanuel. 1800. *Logic*, trans. Robert S. Hartman and Wolfgang Schwarz. New York: Dover, 1974.
- Kant, Immanuel. 1802. *Physical Geography*, trans. Olaf Reinhardt. In *Kant: Natural Science*, edited by Eric Watkins. Cambridge: Cambridge University Press, 2012.
- Lagier, Raphaël. 2004. *Les race humaines selon Kant*. Paris: Presses Universitaires de France.

- Linnaeus, Carolus. 1735. *Systema Naturae*. Facsimilie of the First Edition. Nieuwkoop: B.de Graff, 1964.
- Mensch, Jennifer. 2013. *Kant's Organicism: Epigenesis and the Development of Critical Philosophy*. Chicago and London: University of Chicago Press.
- Mikkelsen, Jon M. 2013. 'Introduction'. In *Kant and the Concept of Race: Late Eighteenth-Century Writings*, edited by Mikkelsen. Albany: SUNY Press.
- Mills, Charles. 2005. 'Kant's Untermenschen'. In *Race and Racism in Modern Philosophy*, edited by Andrew Valls. Ithaca and London: Cornell University Press.
- Morrison, Margaret. 2008. 'Reduction, Unity and the Nature of Science: Kant's Legacy?' In *Kant and Philosophy of Science Today*, edited by Michela Massimi. Cambridge: Cambridge University Press.
- Quarfood, Marcel. 2004. *Transcendental Idealism and the Organism: Essays on Kant*. Stockholm: Almqvist & Wiksell International.
- Sandford, Stella. 2018. 'Race and Sex in Western Philosophy: Another Answer to the Question "What Does it Mean to Orient Oneself in Thinking?"'. *Critical Philosophy of Race* 6, 2.
- Serequeberhan, Tsenay. 1996. 'Eurocentrism in Philosophy: The Case of Immanuel Kant'. *The Philosophical Forum* XXVII, Summer: 333–56.
- Sloan, Phillip R. 1979. 'Buffon, German Biology, and the Historical Interpretation of Species'. *The British Journal for the History of Science*, 12, 41: 109–54.
- Sloan, Phillip R. 2002. 'Preforming the Categories: Eighteenth-Century Generation Theory and the Biological Roots of Kant's A Priori'. *Journal of the History of Philosophy* 40, 2: 229–53.
- Sloan, Phillip R. 2006. 'Kant on the History of Nature: The Ambiguous Heritage of the Critical Philosophy for Natural History'. *Studies in History and Philosophy of Biology and Biological Sciences* 37: 627–48.
- Sloan, Phillip R. 2014. 'The Essence of Race: Kant and Late Enlightenment Reflections' [Essay Review of Mikkelsen 2013]. *Studies in History and Philosophy of Biological and Biomedical Sciences* 47: 191–5.
- Smith, Justin E.H. 2015. *Nature, Human Nature, & Human Difference: Race in Early Modern Philosophy*. Princeton and Oxford: Princeton University Press.
- Watkins, Eric. 2012. 'Introduction' to Kant, *Physical Geography*, trans. Olaf Reinhardt. In *Kant, Natural Science*, edited by Eric Watkins. Cambridge: Cambridge University Press.
- Zammito, John H. 1992. *The Genesis of Kant's Critique of Judgment*. Chicago and London: University of Chicago Press.
- Zuckert, Rachel. 2007. *Kant on Beauty and Biology: An Interpretation of the Critique of Judgement*. Cambridge: Cambridge University Press.