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Revisiting Enlightenment racial classification: time and the question of human diversity

Devin Vartija

Department of History and Art History, Utrecht University, Utrecht, Netherlands

ABSTRACT

The Enlightenment is commonly held accountable for the rise of both racial classification and modern scientific racism. Yet this argument sits uneasily alongside the birth of a modern rights language and strong anticolonial perspectives within the same intellectual movement. This article seeks to make sense of this paradox by arguing that one of the contexts in which we can best understand eighteenth-century race concepts is humanity's place in a transformed history of nature that brought together novel understandings of deep time and a materialist view of reproduction. Analysing the thought of Georges-Louis Leclerc, Comte de Buffon and Denis Diderot, the article demonstrates that the waning of both the authority of biblical genealogies and ancient environmentalist explanations of human physical diversity left a lacuna in the eighteenth-century human sciences. Buffon and Diderot's "races" of humanity are not fixed entities, but rather exist in the flux of time. New understandings of heredity and reproduction combined with a time revolution led these Enlightenment thinkers to reconceive humanity's place in the natural world. The article suggests that while "race" is a biologically incoherent concept, two elements of these Enlightenment thinkers' anthropology – a materialist understanding of reproduction and humanity's place in deep time – remain central to how we understand human diversity.

KEYWORDS

race; Enlightenment; deep time; reproduction; materialism

In his seminal essay "The Philosophical Basis of Eighteenth-Century Racism", Richard Popkin argued that, when one looks more closely at some of the Enlightenment's most important thinkers, one is confronted with a paradox: from the heart of the venerable Enlightenment humanist tradition sprung the not-so-enlightened theories of the inferiority of non-Europeans.¹ This relationship between the Enlightenment and racial classification has been examined from numerous angles in the last three to four decades, usually to the detriment of the prestige of modernity's foundational intellectual movement. Scholars have argued that the roots of race and racism can be found in antiquity,² the Middle Ages,³ the early modern period,⁴ or only in the modern era.⁵ While each camp in this debate has added important elements to the overall picture, it still seems, however,

CONTACT Devin Vartija  D.J.Vartija@uu.nl

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that it was during the period of early modern European overseas expansion that a number of inchoate ideas crystallised to form the modern concept of race.⁶

In this article, I revisit racial classification and the Enlightenment to shed additional light on Popkin's paradox by proposing the following: the physical diversity of humanity was a real intellectual problem to which several Enlightenment *philosophes* responded, and racial classification as part of a natural history of the human species was one of their answers. I advance two separate but related arguments. Firstly, while eighteenth-century racial classification was coloured by Eurocentrism, it also served to place the human species firmly within the natural world and can be meaningfully situated within new understandings of natural history. Secondly, understanding racial classification in this context helps us to make sense of the tensions within Enlightenment thought between the building of new, supposedly "natural" hierarchies and the set of egalitarian values that many *philosophes* championed.⁷

Some *philosophes* argued that any explanation of the physical diversity of humanity should be sought in a theory that positions humanity within nature as a species that possesses a deep history, susceptible to the effects of the natural environment.⁸ Numerous historians have argued that the origin of racial theory was inextricably tied to economic exploitation and racist social practices.⁹ We cannot, however, reduce the complexities of "race thinking" to a history of exploitative social practices. I argue that we can *analytically* separate hierarchy, genealogy, and classification, even if these were intimately intertwined in practice. This separation gives us the conceptual clarity needed to make sense of why such Enlightenment thinkers as Denis Diderot could contribute to racial classification at the same time that he fervently opposed slavery and even colonialism.

My aim is not to exculpate the *philosophes* from the charge of prejudice or racism, something to be found in many canonical Enlightenment texts, but rather to better explain what would otherwise be a confounding historical phenomenon: the fact that some of the most radical Enlightenment critics of European colonialism and arrogance also contributed to the modern racial classificatory system. While Eurocentrism certainly colours their natural history of humankind, they used the concept of race to argue that the environment and inheritance act together to produce distinct varieties within the human species. It served to place humanity in nature's purview, as a species with a deep history extending across unimaginably vast stretches of time, beyond the confines dictated by Genesis. In other words, I think it is important to separate race from racism. Some historians claim that race has always been accompanied by racism.¹⁰ However, while prejudicial claims often accompanied racial classificatory schemes, the former does not logically or inevitably follow from the latter.¹¹ It is at least theoretically possible to group humanity into a finite number of categories based on physical features without positing any fundamental inequalities between them.¹²

In the first section of this article, I briefly sketch the historiography of early modern racial classification and its place in Enlightenment thought. I then analyse the implications of the inclusion of humanity within natural histories from the mid-eighteenth century onwards, focusing in particular on the works of Georges-Louis Leclerc de Buffon and Diderot. I argue that the search for naturalistic explanations of human physical diversity, connected to a "time revolution", is one context within which we can understand the invention of racial classification in the Enlightenment. Given the proliferation of distinct Enlightenments – whether national, religious, or various philosophical ones – in recent

years, it should be noted that I am examining a specific strand of the Enlightenment that is not representative of the movement as a whole.¹³ Although Buffon and Diderot fit into what has been called the “Radical Enlightenment” as both were materialist thinkers of a sort, I do not agree that there was a “package of ideas” associated with philosophical monism.¹⁴ Both equality and inequality went into the making of these thinkers’ anthropology and this essay aims to show that, contrary to detractors and defenders of a certain version of the Enlightenment, the *philosophes*’ reflections on human diversity cannot be reduced to either a racist European supremacy or a straightforward egalitarianism.

The discovery of time and its relationship to race in the Enlightenment has been tackled in two important recent studies. Silvia Sebastiani has demonstrated that the concept of race in the Scottish Enlightenment was engendered by novel eighteenth-century conjectural histories which described human progress in stages, most often from a monogenist perspective.¹⁵ The idea of the progress of humanity as described in stadial histories made the perceived “stagnation” of some peoples a problem, and she argues that the concept of “race” served to explain the divergent developmental paths of various peoples by attributing them to physical and moral causes that, depending on the thinker, could be either a “hard” or “soft” conceptualisation of racial differences. My argument differs from Sebastiani’s in that she focuses on conjectural history and theories of progress while I concentrate on the introduction of time into debates within Enlightenment life science, particularly theories of inheritance and the effect of climate on species’ form.

Claude-Olivier Doron has also argued for the importance of separating the practice and phenomenon of racism from the concept of race, as well as for the centrality of genealogy to the modern race concept.¹⁶ He maintains that Buffon’s use of the concept of race “pertained to a genealogical style of reasoning which was largely extraneous to natural history before the middle of the eighteenth century”.¹⁷ He contrasts this genealogical style of reasoning with the logical/classificatory style that dominated most natural histories up to and including Carl Linnaeus’ seminal work. Doron’s focus on the novelty of the genealogical style of reasoning in natural history from mid-century onwards is immensely important for how we should understand race in the Enlightenment.¹⁸ I aim to extend some of Doron’s insights by highlighting how this new genealogical style of reasoning in natural history was connected to the broader time revolution of the eighteenth century and to a revived materialist view of nature and humanity. I conclude by arguing that, while race is a biologically meaningless category, we still share something crucial with Enlightenment thinkers: any explanation of human physical diversity must be a naturalistic one. In this regard, as with our commitment to egalitarian political values, we must position ourselves *within* the legacy of the Enlightenment.

The contours of racial classification and the Enlightenment

The issues of race and racism have energised the attack on the Enlightenment, as some postmodern thinkers identify racial classification with the Enlightenment, and both with European domination. For example, Eric Kramer and his collaborators present a caricature of the Enlightenment that all too simply foregrounds their “deconstructionist” revolt against the intellectual movement and the modern concept of race. Kramer and Richiko Ikeda remark: “The Enlightenment scientists rationalized that ‘subhumans’

were genetically inferior, and behaviourally irrational (of course, according to the criteria they devised). They created intelligence/power in their own image. How convenient”¹⁹ This ignores the richness of the anthropological vindication of cultural pluralism and the intellectual potential of non-Europeans championed by numerous *philosophes* and their at times severe indictment of European culture and imperialism.²⁰ It also ignores new ways of thinking about “race” that arose among non-Europeans.²¹

James Schmidt has perceptively responded to much of this literature, demonstrating that attacks on the Enlightenment often fail to engage with the thought of any particular *philosophe* or, if they do bother to actually analyse the work of an eighteenth-century thinker in any depth, it is often that of Immanuel Kant, leading to the situation in which “the identity of the Enlightenment has been the creature of its critics”.²² The perspective captured by Kramer and Ikeda’s chapter is emblematic of the first of the three strands into which Antoine Lilti has classified the postmodern or postcolonial critique of the Enlightenment: the most simple attack which asserts that the Enlightenment is fundamentally compromised by its association with European colonialism, that Enlightenment universalism is a sham because “the rights of man” are really “the rights of white men”.²³ As Lilti demonstrates, one can readily expose this strand’s inadequacy given the prominence of a genuinely universalist, culturally relativist thread to be found in Enlightenment thought. When it comes to race, Lilti emphasises that most Enlightenment thinkers conceived of human physical differences as malleable, as many thinkers stressed the role of different histories and climates in producing human varieties that are anything but fixed.²⁴

Even scholars critical of a straw man construction of the intellectual movement struggle with how to assess the Enlightenment given its conflicting legacies regarding race. Emmanuel Chukwudi Eze’s ruminations on the title of his collection of Enlightenment texts concerning race are revealing. The initial title had been “Racist Enlightenment” but, after discussion with colleagues, he settled on “Race and the Enlightenment” because some of the texts contain “neutral disquisitions on race” and some “outrightly anti-racist” reflections as well.²⁵ Similar tensions can be found in Charles Mills’ powerful book on the often-hidden workings of racism in the Western contractual tradition, in which the Enlightenment plays a double role.²⁶ Mills at first holds the Enlightenment accountable for translating the Christian/infidel dichotomy into racial terms that justified the inhumane treatment of non-whites.²⁷ He argues that the “Racial Contract” allowed Europeans to reconcile the contradiction between the universalist humanitarian Enlightenment values of equality of rights, liberty, and autonomy with their violation of these very principles as they expanded the transatlantic slave trade and deepened the colonial project.²⁸

Given the association Mills draws between the Enlightenment and racism, it is perhaps surprising that he concludes his book by arguing that the way forward toward racial justice “is really in the spirit of a racially informed *Ideologiekritik* and thus pro-Enlightenment (Jurgen Habermas’s radical and to-be-completed Enlightenment, that is—though Habermas’s Eurocentric, deraced, and deimperialized vision of modernity itself stands in need of critique) and antipostmodernist [contract]”, because postmodernism is “an epistemological and theoretical dead end”.²⁹ I agree that it is *within* the Enlightenment tradition that we can find the intellectual tools to attack racism, but I would like to complicate his assessment of the Enlightenment and the origins of race thinking.³⁰ The most common justifications for slavery in the early modern period – when the institution was justified at

all – were religious, legalistic, or economic rather than racial or naturalistic.³¹ Additionally, rather than race being used to reconcile European hypocrisy with the rise of Enlightenment values, the rise of those values itself can partially be explained as a reaction against the extremities of slavery and other inhumane practices.³² As Seymour Drescher has argued, the sheer inhumanity of the growing slave system may have helped to “sharpen the meaning of human rights”.³³ Mills is, of course, correct to remark that race would be used to reconcile the contradiction between equality and enduring injustices, but this only crystallised in the wake of the Atlantic revolutions at the century’s end.³⁴

Modern racial classification depends upon conceiving of human beings as part of the natural world, as a species that can and should be classified alongside all other living organisms. While this has been observed long ago,³⁵ scholars engaged with the cultural analysis of race have only recently started to appreciate the significance of this insight. Jean Feerick, in her astute analysis of the idea of race in Renaissance England, argues that the early modern idea of race followed a different social logic than the modern one, namely in its ambiguous relationship to skin colour. The crux of her analysis is that the modern idea of race depends “on defining the realms of nature and culture in opposition to one another, construing racial features as inalterable ascriptions of nature”.³⁶ She focuses on Richard Ligon’s *True and Exact History of the Island of Barbados* (1657) and Henry Neville’s *The Isle of Pines* (1668) to pinpoint a moment of transition in the course of the seventeenth century. Whereas Ligon had conceived of natural and social distinctions in terms of *degree*, modern conceptions of race depend on an understanding of differences in *kind* between human beings, which comes to the fore in nascent form in Neville’s work.³⁷

Eighteenth-century thinkers further developed the distinction between the cultural and the natural, as Johann Friedrich Blumenbach pointed out that it was only in the eighteenth century that Europeans realised “that man is also a natural product, and consequently ought at least as much as any other to be handled from the point of natural history according to the difference of race, bodily and national peculiarities, etc.”.³⁸ Justin Smith points out that modern racial classification can be understood as an “overextension” of biological classification more generally.³⁹ He traces the decline in Christian and Cartesian conceptions of mind/body dualism across the early modern period and the rise of the study of human beings as natural entities that made racial thinking possible. These scholars’ insights can be extended to thinking about the Enlightenment as an intellectual movement to make sense of the tension between an increasingly politicised notion of natural equality and a Eurocentric racial classification.

In what is arguably the earliest racial classificatory scheme, François Bernier posits a division of humanity into four groups based primarily on physical features in his 1684 essay “*Nouvelle division de la terre*”, published in the *Journal des Sçavans*.⁴⁰ Siep Stuurman argues that Bernier’s text was an “intellectual experiment” reflective of and contributing to the transition from sacred history to natural history, for his treatment of humankind is formulated entirely outside the biblical framework.⁴¹ The Judeo-Christian story of humanity’s origins lost its explanatory power just as the Renaissance tendency of dividing humanity into innumerable nations or tribes based on language or religion became intractable. Bernier’s essay fits into two intellectual trends of the period: the empirical turn of Gassendist philosophy and the increasing interest in taxonomy that characterised

intellectual inquiry from Francis Bacon onwards. While it has been disputed whether Bernier's work should be considered innovative or even taxonomic,⁴² it seems undeniable that Bernier's theory resonated with the new taxonomies of his contemporary botanists and anatomists, namely John Ray, Joseph de Tournefort, and Edward Tyson.⁴³

Buffon, the *Encyclopédie*, and the transformation of the "Race" concept

In the wake of the discovery of the New World and the Scientific Revolution, the eighteenth century was a turning point in reflections on human diversity. In addition to the elements we have already traced, anatomical investigations into the higher primates formed an important background to interest in human diversity and the relationship between humanity and the rest of the animal kingdom.⁴⁴ Buffon and Diderot were among the most prominent Enlightenment thinkers to engage in this debate at mid-century, and their contributions reveal how reflections on human diversity intersected with broader religious and philosophical issues concerning the nature of matter and life.⁴⁵ The tenor of their contributions to the development of modern racial classification is a particularly vexed issue. Both thinkers are variously ushered in as quintessential defenders of the universalist Enlightenment values of equality and freedom or as representative of the intellectual movement's consolidation of a Eurocentric racial classificatory system. Thierry Hoquet, Pierre Rosanvallon, and Jacques Roger all emphasise Buffon's defence of the unity of the human species, the power of climate and culture to shape character, and the egalitarian implications of his physical anthropology.⁴⁶ For Michèle Duchet, Tzvetan Todorov, and Louis Salin-Molins, Buffon is indictable for a blatant and apologetic Eurocentrism or even racism.⁴⁷ The crux of the matter is that both positions are defensible and valid.⁴⁸ What I think is important to appreciate is that underneath the Eurocentric conception of racial difference lies a new understanding of humanity's place in nature. This does not excuse Buffon from the charge of Eurocentrism but can help to delineate the distinct strands of Enlightenment thought – European "civilizational superiority" and humanity's place in a reconfigured history of nature – that are often confounded by various commentators.

While theories of the influence of the natural environment on living species in general and on human beings in particular have roots deep in antiquity, Buffon was at the centre of a transformation in the understanding of nature during the eighteenth century, in what Phillip Sloan has called the "Buffonian revolution".⁴⁹ Buffon revived Descartes' interest in the deep history of the cosmos and the earth and, thanks in part to his work, "re-established [at mid-century] was the concept of nature as a substantive, causal agency".⁵⁰ This revolution in the understanding of nature had profound implications for his generation's understanding of humanity. Most importantly, he argued that physical differences between human groups must be explained primarily by the force of the natural environment acting on bodies to instigate changes that could become hereditary.⁵¹ A role was also reserved for culture, and here Buffon's prejudices come to the fore, as he postulated that a non-European climate and a nomadic lifestyle have a negative impact on a people's physical features. According to Buffon, humanity's original and most beautiful colour is white and all non-white peoples have degenerated from this primeval homogeneity.⁵² He nonetheless held to a materialist defence of monogenism, asserting the unity of humanity based on the production of fertile offspring across "racial" lines.

Buffon's inclusion of the concept of "race" within his natural history was in fact quite novel. The term "race" has obscure origins, likely entering French and English by the fifteenth century from the Italian *razza*, referring to a common stock or lineage most often used to refer to animal breeds and later to the nobility.⁵³ The first edition of the dictionary of the *Académie française*, published in 1694, defines race as "line of descent, lineage, extraction, all that comes from the same family" and offers this example: "He is from a good race, from an illustrious, ancient race".⁵⁴ No eighteenth-century dictionary or encyclopaedia caught up with its novel usage among naturalists to refer to larger groups that supposedly share both a common origin and similar phenotype. To add to the confusion, numerous eighteenth-century authors used the word "race" interchangeably with such diverse concepts as "people", "nation", "variety", and "species". Nicholas Hudson writes that Buffon elevated the term "to a new, eminent status in scientific nomenclature" and correctly points out that his use of the term stressed the transience of various racial features and confirmed the fundamental unity of the human species.⁵⁵ Buffon used the concept of race to refer to peoples that share the same phenotype and a common origin, as when he explains the relationship between the Tartars, Chinese, and Russians:

This Tartar blood is mixed on one side with the Chinese and on the other with the eastern Russians. This mix did not make the traits of that race completely disappear, as there are many Tartar faces among the Russians.⁵⁶

The slipperiness of Buffon's use of the term "race" becomes clear when he writes that it is necessary to divide black people into two different "races", the "Nègres" and the "Cafres", and subsequently refers to "these two *species* [*espèces*] of black men".⁵⁷ In general, it is a combination of physical and cultural resemblance attached to ideas of patterns of inheritance that lies at the basis of Buffon's concept of race.

This style of reasoning contrasted not only with Buffon's main rival, Linnaeus, but also with the ancient tradition of linking black people to Noah's cursed son Ham.⁵⁸ As Jacques Roger has noted, Buffon's main concern in the controversial chapter "*Variétés dans l'espèce humaine*" was first and foremost to *explain*, rather than simply describe, humanity's physical diversity.⁵⁹ For Roger, Buffon's accomplishment was to have written a truly historical account of nature in which the environment has acted upon humanity over long stretches of time:

Buffon did not yet possess the modern concept of 'populations,' but he was at least rid of the old logical categories of classification and creationism that they assumed, which underlay all naturalist thought at the beginning of the eighteenth century.⁶⁰

Buffon refused the fixity of any of the "races" he described and his survey of human physical diversity served, first and foremost, to place the human species within the ambit of a natural historical development.⁶¹ Claude-Olivier Doron's distinction between "alterity" from "alteration" in his history of race from the seventeenth to nineteenth centuries nicely captures the importance of a genealogy of difference that is central to Buffon's intellectual project, as Doron points out that Buffon's concept of race entailed the transmission and accumulation of qualitative differences across time.⁶² Buffon's famous concluding remarks to the chapter "*Variétés dans l'espèce humaine*" are worth reiterating:

Everything thus contributes to proving that humankind is not composed of essentially different species; on the contrary, there was originally only one species of men, which,

having multiplied and spread itself over the entire surface of the earth, underwent various changes resulting from the influence of climate, of differences in food, of lifestyle, of epidemic diseases, and also from the infinitely varied mixture of more or less similar individuals.⁶³

Buffon and Pierre Louis Maupertuis were instrumental in criticising their day's dominant theories of reproduction: the pre-existence of germs.⁶⁴ This break with pre-existence was necessary for the rise of naturalistic explanations of physical variation and partially explains why Enlightenment thinkers contributed to modern racial classification.⁶⁵ Diderot's *Encyclopédie* conspicuously captures this point. In the article "Nègre" (*Histoire naturelle*), the Huguenot philosopher Johann Heinrich Samuel Formey advanced pre-existence, postulating that a (white) Eve contained all of the eggs of all future human beings, and that providence would have intervened at a certain moment to initiate the creation of more darkly-pigmented peoples.⁶⁶ Regardless of whether or not they were atheists, it is precisely this appeal to providence that many *philosophes*, such as Buffon, Diderot, and Maupertuis, found unacceptable; God cannot play an active role in scientific questions.⁶⁷ Not all those thinkers who rejected pre-existence theories were materialist-atheist thinkers, but numerous defenders of pre-existence were acutely aware of and worried by the dangers of following epigenesis to its logical conclusion. Namely, the theory implied that matter contains vital forces and that living forms have undergone changes across time, thus undermining belief in an eternal and static creation by an all-powerful deity.⁶⁸

Buffon is well-known for introducing a temporal dimension into the concept of species, a move already made in the late seventeenth and early eighteenth century by John Ray and René Réaumur but elaborated and popularised by Buffon.⁶⁹ In the first volume of his masterpiece, published in 1749, Buffon famously asserted that "only individuals really exist in nature [...] genera, families, and classes only exist in our imagination".⁷⁰ By 1753, however, when the fourth volume of his *Histoire naturelle* was published, he had developed a concept of species that he would later modify but never completely abandon. While he always maintained that classificatory schemes serve a human cognitive function rather than reflecting "really" existing divisions of nature, he held that the species, rather than the order or the genera, best reflected nature's plan.⁷¹ He argued that a species is "the constant succession and uninterrupted renewal of the individuals that constitute it".⁷²

The temporal dimension is thus constitutive of his conceptualisation of a species and this definition was copied verbatim in the *Encyclopédie* article "*Espèce*".⁷³ Buffon conceptualised each species as the offspring of a *moule intérieur* which could change significantly across time due to natural forces acting on individuals.⁷⁴ He maintained that deviations away from the original *moule intérieur* resulting from climate, food, or lifestyle are undesirable, as he often described such change as degeneration. Contrary to what some scholars have claimed, he was not a transformist, because he did not argue that there ever was or could be degeneration (or development) from one species to another. What he would later term the "*premier souche*" of a species he believed to be often still extant and recognisable. Although Buffon's views of species and their history differed from those of Diderot, as we shall see, his materialist understanding of nature opened up the space for conjecturing that the environment has acted upon species, including the human species, to introduce changes that could become hereditary.

While Buffon's division of humanity into "races" or "varieties" was clearly stained by self-congratulatory Eurocentric judgments, it was also an extension of methods and

principles from natural history to the human species in order to advance an understanding of humanity's origins and explain its characteristics. This strand of his thought was part of the Enlightenment's engagement with humanity on a new explanatory axis that superseded a parochial religious framework. While Thierry Hoquet is certainly correct to remove Buffon from the teleological story that has often been told of the development of natural history from the Enlightenment to Darwin, he is not entirely convincing when he writes that "history (at least in the eighteenth-century meaning of the term) did not require time, nor did time imply history".⁷⁵ The discovery of time was an important element of Buffon's natural history from the project's inception and only became more prominent as his thinking matured.⁷⁶ Diderot, Buffon, Claude Adrien Helvétius, and Baron d'Holbach were all profoundly influenced by the transformism of Benoît de Maillet's *Telliamed* and Nicolas-Antoine Boulanger's privately circulated manuscript *Anecdotes de la nature*, both of whom firmly rejected the approximately 6,000 years allowed by strict biblical chronologies.⁷⁷

By the fourteenth volume of Buffon's *Histoire naturelle*, published in 1766, we find the section "Of the Degeneration of Animals", charting how climate, food, and lifestyle have acted across time to change living forms, including human beings. He writes of how these elements have acted upon the human species to produce distinct varieties which are not permanent, but nonetheless require long periods of time to change. He maintains that white is the original colour of humankind and speculates that it would take between 5,000 and 20,000 years for sub-Saharan Africans living in northern Europe to become white without any genetic mixing with the indigenous population.⁷⁸ In his initial reflections on the natural history of humanity, published in the third volume in 1749, Buffon had speculated that it would take between eight and twelve generations for "some negroes" to become "much less black than their ancestors" in northern climates.⁷⁹ The young Buffon thus imagined that it would take a maximum of 400 years for significant changes in pigmentation to occur, thus indicating that his sense of the depth of time in natural history changed significantly throughout his career.

The alterations that can occur within each species are circumscribed by the *moule intérieur*, but Buffon argued that these changes became hereditary, stating that "the blood is different [between the various 'races'] but the germ is the same", again reinforcing monogenism.⁸⁰ He concludes this section on the degeneration of animals by remarking that we must use the evidence that we have available to make inductions about "the first ages of nature" in order to understand the "epochs" which time has erased.⁸¹ This points to his last great work, *Les époques de la nature*, in the seventh epoch of which he describes the history of humankind in its progression from a rude state of nature to a refined civil society. While Buffon always maintained that humankind is unique among species because of our reason and intelligence, he also maintained that humanity's physical form has been just as susceptible to the pressures of the environment as other species across geological time.⁸²

Nature, time, and humanity in Diderot's thought

Diderot adopted Buffon's conception of nature as a dynamic whole driven by immanent forces and, unlike Buffon, even conceived of the mind as a material substance. Significantly, his materialism did not lead in any straightforward way to racial determinism.

He was fascinated by the connection between exterior form and intelligence at the individual and group levels. As Ann Thomson has shown, there was a loose yet significant connection between a materialist understanding of nature and racist anthropology, particularly in the nineteenth century, and Diderot was in some ways a precursor to these developments. Yet, Diderot followed Buffon in refusing the fixity of anything in nature, including differences between human beings, and his oeuvre shows a shift from emphasis on physiological difference to the impact of culture on human behaviour and the historical contingencies of societal development.⁸³

But what function did racial classification play in Diderot's thought? Crucially, the concept of race was not used to explain or justify perceived inequalities between peoples. While Eurocentrism certainly colours his natural history of humankind, race thinking – the idea that the environment and inheritance act together to produce distinct varieties within the human species – serves to firmly place humanity in a materialist view of nature situated in deep time. Diderot's atheist materialism developed at least partially as a result of the influence of his friendship with Buffon and his engagement with issues central to the life sciences.⁸⁴ Buffon wrote that “the living and the animate, instead of being a metaphysical degree of beings, is a physical property of matter”, a sentence copied by Diderot in his emendations to the article “Animal” for the *Encyclopédie*.⁸⁵

Diderot extended his materialist conception of life further than Buffon. By 1753, he broke away from Buffon's concept of a *moule intérieure*, imagining species growing, developing, mutating, and going extinct across geological time in his *Pensées sur l'interprétation de la nature*:

Just as in the animal and plant kingdoms, an individual begins, so to speak, to grow, to endure, to wither and pass away, would it not be the same for entire species? [...] the philosopher, left to his speculations, can he not conjecture that [...] the embryo, formed from these [material] elements, has passed through an enormous number of organizations and developments?⁸⁶

What is perhaps most important about the concept of race in Diderot's thought is that it is part of a new understanding of humankind's history and place in nature. Diderot rejected the pre-existence of germs theory that was actively being defended at mid-century by prominent naturalists such as Charles Bonnet and Albrecht von Haller and instead combined the vitalism of Montpellier physician Théophile de Bordeu, Buffon's theory of organic molecules and Maupertuis' epigenesis into a novel, materialist thesis of reproduction.⁸⁷

Diderot expanded Buffon's theory of organic change, holding that the great diversity of living forms that we now see has likely resulted from a process of transformism across unimaginably long stretches of time.⁸⁸ Diderot further developed his transformist ideas in two key works, *Le rêve de d'Alembert* (composed in 1769) and *Éléments de physiologie* (composed between 1769 and his death in 1784), both left unpublished during his lifetime.⁸⁹ Joanna Stalnaker has emphasised that Diderot's last work, *Éléments de physiologie*, should be seen as a comprehensive natural history of humanity rooted in physiology, psychology, and philosophy.⁹⁰ He expresses his transformist ideas most explicitly in this work and connects them to the time revolution that he helped usher in:

One must not believe that animals have always been or will always remain as we now see them. It is the effect of an eternal period of time, after which their colour and their form seem to maintain a steady state, but this state is only illusory. The general order of nature

changes incessantly. In the midst of this vicissitude, can the duration of a species remain the same? No.⁹¹

The Christian framework for understanding the natural world and humanity's place within it broke down for those thinkers who attempted to explain the bewildering physical diversity of living forms, including human beings, not to mention the cultural diversity that the burgeoning travel literature had opened up for European thinkers, the two main factors behind the rise of the "human sciences".⁹² As Diderot dryly remarked, "Religion spares us many deviations and much labour".⁹³ While he did not explicitly discuss human physical varieties in the *Pensées* or in the *Éléments*, the implications for how we understand humanity were made clear: there is no distinction between living and brute matter and even morality is explained in terms of humanity's physiology and natural history.⁹⁴ Given that racial classification was part of a newly developing understanding of humanity's place in nature that challenged older traditions which had proven inadequate or inaccurate, it would be too simplistic to say that racial classification was *only* about power and social control. In other words, the Enlightenment *philosophes* had their own intellectual tutelage to overcome and were posing new questions, the answers to which they knew would not be definitive.⁹⁵

Nonetheless, no matter how noble the Enlightenment *philosophes'* goals may have been, they positioned themselves as "the classifiers", the individuals with the scientific gaze that had the power to create classificatory systems. Their underlying prejudices are immediately clear to the critical present-day reader. Londa Schiebinger's insightful work on gender in the making of modern science has demonstrated that European male thinkers were generally concerned with investigating the anatomy of the "dominant" sex of "inferior" races, namely black men, and the "inferior" sex of the "dominant" race, namely white women. Men were taken to be the universal racial subject.⁹⁶ When women were mentioned, they were often discussed as "*leur femmes* [their women]", thus painting a picture of women as objects that serve political functions or as objects of desire, as their beauty or lack thereof was frequently mentioned.⁹⁷

And yet, the tension in Enlightenment thought between such patriarchal, Eurocentric prejudices and the criticism of those prejudices based on the nascent concept of human rights comes to the fore when we look at Diderot's contributions to the *Histoire des deux Indes*. The palpability of the outrage he expresses towards the injustices Europeans have inflicted upon non-Europeans is one of the most remarkable aspects of his contributions. In his discussion of the inalienability of natural liberty, Diderot addresses European slave owners and traders from the slave's perspective: "If you think that because you are stronger and more clever than me you have authority to oppress me, do not complain if my swift arm tears open your chest to find your heart".⁹⁸ He perceptively sees that the enslavement of fellow human beings requires the obstruction of empathy that underlies moral obligations:

The insatiable thirst for gold has given birth to the most infamous and atrocious of all trades, that of slaves [...] The majority of European nations are soiled by it, and a vile self-interest has stifled in human hearts all the feelings we owe to our fellow men.⁹⁹

It is clear that the affront to human rights that slavery presents, the violation of natural equality and liberty, is at the root of Diderot's fervent anger.¹⁰⁰ Of equal importance is the rigorousness of Diderot's cultural relativism, particularly in his *Supplément au Voyage de Bougainville*.¹⁰¹ For Diderot, other ways of life are potentially as reasonable

as European ways, and one should not be quick to judge the customs of another peoples based on one's own often-parochial vision, as when he remarks in the *Supplément*: "You can't condemn the ways of Europe in the light of those of Tahiti, nor consequently the ways of Tahiti in the light of those of your country".¹⁰² In the *Histoire des deux-Indes*, Diderot was also the author of a famous passage in which he calls for a modern-day black Spartacus to overthrow slavery.¹⁰³

What are we to make of the tension between discourses of equality and inequality in Diderot's thought? When Diderot engaged with racial classification, he was engaging with questions relating to heritability, humanity's deep past, and our place in the natural world. While Eurocentric judgments coloured his thought, his race thinking was part of a new understanding of why certain physical forms exist in the way they do, including human forms. Diderot was central to the advancement of the scientific naturalism of the Enlightenment from mid-century onwards, in which nature was understood as something "creative, active and dynamic", thus concentrating attention on the study of cosmogony, geology, and biology and engendering what Aram Vartanian has called "evolutionary materialism".¹⁰⁴ Diderot conceived of nature as a process – *natura naturans* – and had an acute sense of what some of the philosophical consequences of the discovery of the "dark abyss of time" might be, not least for our understanding of ourselves.¹⁰⁵

Moreover, we see a shift in Diderot's thought away from an emphasis on the natural history of humanity towards one stressing the political and cultural elements of human nature. In his comments on the state of learning in the *Histoire*, he describes the successive importance in the history of European learning and scholarship of metaphysicians and geometricians, followed by physicists and then chemists and naturalists. He then writes: "Now the taste for natural history is on the decline. We are all wrapped up in matters of government, legislation, morality, politics and commerce".¹⁰⁶ It is instructive that a pre-revolutionary thinker could contribute to both racial classification and the distinctively anticolonial, egalitarian strand of Enlightenment thought. It was especially in the aftermath of the Atlantic revolutions, when equality would have real political consequences and the antislavery movement gained momentum, first in England and then throughout the Western world, that new and modern justifications for inequality would be ushered in.¹⁰⁷ In the context of some pre-revolutionary Enlightenment writers who opposed slavery, race was not the foundational concept to explain inequality; indeed, slave owners and colonial officials knew that Enlightenment thinkers were often not on their side.¹⁰⁸

Conclusion

The terms monogenism and polygenism were only coined in the second half of the nineteenth century, but the divergent explanations of human diversity that they offered emerged at least as early as the sixteenth century and, at that time, mainly concerned biblical exegesis.¹⁰⁹ By the eighteenth century, however, the focus shifted to history in the work of such prominent thinkers as Voltaire and Henry Home, Lord Kames. For the polygenists, there was no real "problem" of human diversity because, in their view, God or nature created separate races of humanity from the very beginning. But if one accepts the monogenist perspective, which most Enlightenment thinkers did, then the issue of human diversity that I have traced arises: what are the origins of the present physical

diversity that one observes in the human species? Buffon and Diderot responded to this issue using an “environmentalist” perspective, in which the differing climates of the world have resulted in distinct varieties within the human species that, over time, have become hereditary. The centrality of degeneration to Buffon’s intellectual endeavour lodges a racial hierarchy at the heart of Buffon’s anthropology, though this is “softened” by his commitment to a universal human nature and to the fundamental malleability of human beings across time. Diderot, particularly in his later life, would strengthen the egalitarian qualifications of Buffon’s argument by focussing on the role of experience and custom in shaping human behaviour.

Buffon and Diderot’s use of the concept of race is thus best understood within transformations of the interpretation of the history of nature, heredity, and humanity’s deep past. As Colin Kidd has demonstrated, race moved in a slow process across the early modern period from the realm of theology to the realm of biology but, crucially, early modern Europeans could interpret the bible in deeply racialised ways to serve their purposes.¹¹⁰ The thinkers analysed here fit well into what has been described as an “unusual moment in European intellectual and religious life”, after the initial discovery of previously unknown peoples with widely varying customs that often shocked European observers and before the growth of new European attitudes of racial superiority.¹¹¹ We can better understand Enlightenment perspectives on human physical diversity as an inchoate combination of various ideas that were not understood as definitive answers but constituted the new approaches the *philosophes* adopted to answer old questions. A demonstration of the confrontation between naturalistic explanations of human diversity and the older theological ones is outlined by April Shelford in her insightful article on the debate concerning human physical diversity between three French Caribbean clerics in the 1730s.¹¹² She demonstrates that the thinker who relied most on a naturalistic explanation of human physical diversity, Jean Baptiste Margat de Tilly, was the most emphatically against a hierarchy of races. Margat confirmed the truth of the Noachic account of human origins but went on to insist on the primacy of a naturalistic explanation of racial difference, arguing against his contemporary, Augustus Malfert’s, deeply racialized (and prejudiced) reading of scripture.

We know that Western racial classifications do not “carve nature at its joints”, as most present-day scholars agree that the so-called “races of humanity” are not natural kinds, so how can the *philosophes*’ attempts to naturalise human diversity be viewed as a crucial part of the development of the life sciences? The crux of the matter is that we must understand this development contextually.¹¹³ If we look at the origins of modern racial classification in the context of the eighteenth century, part of how we can make sense of it is by fitting it within a revolution in understanding nature and humankind’s place in the natural world. While race is indeed biologically incoherent, geographically based genetic variation nonetheless does exist. The issue is that such variation does not map onto traditionally defined racial groups. Race is a social construction, but that does not mean that geneticists’ maps of human relatedness and migration history are just a mask for domination.¹¹⁴ If the Enlightenment helped pave the way for deplorable racist ideologies, it was just as important in instituting the possibility of equality in this world; of crystallising the idea that our common humanity entails fundamental rights.¹¹⁵

The “varieties” in Buffon’s *Variétés dans l’espèce humaine* implies boundaries between human groups. Buffon, however, was uncomfortable with strict ones and rejected

the metaphysics that underlay Linnaeus' stark division of humanity into four principal races, along with *homo ferus* and *homo monstrosus*, by the definitive tenth edition of the *Systema Naturae*.¹¹⁶ For Buffon, where one race begins and another ends is often indeterminate. This subtle shading between human varieties reinforces the unity of humanity as well as the inclusion of the human species within a revitalised natural history in which nature makes no leaps. Buffon postulated that the first truth that arises from studying nature is one which “perhaps humbles man” and that is that

he ought to classify himself with the animals, to whom his whole material being connects him [. . .] Man will see with astonishment that it is possible to descend by almost imperceptible degrees from the most perfect of creatures to the most formless matter, from the most perfectly formed animal to the most amorphous mineral.¹¹⁷

In this context, the concept of race was dynamic rather than fixed and it may therefore be more accurate to understand race in the Enlightenment as a new *method* of looking at human diversity rather than as an *object* “out there”.

Paradoxically, the Enlightenment played a part in fashioning the dangerous concept of race at the same time that it has bequeathed to us tools with which we can problematise it. This is, however, only paradoxical until we look at the concept of race contextually and appreciate that the concept of “nature” was central to the *philosophes*' at times radical critique of the political and social status quo.¹¹⁸ The *philosophes*' search for naturalist explanations of human diversity, placing humanity in a deep past in which climate and heredity have acted to produce distinct varieties, created the intellectual space necessary for the development of palaeoanthropology. George Fredrickson has referred to the Enlightenment as a “double-edged sword”, as the intellectual movement made nineteenth-century scientific racism thinkable at the same time it called into question Jewish ghettoisation and black slavery.¹¹⁹ We would stay truer to the quintessential *esprit de critique* of the Enlightenment if we work to sharpen the sword's edge that cuts deepest into the enduring inequalities and injustices, racial, sexual, or otherwise, that continue to plague our world.

Notes

1. Popkin, “The Philosophical Basis of Eighteenth-Century Racism”, 245–62; “paradox” explained on p. 246.
2. Isaac, *The Invention of Racism in Classical Antiquity*; Elav-Feldon, Isaac, and Ziegler, *The Origins of Racism in the West*.
3. Heng, *The Invention of Race in the European Middle Ages*.
4. Feerick, *Strangers in Blood: Relocating Race in the Renaissance*; Hendricks and Parker, introduction to *Women, “Race,” and Writing*; Loomba and Burton, introduction to *Race in Early Modern England*; Bethencourt: *Racisms*.
5. Malik, *The Meaning of Race*; Augstein, *Race: The Origins of an Idea, 1760–1850*, xxxii; Lorimer, *Colour, Class and the Victorians*; Wheeler, *The Complexion of Race*.
6. Chaplin, “Race”, 154–72; Smith, *Nature, Human Nature, and Human Difference*.
7. Nelson, “Making Men”.
8. Dieckmann, “Natural History from Bacon to Diderot”, 93–112.
9. Allen, *The Invention of the White Race*, introduction; Peabody, “There Are No Slaves in France”, 68ff; Amussen, *Caribbean Exchanges*, 12 and ch. 4; Malcolmson, *Studies of Skin Color*, 6–7 and ch. 3.
10. Hoquet, “Biologization of Race”, 23.

11. Schaub and Sebastiani, "Between Genealogy and Physicality", 25.
12. Mosse, "The Jews: Myth and Counter-Myth", 201; Mayr, "The Biology of Race", 89–94; Smith, *Nature, Human Nature, and Human Difference*, 230.
13. The literature is vast on this subject. Particularly helpful are Stuurman, "Pathways to the Enlightenment", 227–35; La Vopa, "A New Intellectual History?", 717–38; De Dijn, "The Politics of Enlightenment", 785–805. On Enlightenment thinker David Hume's notoriously racist comments, see Garrett and Sebastiani, "David Hume on Race".
14. Israel, *Enlightenment Contested*, 866.
15. Sebastiani, *The Scottish Enlightenment*.
16. Doron, "Race and Genealogy", 75–109; Doron, *L'homme altéré*.
17. Doron, "Race and Genealogy" 75.
18. Doron, *L'homme altéré*, ch. 9.
19. Kramer and Ikeda, "What Is a 'Japanese'?", 90.
20. Muthu, *Enlightenment Against Empire*; Wolff and Cipolloni, *The Anthropology of the Enlightenment*; Stuurman, *The Invention of Humanity*.
21. Shoemaker, "How Indians Got To Be Red", 625–44.
22. Schmidt, "What Enlightenment Project?", 735–6; Kleingeld, "Kant's Second Thoughts on Race", 573–92.
23. Lilti, *L'Héritage des Lumières*, 47.
24. *Ibid.*, 75.
25. Eze, *Race and the Enlightenment*, 1.
26. Mills, *The Racial Contract*.
27. *Ibid.*, 23.
28. *Ibid.*, 64.
29. *Ibid.*, 129.
30. My research aligns with Holly Brewer's recent critique of the common perception of a "liberal paradox" concerning the birth of liberal values and the entrenchment of colonial slavery in the seventeenth century: Brewer, "Slavery, Sovereignty, and 'Inheritable Blood'", 1038–78.
31. Drescher, *Abolition*, 84. On the issue of "justifications", especially the lack thereof, concerning slavery before the eighteenth century, see Jordan, *White Over Black*, ch. 2; Goetz, "Rethinking the 'Unthinking' Decision", 599–612.
32. Hunt, *Inventing Human Rights*, ch. 2; Joas, *The Sacredness of the Person*, ch. 3.
33. Drescher, *Capitalism and Antislavery*, 164.
34. Dikötter, "The Racialization of the Globe", 20–40.
35. Voegelin, "The Growth of the Race Idea", 283–317.
36. Feerick, *Strangers in Blood*, 142.
37. *Ibid.*, ch. 5.
38. Blumenbach, *The Anthropological Treatises*, 298–9.
39. Smith, *Nature, Human Nature, and Human Difference*, 10.
40. It was published anonymously as "Nouvelle Division de la Terre, par les differentes Especies ou Races d'hommes qui l'habitent, envoyee par un fameux Voyageur a M. l'Abbe de la Chambre, a peu pres en ces termes", *Journal des Sçavans* (Avril 1684): 133–40.
41. Stuurman, "François Bernier", 2. On the importance of superseding the biblical narrative in Enlightenment anthropology, see Greene, *The Death of Adam*; Livingstone, *Adam's Ancestors*, ch. 3.
42. Doron, *L'Homme altéré*, 429–33.
43. Sebastiani, "François Bernier", 206–7.
44. Tyson, *Orang-Outang*; Corbey and Theunissen, *Ape, Man, Apeman*, section 1; Sebastiani, "A 'Monster with Human Visage'", 80–99.
45. Diderot, "Humaine (espèce)", *Encyclopédie* 8: 344–8.
46. Hoquet, *Buffon/Linné*, 88–101; Rosanvallon, *The Society of Equals*, 19; Roger, *The Life Sciences*, 435ff.
47. Duchet, *Anthropologie et histoire*, 194–226; Todorov, *On Human Diversity*, 96–106; Salin-Molins, *Dark Side of the Light*, 103ff.

48. Stuurman, “How to Write a History of Equality”, 37; Poliakov, *The Aryan Myth*, 168ff.
49. Sloan, “Natural History”, 2: 903–38.
50. *Ibid.*, 916.
51. Duchet, *Anthropologie et histoire*, 274.
52. Buffon, *Histoire naturelle*, 3: 528.
53. Good overviews of the history of the term can be found in Hudson, “From ‘Nation’ to ‘Race’”; Douglas, “Notes on ‘Race’”; Miramon, “Noble Dogs, Noble Blood”, 200–16; Aubert, “The Blood of France”.
54. *Le dictionnaire de l’Académie française*, 364, my translation. Unless otherwise noted, all translations are my own.
55. Hudson, “From ‘Nation’ to ‘Race’”, 253–4.
56. Buffon, *Histoire naturelle*, 3: 384.
57. *Ibid.*, 453.
58. Whitford, *The Curse of Ham*.
59. Roger, *Buffon*, 176.
60. *Ibid.*, 181.
61. Gaukroger, *The Natural and the Human*, 235.
62. Doron, *L’Homme altéré*, 24–5 and *passim*.
63. Buffon, *Histoire naturelle*, 3: 529–30.
64. It should be noted, however, that Buffon was mainly against the theory of the pre-existence of germs and elements of preformationism were in his own theory of life and reproduction. For a discussion of the difference between pre-existence and preformation theories, see Roger, *Buffon*, 137; Roger, *Les Sciences de la vie*, 325–6.
65. Sloan, “The Idea of Racial Degeneracy”, 298–9; Gasking, *Investigations into Generation, 1651–1828*, 51–61.
66. Formey, “Negre”, *Encyclopédie* (Paris, 1765): 11: 77; the construction of blackness in the *Encyclopédie* is expertly analysed in Curran, “Diderot and the *Encyclopédie*’s Construction”, 35–53; Curran, *The Anatomy of Blackness*, 149–57.
67. The importance of naturalist thought in the Enlightenment and the other theological and political issues it intersected with are laid out in Kors, “Monsters and the Problem of Naturalism”, 23–44.
68. On the materialist aspects of epigenesis, see Wolfe, “Epigenesis as Spinozism in Diderot’s Biological Project”, 181–201. On the numerous debates connected to the controversy of generation, inheritance, and the diversity of life forms, see Roe, *Matter, Life, and Generation*; Williams, *A Cultural History of Medical Vitalism*; Terrall, “Speculation and Experiment”, 253–76; Harvey, *The French Enlightenment and Its Others*, ch. 5.
69. Sloan, “The Buffon-Linnaeus Controversy”, 370.
70. Buffon, *Histoire naturelle*, 1: 38.
71. Farber, “Buffon and the Concept of Species”, 267.
72. Buffon, *Histoire naturelle*, 4: 384.
73. “Espèce” (*Histoire naturelle*), *Encyclopédie* (Paris, 1755): 5: 956–57.
74. Sloan, “From Logical Universals to Historical Individuals”, 101–40.
75. Hoquet, “History without Time”, 43.
76. Toulmin and Goodfield, *The Discovery of Time*, 174–83; Roger, “Buffon et l’introduction de l’histoire”, 193–205; Rossi, *The Dark Abyss of Time*, ch. 15. For an insightful overview of changes in the experience and understanding of time in the Enlightenment, see Jacob, *The Secular Enlightenment*, ch. 2.
77. Maillet, *Telliamed*. On *Telliamed*, see Cohen, *Science, libertinage et clandestinité*, 361; Cohen, “Leibniz et Benoit de Maillet”, 65. On Boulanger, see Roger, *Buffon*, 419; Kafker and Kafker, *The Encyclopedists as Individuals*, 63–7.
78. Buffon, *Histoire naturelle*, 14: 313.
79. *Ibid.*, 3: 524.
80. *Ibid.*, 14: 313.
81. *Ibid.*, 14: 374.

82. Roger, introduction to *Les Époques de la nature* by Buffon, lxxvi.
83. Thomson, “Diderot, le matérialisme et la division de l’espèce humaine”, 197–211; Thomson, “Diderot, Roubaud et l’esclavage”, 69–93; Thomson, “Issues at Stake”, 1–20. On atheism and race in the nineteenth century, see Alexander, *Race in a Godless World*.
84. Roger, “Diderot et Buffon en 1749”, 221–36.
85. Buffon, *Histoire naturelle* (Paris, 1749), 2: 17; Diderot and Daubenton, “Animal” (Zoologie), *Encyclopédie*, 1: 474.
86. Diderot, *Pensées sur l’interprétation de la nature*, 114.
87. Clark, *Diderot’s Part*, 68–74.
88. Crocker, “Diderot and Eighteenth Century French Transformism”, 114–43.
89. Quintili, introduction to *Éléments de physiologie* by Denis Diderot, 12.
90. Stalnaker, “Diderot’s Brain”, 230–53.
91. Diderot, *Éléments de physiologie*, 137.
92. Fox, Porter, and Wokler, *Inventing Human Science*.
93. Diderot, *Pensées sur l’interprétation de la nature*, 115.
94. Diderot, *Éléments de physiologie*, 139ff.
95. Benrekassa, “De Robert Antelme à Diderot”, 55–70.
96. Schiebinger, “The Anatomy of Difference”, 387–405; Schiebinger, *Nature’s Body*.
97. Arnold and Geffroy, “Les femmes de l’*Encyclopédie*”, 71–90.
98. Diderot, *Political Writings*, 187.
99. *Ibid.*, 212.
100. Agnani, *Hating Empire Properly*, part I.
101. Muthu, *Enlightenment Against Empire*, 52ff; Goodman, “The Structure of Political Argument”, 123–37; Dobie, “Going Global: Diderot, 1770–1784”, 7–23.
102. Diderot, *Political Writings*, 61.
103. Raynal, *Histoire philosophique*, 4: 227.
104. Vartanian, *Diderot and Descartes*, 97 and ch. 4.
105. Ballstadt, *Diderot: Natural Philosopher*, 148–9; Rossi, *The Dark Abyss of Time*, 109.
106. Diderot, *Political Writings*, 185.
107. Stuurman, *The Invention of Humanity*, ch. 7; Hunt, *Inventing Human Rights*, 212.
108. Harvey, *The French Enlightenment*, 7.
109. Sebastiani, *The Scottish Enlightenment*, 9–11.
110. Kidd, *The Forging of Races*; Goetz, *The Baptism of Early Virginia*.
111. Hunt, Jacob, and Mijnhardt, *The Book that Changed Europe*, 160.
112. Shelford, “Race and Scripture in the Eighteenth-Century French Caribbean”, 69–87.
113. Sebastiani, *The Scottish Enlightenment*, 164.
114. The literature on the subject of the social and political embeddedness and consequences of genetics and the issue of “race” is vast. A good overview of the most recent research in psychology, anthropology, and philosophy on race is provided in Smith, *Nature, Human Nature, and Human Difference*, ch. 1. On recent developments in genetics, see Lee et al., “The Ethics of Characterizing Difference”, 1–4; Song et al., “Modeling Human Population Separation History”, 385–95; Hellenthal et al., “A Genetic Atlas of Human Admixture History”, 747–51. On the philosophy of race, see Glasgow et al., *What is Race?*
115. Hunt, *Inventing Human Rights*.
116. Linnaeus, *Systema naturae per regna tria naturae*, 20–4.
117. Buffon, *From Natural History to the History of Nature*, 102.
118. Daston, “Enlightenment Fears, Fears of Enlightenment”, 115–28.
119. Fredrickson, *Racism: A Short History*, 64.

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Notes on contributor

Devin Vartija is Assistant Professor of History at Utrecht University and Postdoctoral Fellow at the École des hautes études en sciences sociales. His first book, *The Color of Equality: Race and Common Humanity in Enlightenment Thought*, is forthcoming from University of Pennsylvania Press.

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