# *Species, Variety, Race: Vocabularies of Difference from Buffon to Kant*

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> We have borrowed race from the French; it seems very closely related to racine and radix and signifies descent in general, though in an indeterminate way. For one talks in French of the race of Caesar in the same way as of the races of horses and dogs, irrespective of the first origin, but nevertheless always with tacit subordination under the concept of a species. It would be a great mission for an individual who had nothing else to do, to develop in what sense each writer has possibly used this word.
>
> Georg Forster[1]

*Eighteenth-century German writers with broad interests in natural history, and in particular, in the kind of ethnographic reports typically included in travel and expedition narratives, had to be able to access and read the original reports or they had to work with translations. The translators of these reports were, moreover, typically forced more than usual into the role of interpreter. This was especially the case when it came to accounts wherein vocabulary did not exist or was at least not settled, and more importantly where scientific understanding was uncertain or altogether lacking, a situation that could only make the creation of semantic categories all the more significant. With this state of affairs in mind, this essay concentrates on Immanuel Kant's work to develop a specialised racial vocabulary, and does so in a manner that reveals the importance of Buffon's account of variation as a resource for Kant, even as Kant sought to position the new vocabulary as*

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[1] Georg Forster, *Noch Etwas über die Menschenraßen* (1786); Eng. trans. by Jon Mikkelsen in Jon Mikkelsen (ed.), *Kant and the Concept of Race: Late Eighteenth-Century Writings*, SUNY Press, Albany 2013, pp. 143-67, pp. 163-4. Mikkelsen is translating *Rasse* as «race» and *Gattung* as «species», the latter as per Forster's own comment on the proper German term for the Latin *species*, p. 156. For Forster's text in German, see Siegfried Scheibe, (ed.), *Georg Forsters Werke: Kleine Schriften zu Philosophie und Zeitgeschichte*, Akademie Verlag, Berlin 1974, vol. 8, pp. 130-56.

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*an improved template for transforming taxonomy or* Naturbeschreibung *into a genuine historical science or* Naturgeschichte.

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## 1. *Introduction*

There are by now numerous studies of Kant's work to develop a scientific account of human difference, of the manner in which this account fits into his system of progressive human history, of the means for understanding his racism in tandem with his moral theory, and finally of Kant's relation to some of the key interlocutors in the debates regarding these issues at the time, most notably Herder, Forster, and Blumenbach[2]. In this investigation I want to take a different tack, one that is tightly focused on the shifting vocabularies of difference in play in Kant's racial taxonomy. German writers with broad interests in natural history, and in particular, in the kind of ethnographic reports typically included in travel and expedition narratives, had to be able to access and read original texts, or they had to work with translations. And the translators of these sorts of reports – typically working under immense time-pressure – were forced more than usual into the role of interpreter. This was especially the case when it came to accounts wherein vocabulary did not exist or was at least not settled, and more importantly where scientific understanding was uncertain or altogether lacking, a situation that could only make the creation of semantic categories all the more significant. With this in mind then, it might be useful to develop something like a mapping strategy when approaching Kant's racial taxonomy. This would entail a set of basic questions regarding Kant's sources, reception, translation, and modification of not just terms but indeed the conceptual framework associated with the language of species, variety, and race. For my purposes here I will focus

[2] The literature here is large. For discussion of these topics with broad attention to primary sources and secondary debates, see Jennifer Mensch, *Kant's Four Examples: On South Sea Islanders, Tahitians, and Other Cautionary Tales for the Case of "Rusting Talents*, «Goethe Yearbook», 31 (2024), pp. 115-26; *Kant and the Skull Collectors: German Anthropology from Blumenbach to Kant*, in Corey Dyck, Falk Wunderlich (eds.), *Kant and his German Contemporaries*, Cambridge University Press, Cambridge 2018, pp. 192-210; *Caught between Character and Race: "Temperament" in Kant's Lectures on Anthropology*, «Australian Feminist Law Journal», 43 (2017) 1, pp. 125-44; and *From Crooked Wood to Moral Agent: Connecting Anthropology and Ethics in Kant*, «Estudos Kantianos», 2 (2014) 1, pp. 185-204.

on the singular importance of Buffon as a resource for Kant since we know that Kant was a careful reader of Buffon's works, and that Kant clearly took his starting point for thinking about monogenesis from Buffon's interfertility criterion for species membership[3].

## 2. *Race as a Topic in Kant's Works*

Kant was interested in ethnographic discussions from the very start of his teaching career in 1756/57. He taught a course on «Physical Geography» every year until he retired from teaching in 1796, and as the portion of the course devoted to the effects of cultural, as opposed to geographical, forces on the shape of a people expanded, he split the course into two parts starting in 1772, with Physical Geography now explicitly devoted to «what nature makes of man,» and «Anthropology» devoted to «what man makes of himself.» Kant was clear regarding what he saw as the tight connection between anthropology and ethics, seeing the former as a necessary pendant to the latter, so he scheduled his lecture course on ethics to run at the same time as the Anthropology class, with Physical Geography running always in the prior semester. We have access to multiple copies of student notes taken during Kant's lectures across the four decades of his career, most of these beautifully curated with extensive apparatuses, and many translated into English[4]. These notes show that Kant made frequent reference to non-Europeans and was closely familiar with a broad array of travel reports and their uptake in German theories of the earth and its various creatures. But while the notes provide a good sense of Kant's familiarity with the literature and scientific debates on everything from the relationship between coastal geography and the winds, to patterns of social organisation in the South Sea Island nations, they are not in themselves explicitly devoted to a

[3] I trace Buffon's influence on Kant at length in Jennifer Mensch, *Kant's Organicism: Epigenesis and the Development of Critical Philosophy: Epigenesis and the Development of Critical Philosophy*, University of Chicago Press, Chicago 2013, esp. pp. 51-69, 92-109.

[4] The best resource for information regarding Kant's teaching history and the extant student notes and their availability is provided by Steven Naragon via his regularly updated website: https://users.manchester.edu/FacStaff/SSNaragon/Kant/Home/index.htm; last accessed 03.06.2024. The division of labour between the old Physical Geography and new Anthropology course was in practice less clean; for discussion of the overlap between Kant's discussions see Jennifer Mensch, *From Anthropology to Rational Psychology in Kant's Lectures on Metaphysics,* in Courtney Fugate (ed.), *Kant's Lectures on Metaphysics: A Critical Guide*, Cambridge University Press, Cambridge 2019, pp. 194-213.

scientific account of race. For this we need to look at three publications in particular. The first essay «Of the different races of human beings» started out as a teaser course announcement for what would have been by then the eighteenth iteration of Kant's lectures on Physical Geography. This essay, from 1775, appeared in a formal publication two years later, now with the specific course information for students removed and a new section – including a new racial typology – added onto the end[5]. Despite encouragement from his editor to produce something lengthier on the topic, Kant was busy working on the *Critique of Pure Reason*, and it is interesting to look through Kant's extant working notes during these years and discover that many of the considerations regarding the unity of the human species and the geographic diversity of its appearances paralleled, in both framing and strategy, the work he was doing to account for the unity of cognition and the heterogeneous projects undertaken by the faculties for understanding, sensation, reason, and the like. The first *Critique* appeared in 1781 but interested readers had to wait until 1785 to see Kant's next publication on race – a work cast by him as a corrective to a certain misperception of the earlier piece – this one with the title «Determination of the concept of a human race»[6]. The piece inspired a response in 1786 by the naturalist Georg Forster, a naturalist who had achieved early fame for the account of his time spent on Captain James Cook's second voyage to the South Pacific in search of a presumed southern continent[7]. Forster's response to Kant detailed a number of complaints, including an attack on Kant's reliance on skin colour as the key biomarker for racial determination. For this kind of work Forster pointed Kant instead to the research being under-

[5] Immanuel Kant, *Von den verschiedenen Racen der Menschen* (1777); Eng. trans. by Günter Zöller in Günter Zöller, Robert Louden (eds.), *Anthropology, History, and Education*, Cambridge University Press, Cambridge 2007, pp. 82-97, and by Jon Mikkelsen in Mikkelsen (ed.) *Kant and the Concept of Race: Late Eighteenth-Century Writings*, pp. 41-71. In the remainder of this essay, I will follow standard practice in citing Kant directly in-text via reference to the volume and page numbers corresponding to the German Academy edition of *Kants Gesammelte Schriften* (De Gruyter, Berlin 1902-), with footnoted bibliographical information for translations provided at their first instance. Between the developing terminology in Kant's discussions of species and race and his own difficulty of expression at times I encourage readers to consult together the available English translations – by Zöller and by Mikkelsen – alongside the German texts themselves. My citations of Kant here rely on both with minor emendations.

[6] Immanuel Kant, *Bestimmung des Begriffs einer Menschenrace* (1785); Eng. trans. by Günter Zöller in *Anthropology, History, and Education*, pp. 143-59, and by Jon Mikkelsen in *Kant and the Concept of Race: Late Eighteenth-Century Writings*, pp. 125-41.

[7] Georg Forster, *Noch Etwas über die Menschenraßen* (1786); Eng. trans. by Jon Mikkelsen in *Kant and the Concept of Race: Late Eighteenth-Century Writings*.

taken by his great friend Samuel Soemmering, who had published a text on the *anatomical* differences between Europeans and Moors in 1784[8]. By then, however, Kant was busy working on the *Critique of Practical Reason*, so it was not until 1788 that he took time to reply to Forster in what would be his third and final publication on the concept of race, this one entitled «On the use of teleological principles in philosophy»[9]. Setting up the discussion there, Kant asked: «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», and yet «The fact that this word does not occur in the description of nature (but instead of it that of variety), cannot prevent the observer of nature from finding it necessary with respect to natural history. To be sure, he will have to determine the word clearly for this purpose; and this we would like to attempt here» (8:163)[10].

## 3. *Defining Race*

Etymologically there are a number of hypotheses regarding the term «race» itself, with a general division between an Arabic Hypothesis which traces the word to the arrival of Arabs on the Iberian Peninsula, and for whom *ra's* meant: head, head of cattle, beginning, or origin, and a Greek-Latin Hypothesis according to which it can be tracked back to the fifteenth-century Latin *ratio*, later *radix*: family line, type, branch, root or generation. As the term moved into European vernacular languages – *rais*, *razza*, *Rasse*, *race*, *raza*, *rassa*, *raça* – it settled into usage as broadly denoting bloodlines, origin, breed, family, and lineage, with application then to a «noble sort» when

[8] Samuel Soemmering, *Ueber die körperliche Verschiedenheit des Negers vom Europäer* (1785); Eng. trans. by Michael Olson in Jennifer Mensch, Michael Olson (eds.), *Generation, Heredity, Race: Key Texts in the History and Philosophy of the German Life Sciences, 1745-1845*, Bloomsbury, London 2025, forthcoming.

[9] Immanuel Kant, *Über den Gebrauch teleologischer Principien in der Philosophie* (1788); Eng. trans. by Günter Zöller in *Anthropology, History, and Education*, pp. 192-218, and by Jon Mikkelsen in *Kant and the Concept of Race: Late Eighteenth-Century Writings*, pp. 169-94.

[10] Kant is in fact responding directly to Forster in this quote; see Mikkelsen's translation of Forster, p. 156, for Forster's comment. A good overview discussion of just this issue regarding the possible role that race versus variety might play in natural history at all is provided by Thierry Hoquet, *Biologization of Race and Racialization of the Human: Bernier, Buffon, Linnaeus*, in Nicolas Bancel, Thomas David, Dominic Thomas (eds.), *The Invention of Race: Scientific and Popular Representations*, Routledge, London 2014, pp. 17-32.

describing good breeding or a «well bred» person. Above all, what is immediately notable is the decidedly genealogical cast to the term [11].

By the seventeenth century, however, classification had become a key preoccupation in many areas of thinking, from Sydenham's effort to provide a natural history of disease, to Locke's attention to the epistemic problems posed by nominalism. In the early eighteenth century, efforts to wrest botany from the chaotically organised *materia medica* used by apothecaries hinged on the creation of some means for the consistent cataloguing of plants apart from their use. Camerarius had proven Ray's hunch regarding the sexuality of plants by 1694, and it was on the back of this discovery that Linnaeus would later come to rely on the «fructification» parts of the plants when locating them within his own binomial classification scheme in 1735. Locke's concern regarding the creation of names had been straightforward: there could be no certainty that the marks we chose to use for things had in fact anything to do with the things themselves. And Linnaeus understood this to be the case in his own tables as well, recognising the artificiality of any system of relations driven by the arbitrary choice of criteria. Like Cesalpino before him (who had himself followed Aristotle in his thinking about reproduction as the defining function of a plant), Linnaeus thought that attention to the sex organs was a better sorting criterion than others, but he acknowledged its relativity nonetheless [12].

This quick history is relevant for the question of race's meaning insofar as Linnaeus eventually came to include *Homo Sapiens* in his system, such that by 1758 scientists could find in Linnaeus's account four racial subcategories listed in line with Galenic humoural theory, and thus organised into clusters according to region, temperament or humour, and colour. While many have commented on the cultural and theological significance of this decision to move mankind into the manifold of nature, what is most important for our

[11] Here I am following accounts provided by Milan Hrabovský, *Etymology of the Word "Race" and the Issue of the Concept of "Race,"* «Judaica et Holocaustica», 1 (2019) 1, pp. 4-45; Eric Vogelin, *The History of the Race Idea from Ray to Carus*, University of Missouri Press, Columbia, MO 1998; and Bronwen Douglas, *Climate to Crania: Science and the Racialization of Human Difference*, in Bronwen Douglas, Chris Ballard (eds), *Foreign Bodies: Oceania and the Science of Race, 1750-1940*, Australian National University Press, Canberra 2008, pp. 34-40.

[12] For a fuller treatment of this history see Julius von Sachs, *History of Botany (1530-1860)*, Clarendon Press, Oxford 1906, pp. 37-107; Phillip Sloan, *John Locke, John Ray, and the Problem of the Natural System*, «Journal of the History of Biology», 5 (1972) 1, pp. 1-53; and Jennifer Mensch, *Understanding Affinity: Locke on Generation and the Task of Classification*, «Locke Studies», 11 (2011), pp. 49-71.

purposes here is to notice the manner in which a heretofore *genealogical* term had now also become *typological*.

Let us think about the difficulties this creates for a moment. A genealogical approach for understanding group membership has the benefit of ready plausibility given people's long experience with the husbandry practices by which breeders engage in trait selection for all manner of morphological and behavioural differences: lap dogs, hunting dogs, herding dogs, guarding dogs, fast horses, strong horses, and on and on. Indeed, it was in precisely this sense that mid-century writers would refer to «races of dogs» and «breeds of men» when discussing bloodlines as a shorthand for points of origin and breed-specific phenotype and traits. But how was this set of historical and real relationships between existing individuals over time supposed to map onto a classification system whose orientation was not just inherently artificial but static?

This was a question that Kant certainly understood to be central for understanding the limitations of classification when determining the concept of race. For Kant, Aristotelian logic was a familiar basis for thinking about relative hierarchies of orders and classes, of genus and species. So long as the terms were meant to refer only to ideal relationships, there was no tension. And so it was that Kant opened his first essay on race with a reminder to readers of the difference between a «school system» of classes meant only to aid memory, and a system, like Buffon's, that offered up rather criteria for a «natural division» of existing individuals:

> 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 species [*Gattung*], must properly be regarded only as the definition of a natural species [*Naturgattungen*] of animals in general, in contrast to all school species [*Schulgattungen*] of the latter. The school division concerns *classes*, which divide the animals according to *resemblances*, the natural division concerns lines of descent [*Stämme*], which divide the animals according to *relationships* in terms of generation. The former provides a school system for memory; the latter provides a natural system for the understanding (2:429).

Insofar as Kant would go on in the essay to develop a set of new terms for classifying humans, one can ask what he hoped thereby to achieve: an artificial system or a natural one? A close look at Kant's vocabulary suggests that he was initially hopeful that some accommodation between the two could be achieved. In other words, if one could determine the genealogical basis of a set of historical relations,

Kant seems to have thought, then the taxonomical table could reflect this and no longer count as artificial in its reliance on arbitrarily chosen external marks of similarity. I will come back to this point in a bit.

## 4. *Histoire naturelle, générale et particulière*

For Buffon, variation within a species line could only occur during embryogenesis. The fullest explanation of this required an added account of heritability and geographical distribution, however, insofar as variation or «degeneration» from the original stock, as Buffon later put it, lay in the capacity of organic molecules to affect the internal moulds of an organism. Since these molecules were initially in the soil, variation was thus a direct result of food. Insofar as climate and soil together affected qualitative changes between even identical foods, e.g., between grasses grown in the plains and those same grasses grown at higher altitudes, transplantings or migrations would necessarily force a species to have the organic bases of their phyletic lines affected[13]. Once a change had been made to a species' internal moulds, according to Buffon, a degenerated form such as the common sheep, for example, would continue to produce sheep instead of a «mouflon», which Buffon took to be the original formation or mould for that particular species line. When he came to consider «the varieties of mankind», Buffon took colour to be a superficial variation compared to actual differences in shape for much the same reason as above. For whereas climate alone might account for the effect of colour, food was required in order to effect the internal moulds in a manner that could lead to observable differences in stature and proportion[14]. Such variation aside, all humans were mem-

[13] Buffon, *Histoire naturelle de l'Homme* (1749); Eng. trans. by William Smellie, in *Natural History, General and Particular*, 3rd ed., A. Strahan, T. Cadell, London 1791, vol. 3, pp. 132, 165, 173. This edition incorporates the final changes made by Buffon before his death in 1788 and given Smellie's own work in natural history and especially botany, it is more reliable than the English translations done by his contemporary, J.S. Barr. None of the eighteenth-century English translations are as faithful to Buffon's text in terms of completeness (re. the order of the entries, the inclusion of Needham's descriptions, reproduction of the engravings, etc.) as the editions published in German by Grund and Holle, 1750-1772.

[14] As he summarized it, «It is chiefly by aliment that man receives the influence of the soil which he inhabits: that of air and climate acts more superficially. While the climate changes the colour of the skin, food acts upon the internal form by its qualities, which are always related to those of the earth by which it is produced. …. Hence, in countries remote from the original climate, where the herbs, fruits, grains, and the flesh of animals differ both in quality and substance, the men who feed upon these articles must undergo still greater changes» Buffon,

bers of the same species, according to Buffon, since «even apart from the bible's instruction regarding Adam», humans of all shapes and dispositions were «capable of uniting, and propagating the great and undivided family of the human kind» [15]. It was indeed a tribute to mankind's special capacities – its «greater strength, extension, and flexibility» – that as a species it had been able to spread out and flourish despite all manner of differences in soil and climate in the world. This adaptability lay not in the physical attributes of the species but rather «more on the qualities of the mind than those of the body. ... By the powers of genius, he [*man*] supplied all the qualities which are wanting in matter" [16]. Genius, then, explained the geographic distribution of mankind; the results of that distribution explained humanity's phenotypic variations: «The blood is different,» Buffon declared, «but the germ is the same» [17].

Kant was an early and careful reader of Buffon's initial volumes on natural history, a fact demonstrated not only by the numerous references made by Kant to Buffon's writings, but by his evident familiarity with Buffon's theory of generation and his account of the varieties of mankind. While Kant was suspicious of the details offered up to explain embryogenesis, he accepted Buffon's general argument for both joint inheritance in the formation of the foetus, and the unity or monogenesis of mankind on the basis of the fertility of mixed-race offspring. Kant had his own ideas regarding the grounds for racial variation, however, and he wholly rejected the broadest implication of Buffon's theory of degeneration so far as it could be taken to be an attack on the fixity of species in favour of an account of actual speciation.

Given the importance of Buffon for Kant's investigation, it makes sense then to examine the *terms* by which Buffon's theory was pre-

*De la dégénération des Animaux* (1766); Eng. trans. by William Smellie, in *Natural History, General and Particular*, 3rd ed., A. Strahan, T. Cadell, London 1791, vol. 7, p. 396.

[15] *Ibidem*, p. 392.

[16] *Ibidem*, p. 393.

[17] *Ibidem*, p. 394. Buffon was interested in variation as a result of degeneration, and this was true for the case of the human species as much as any other. This puts questions of «race» in a different context when discussing the issue in Buffon's works. On this see Hoquet's piece cited earlier but also Phillip Sloan, *The idea of racial degeneracy in Buffon's* Histoire Naturelle, «Studies in Eighteenth Century Culture», 3 (1973), pp. 293-321. An excellent overview of Buffon's works can be found in two works by Jacques Roger, *Buffon: A Life in Natural History*, trans. by Sarah Lucille Bonnefoi, Cornell University Press, Ithaca 1997, and *The Life Sciences in Eighteenth-Century French Thought*, trans. by Robert Ellrich, Stanford University Press, Stanford 1997.

sented to German readers. From the start, Buffon's German reception history was dominated by the figure of Albrecht von Haller. Haller had worked to secure rights for a German translation *before* Buffon's text itself went to French press, with the first two of the three volumes published by Buffon in 1749 available in a German translation only months later in 1750[18]. Haller published reviews of the French volumes and repeated some of his more critical remarks in a preface added to the German edition. Here it is striking to notice that Buffon's name was not even printed on the title page of the German translation, with the volume billed instead as a history of nature introduced by Albrecht von Haller.

Subsequent translations appeared steadily, with Haller including a second preface to the publication of Buffon's third volume, which appeared in German translation in 1752. The series was produced by Grund and Holle and was unique among translations of Buffon (into any language) in being completely faithful to Buffon's text in terms of contents, imagery, and order. That said, there was a


Allgemeine
Historie der Natur
nach allen ihren besondern Theilen
abgehandelt;
nebst einer Beschreibung der Naturalienkammer
Sr. Majestät des Königes von Frankreich.
Mit einer Vorrede
Herrn Doctor Albrecht von Haller,
Königl. Großbritannischen Hofraths und Leibarztes, Lehrers der Artzney auf der hohen Schule zu Göttingen, der Königl. Englischen, Schwedischen und Upsalischen Gesellschaften der Wissenschaften Mitgliedes und des großen Raths der Republik Bern.
Erster Theil.
Mit Röm. Kaiserl. Königl. Poln. und Churfürstl. Sächs. allergnädigsten Freyheiten.
Hamburg und Leipzig
bey Georg Christian Grund und Adam Heinrich Holle. 1750.

[18] Buffon published the first three volumes of the *Histoire naturelle* in 1749, with volume four appearing in 1753. Bartholomaeus Joachim Zink, son-in-law to the publisher Grund, translated Buffon's first volume into German for Grund and Holle in 1750; the mathematician Abraham Gotthelf Kästner took over the translation of the remaining volumes for the publishers after that, with Buffon's second volume appearing in Kästner's German translation the same year, and volume 3 coming out two years later in 1752 (Carl Joseph Oehme took over translations once Grund and Holle began publication of Buffon's natural history of birds, 1774-1782).

heavy editorialising hand between Haller's prefaces and the translator's additional notes at the bottom of a given page, a practice which was common at the time since translators in every language seemed to have seen it as their duty to abridge, reorder, expand, and even correct information that they found wanting. Buffon's British translators found much needing to be added, for example, when it came to Buffon's discussion of sheep. Haller meanwhile published dozens of articles on Buffon, reviewing each of the volumes as they appeared in French – with each review appearing in the *Göttingen Anzeigen* – thereby framing the German academic and scientific response to Buffon for those following along. Haller disliked what he took to be the speculative aspect of Buffon's approach in general, but he found the account of generation unconvincing in particular when it came to explaining the inheritance of form, taking every opportunity to defend Linnaeus at Buffon's expense[19].

All that aside, it is the specific terminology that interests us here, so it is worth having a table of some relevant terms, with a separate set of later translations into German published more affordably in quarto by Pauli – «freely translated with emendations and remarks» – included for comparison[20].

[19] When comparing the various translations and editions of Buffon it is best to start with a clear list. A comprehensive bibliography of each volume of the *Histoire naturelle*, including contents, is in the *Bibliographie de Buffon: Extrait des Oeuvres philosophiques de Buffon: corpus général des philosophes français*, Emilienne Genet-Varcin, Jacques Roger (eds.), Presses universitaires de France, Paris 1954, pp. 522-23. A bibliography of each volume of the Grund and Holle editions in German is included in Stéphane Schmitt's helpful essay, *From Paris to Moscow via Leipzig (1749–1787): Translational Metamorphoses of Buffon's* Histoire naturelle, «Erudition and the Republic of Letters», 4 (2019), pp. 228-69, pp. 24-45. An informative discussion of the translation history of Buffon into English is in Jeff Loveland, *Georges-Louis Leclerc du Buffon's* Histoire naturelle *in English, 1775-1815*, «Archives of Natural History», 31 (2004) 2, pp. 214-35.

[20] Georges Buffon, *Herrn von Buffons Allgemeine Naturgeschichte: Eine freye mit Zusätzen vermehrte neue Uebersetzung*, trans. by Friedrich Martini, Pauli Buchhandlung, Berlin 1771-1774. This edition ran to 65 volumes (series one, 1771-1774; series two, 1772-1810), but the organisation is chaotic and typically differs from Buffon's French editions in order and contents, with many entries missing or only briefly summarized. One point of real interest, however, is Georg Forster's decision to produce an annotated translation of Buffon's discussion of North American animals for volume 6 (1780) of the second series, a decision that led him to write an unpublished dissertation on Buffon; see Georg Forster, *Diss[ertatio] contra Buff[onium]: Nachtrag einiger Bemerkungen über die Abhandlung von den Thieren beider Continente*, in Klaus-Georg Popp (ed.), *Georg Forsters Werke: Schriften zur Naturkunde*, Akademie Verlag, Berlin 2003, vol. 6,1, pp. 799-802. For more discussion of Forster in relation to Buffon here see Gerhard Müller, *L'Histoire d'un manuscrit allemand du Muséum: "la Diss[ertatio] contra Buff[onem]" de Georg Forster*, in Claude Blanckaert (ed.), *Le Muséum au premier siècle de son Histoire*, Muséum national d'histoire naturelle, Paris 1997, pp. 581-9, and Emmanuel Hourcade, *Anthropologie et rencontre des cultures au XVIIIe siècle: vie et oeuvre de Georg Forster*, «BEROSE International Encyclopaedia of the Histories of Anthropology», (2020), pp. 1-19.

Buffon's entry on the «Varieties of the Human Species»

| **Imprimerie Royale (3, 1749)** | **Grund and Holle (2.1, 1752)** | **Pauli (6, 1774)** |
|---|---|---|
| «Variétés dans l'espèce humaine» | «Verschiedene Gattungen in dem menschlichen Geschlechte» | «Von den unterschiedenen Gattungen im Geschlechte der Menschen» |
| Variété | Gattung | Gattung |
| Espèce | Geschlecht, Gattung[21] | Geschlecht |
| Espèce humaine | Menschengeschlecht | Geschlecht der Menschen |
| Dégenere | aus der Art geschlagen | Ausgeartet |
| Race | Geschlecht | Geschlecht, Gattung |

Buffon's entry on the «Degeneration of Animals»

| **Imprimerie Royale (14, 1766)** | **Grund and Holle (7.2, 1772)** | **Pauli (18, 1792)** |
|---|---|---|
| «De la dégénération des Animaux» | «Von der Abartung der Thiere» | «Von der Ausartung der Thiere» |
| Dégénération | Abartung | Ausartung |
| L'espèce | Gattung | Gattung |
| L'espèce humaine | Menschengattung | Menschengattung |
| Genre humain | Menschengeschlecht | Menschengeschlecht |
| Souche, Tige | Urstamm, Stamm | Urstamm, Stamm |
| Race | Rasse | Race |
| Variété | Abänderung | Abart |

[21] Kästner translated Buffon's fourth volume in 1754, and by that point Kästner seems to be using the German word «Gattung» for «espèce» consistently. In Kästner's translation of Buffon's famous entry on «The Ass» (published in French in 1753, in Kästner's German translation in 1754), this translation choice is manifest. Here Buffon argues, for example, that organic terms like species must be reserved for discussions of plants and animals, given that the grounds for the latter's divisions are wholly different from those determining substances like metals. Thus, as Kästner translates Buffon's conclusion, «Man muß daher das Eisen nicht als eine Gattung (*Espèce*), und das Bley als eine andere Gattung, sondern bloß als zwei verschiedene Metalle betrachten, daß wir bei Eintheilung derselben ganz andere Absonderungslinien als bey den

The fluidity of the vocabulary in play here is evident at a glance. For example, in 1752 Grund and Holle's translator is using *Gattung* for variety and *Menschengeschlecht* for human species; by 1772 *Gattung* has become the permanent word choice for species, *Menschengattung* for human species, and *Abänderung* is the new choice for variety. From the 1770s onward one finds *Gattung* used for species in works by Zimmerman, Soemmering, Forster, Blumenbach, and Girtanner, meaning that a reader picking up Kästner's 1752 translation in the mid-70s could have plausibly read the title as "Different *species* in the human race," which would have suggested a polygenesis of the races, in contravention to Buffon's avowed monogenism.

In Adelung's contemporaneous dictionary, *Gattung* works generically as a word for grouping things together that are similar, like four-footed animals, or different, like «*verschiedene Gattungen von Äpfeln*». In a now-outmoded but still readily recognised use of the term by German speakers today, *sich Gatten* means «to get married», with *die Gattin* nominating the wife. *Geschlecht* is another word to track in these early discussions. In its broadest sense it just refers to lineage, and you will see it used in that way to refer to say, «a family of bankers» or «*die Söhne alter Geschlechter*». It also appears as a taxonomical subcategory and in that vein, it was used by naturalists to cluster entities by race («human race» routinely appears as *Menschengeschlecht* in these texts), but also by gender (today *Geschlecht* is reserved for that use on medical or governmental forms, for example).

As we will see shortly, Kant follows Kästner's word choice in using *abarten* for degeneration into a subspecies, and in reserving *ausarten* for speciation. Importantly, however, (and in a break with Buffon's own approach in his entry on the varieties of mankind), Kant will also use *ausarten* for describing the process of racial determination in his 1775 essay on race.

## 5. *Kant and the Taxonomy of Race*

Kant was interested in science from the start of his career, with publications ranging from cosmology to chemistry, and from generation theory to biogeography. Across these works one of his con-

Thieren und Pflanzen gebrauchen werden». Georges Leclerc Comte du Buffon, *Allgemeine Historie der Natur*, zweyter Theil, Grund und Holle, Hamburg and Leipzig 1754, p. 196.

sistent themes concerned the origin of form. In his cosmological investigation this turned into what is now referred to as the Kant-Laplace nebular hypothesis. In his reflections on life science debates regarding generation and embryogenesis, he emphasised the special difficulty faced by investigators when it came to understanding the manner in which form could be passed on: how were we to understand the means by which inheritance worked to stabilize and preserve a species line; how were we to understand the emergence of variation? These were good questions and impossible to answer with any accuracy at the time. Which of course did not stop anyone from trying to figure them out, Kant included.

By the 1760s, researchers were divided between a theory that resolved the problem of form and one that focused instead on the problem of understanding the forces responsible for the generation, growth, and repair of individuals according to their form. Without some kind of intelligent agency like a soul or entelechy to guide formation, the dominant view took the best explanation to be that all forms had been set by God at the point of creation. In its earliest and most enduring instantiation, theorists argued that God had in fact created each individual at the beginning of the world, leaving nature only the task of a mechanical expansion of these "preexistent" individuals over time. The main line of attack on this theory came from those researchers pointing to cases of obvious joint inheritance. If the preexistent individual had been formed at the beginning of time, they argued, then this individual must already be complete. How then, they asked, could preexistence theory account for phenomena exhibiting joint inheritance, such as that displayed by mixed-race children? This was a potent line of attack, but those who proposed instead a theory of generation based on the motion of forces – be they mechanical, organic, or just general "principles of life" – faced an equally important counter-attack regarding their inability thereby to explain the source of form. As Haller put the problem in his critique of Buffon's account of the internal moulds for understanding the inheritance of form, any theorist pursuing this track «needs a force which has foresight, which can make a choice, which has a goal, which, against all the laws of blind combination, always and unfailingly brings about the same end»[22]. Any plausible alternative to preexistence theory, in other words, required the introduction of

[22] Albrecht von Haller, *Réflexions sur le systême de la generation de M. de Buffon* (1752); Eng. trans. by Phillip Sloan in Phillip Sloan, John Lyon (eds.), *From Natural History to the History*

a formative force, i.e., some explanation of the means by which form could be conveyed beyond the models of simple replication presented by the kind of crystal formation at work in a «Diana's Tree».

Kant was also interested in the problem, asking his own readers in 1763 whether it made any sense to say that each plant and animal was «directly formed by God, and thus of supernatural origin, with only propagation, that is to say, only their periodic transition for the purposes of expansion being entrusted to a natural law», or if it was rather the case that while the plant and animal kingdoms were themselves created by God, individual members «possess the capacity, which we cannot understand, actually to generate their own kind in accordance with a regular law of nature, and not merely to unfold them»? (2:114)[23]. After investigating the options, Kant found none of the explanations offered up by the various theorists convincing, and by 1790 he would simply state that there would never be a «Newton of the blade of grass,» and that the best approach was simply to assume some sort of «generic preformation» of the species lines at creation, an initial form of organisation after which nature became responsible, in ways that remained «inscrutable,» for the actual generation of new individuals (5:400-424)[24].

This sort of epistemic caution was typical for Kant, and he is consistent in placing much of his philosophy under the caveat of a heuristic approach only, albeit one with both urgency and necessity so far as it proceeded on the basis of our need to find an orientational guideline amidst uncertainty. This makes the essays on race produced by Kant especially curious. For while they too were cast by him at times as developing only a speculative theory to entertain and relax the mind, as something fun for a hobbyist like himself to think about, the essays themselves are wholly serious in both tone and aim. And this is nowhere so clear as in the first essay on race. For in this piece what we find is indeed an attempt to create a new language for thinking about racial difference, one which in combination with a fresh account of the means for variation and the inheritance of traits, aimed to provide exactly the kind of natural history that could

*of Nature. Readings from Buffon and His Critics*, University of Notre Dame Press, Notre Dame 1981, pp. 314-27, p. 322.

[23] Immanuel Kant, *Der einzig mögliche Beweisgrund zu einer Demonstration des Daseins Gottes* (1763); Eng. trans. and ed. by David Walford in *Theoretical Philosophy: 1755-1770*, Cambridge University Press, Cambridge 1992, pp. 107-201, pp. 156-7.

[24] Immanuel Kant, *Kritik der Urteilskraft* (1790); Eng. trans. by Werner Pluhar, Hackett Publishing Co., Indianapolis 1997, pp. 282-311.

bring together the artificial taxonomy of Linnaeus on the one hand, and Buffon's criterion for species membership on the other.

Kant's larger ambitions aside, the basic theory can be sketched quickly: each species was endowed by nature at creation with a set of preformed germs and dispositions capable of adaptation, but once adaptation had taken place, the species became fixed. As Kant explained this in part: «In the migration and transplanting of animals and plants, nature creates the semblance of new kinds [*Arten*], yet they are nothing other than variations [*Abartungen*] and races [*Racen*] of the same species [*Gattung*], the germs and natural dispositions of which have merely developed on occasion in various ways over long periods of time» (2:434). As we saw earlier, Kant «solved» the problem of form by appeal to some initial divine organisation (as he put it in 1763) or generic preformation (in 1790); the process of initial variation proceeded on the basis of an implanted capacity for adaptation to various environmental pressures; and the inheritance of traits was covered by way of vague reference to effects on the reproductive parts. So far so good, but what really stands out as original in the piece is Kant's development of a new vocabulary meant to convey all of this, and more than that, to convince theorists of the special utility of his new racial taxonomy as an exemplar for rethinking the relationship between natural description and natural history.

Peter McLaughlin has helpfully put together a list of Kant's terms, so we can start with a look at his list alongside an English-language translation concordance of Kant's key terms as they appear in the current Cambridge and SUNY editions[25].

anerben (intrans.) – to continue or breed true (a trait breeds true)
ererben – to inherit (an organism inherits a trait)
vererben – to pass on (an organism passes on a trait)
abarten – to degenerate, deviate from the original form (an organism deviates)
anarten (Anartung) (intrans.) – to be propagated (a trait is propagated)
anarten (Anartung) (with dat. object) – to adapt to (an organism adapts to a climate)
ausarten (Ausartung) – to deviate beyond the possibility of reversal (literally to speciate, but

[25] Peter McLaughlin, *Kant on Heredity and Adaptation*, in Staffan Müller-Wille, Hans-Jörg Rheinberger (eds.), *Heredity Produced: At the Crossroads of Biology, Politics, and Culture, 1500-1870*, MIT Press, Boston 2007, pp. 277-91, p. 286. McLaughlin notes that «Verartung» only appears in Kant's 1785 review of Herder, i.e., regarding Herder's wish for «eine physische-geographische geschichte der Abstammung und Verartung unsers Geschlechts nach Klimaten und Zeiten» (8:59); Eng. trans. by Günter Zöller in *Anthropology, History, and Education*, pp. 121-42.

used here for change within the species that establishes a race)
einarten (with preposition in) – acclimatize (an organism fits into an environment)
nacharten (Nachartung) (trans.) – to take after (an F2 trait takes after an F1 trait)
nacharten (Nachartung) (intrans.) – to continue or breed true (a trait breeds true)
Verartung – diversification (of a *species* into geographic varieties)

"Of the different races of human beings":

| **1775** | **Cambridge** | **SUNY** |
|---|---|---|
| Race | Race | race |
| Gattung | Species | species |
| Art | Kind | kind |
| Stamm, Abstammung | Phylum | line of descent, lineal stem stock |
| Abartung | subspecies, variety | deviation |
| Spielart | Strain | variation |
| Varietät | Variety | variety |
| Schlag | Sort | stock |
| Ausartung | Degeneration | degeneration |
| Stammgatttung | phyletic species | lineal stem species |

The differences in heritability of the categories of difference as Kant employs them can been usefully charted as follows[26]:

**Kant on the Permanence of Defining Characters**

| **low heritability** | Strain (*Schlag*) | Variety (*Varietät*) | Sport (*Spielart*) | Race (*Rasse*) | **high heritability** |
|---|---|---|---|---|---|
| | Variable, dependent on environment | Generally transmitted | Invariably transmitted in incrosses | Invariably transmitted even in outcrosses | |

[26] Peter McLaughlin, *Kant on Heredity and Adaptation*, p. 283.

As Kant puts all of this into prose:

> Among the subspecies, i.e., the hereditary differences of the animals which belong to a single lineage, those which persistently preserve themselves in all transplantings (transpositions to other regions) over prolonged generation among themselves and which also always beget half-breed [*halbschlächtige*] young in the mixing with other variations of the same lineage are called *races*. Those which persistently preserve the distinctive character of their variation in all transplantings and thus regenerate, but do not necessarily beget half-breeds in the mixing with others are called *sports* [*Spielarten*]. Those which regenerate often but not persistently are called *varieties* [*Varietäten*]. Conversely, that variation which produces other half-breeds but which extinguishes gradually through transplantings is called a special *sort* [Schlag]. In this way, *Negroes* and *whites*, while not different kinds [*Arten*] of human beings (since they belong presumably to one line [*Stamm*]), are still two *different races* because each of the two perpetuates itself in all regions and both necessarily beget half-breed children or *blends* (mulattoes) with one another (2:431).

Now for the sake of avoiding any confusion, a technical point should made at the start. In Kant's essays on race, *Gattung* is best understood to be in line with Kästner's translation of *espèce*, and translated as *species* in English. In Kant's discussions regarding a logical set of hierarchical classes, however, such as one finds in the *Critique of Pure Reason*, *Gattung* is often more sensically translated as *genus*, with *Art* translated as *species* in that pairing. This is clearly the case in Kant's discussion of reason's need to organise nature with ideas aiming at maximal unity, diversity, and the affinities between them:

> The logical principle of genera [*Gattungen*], which postulates identity, is balanced by another principle, namely that of species [*Arten*], which calls for manifoldness and diversity in things, notwithstanding their agreement as coming under the same genus [*Gattungen*] and which prescribes to the understanding that it attend to the diversity no less than the identity. […] reason thus exhibits a twofold, self-conflicting interest, on the one hand interest in *extent* (universality) in respect of genera [*Gattungen*], and on the other hand in *content* (determinateness) in respect of the multiplicity of the species [*Arten*]. In the one case the understanding thinks more *under* its concepts, in the other more *in* them (A654/B682)[27].

[27] Immanuel Kant, *Kritik der reinen Vernunft* (1781/1787); Eng. trans. by Norman Kemp Smith, Palgrave, London 1929, 2007 rev. sec. ed., p. 540.

This is different than the way Kant uses *Gattung* and *Arten* in the race essays, since here the entities are being defined by Buffon's *physical* criterion for membership in a species or kind, i.e., the ability to produce fertile offspring with another member of the group. We can see this in the opening paragraphs of the 1775 essay on race.

> The natural division into species [*Gattung*] and kinds [*Arten*] in the animal kingdom is grounded on the common law of propagation, and the unity of the species [*Gattung*] is nothing other than the unity of the generative power that is universally valid for a certain manifoldness of animals (2:429)

> An animal species [*Gattung*] which at the same time has a common lineage [*Stamm*] contains under itself not different *kinds* [*Arten*] (since the latter designates a difference in line of descent [*Abstammung*]); rather their divergences from one another are called subspecies [*Abartungen*] if they are hereditary. If the hereditary marks of the line agree with their point of origin, they are called *regenerations* [*Nachartungen*]; however, if the subspecies could no longer provide the original formation of the line, then it would be called *degeneration* [*Ausartung*] (2:430).

As he will argue later in the essay: «*Natural history*, which we still lack almost entirely, would teach us about the changes in the shape of the earth, likewise about its creatures (plants and animals) and what they have undergone through natural migrations, and the resultant subspecies [*Abartungen*] from the prototype of the line. It would presumably trace a great many of seemingly different kinds [*Arten*] to [*mere*] races of the same species [*Gattung*] and would transform the school system of the description of nature, which is now so extensive, into a physical system for the understanding» (2:434). In these remarks Kant is heading toward a particular point in line with his commitment to the monogenesis of the human species: there are not different kinds of humans because «kinds» suggests distinct points of origin or the polygenesis of the human races. He will repeat the point in the 1785 and 1788 essays on race. Here is what he says in 1785:

> The class of the whites is not distinguished from the class of the blacks as a special kind within the human species [*Menschengattung*], and *there are no different kinds* [*Arten*] *of human beings*.

> Initially, when looking only for characters of comparison (in terms of similarity or dissimilarity), one obtains *classes* of creatures under a species [*Gattung*]. If one looks further to their line of descent [*Abstammung*], then it must

> become apparent whether those classes are many different *kinds* [*Arten*] or only *races*. The wolf, the fox, the jackal, the hyena and the house dog are so many classes of four-footed animals. If one assumes that each of them required a special line of descent [*Abstammung*], then they are so many kinds [*Arten*]. However, if one concedes that they also could have originated from one line of descent [*Stamm*], then they are only races of the latter. In **natural history** (which is concerned only with generation [*Erzeugung*] and descent [*Abstamm*]), *kind* [*Art*] and *species* [*Gattung*] are not distinguished as such. This distinction occurs solely in the **description of nature**, in which only the comparison of marks matters. What is here called *kind*, is often only called *race* there (8:100).

Here Kant is emphasising the difference in how we might view group membership in a system determined by arbitrarily chosen external marks and one where physical conspecifity is required. Based on looks alone, we might insist that foxes and dogs are different kinds; if we were to determine however that foxes and dogs were able to produce fertile offspring, then we would be forced to consider the possibility that they shared a line of descent (cf. 8:102). Only the latter way of approaching the question belongs to natural history, and it means that within *this* domain, terms like «kind» mean something altogether different than they do in an artificial system made up of *nominal species* or «*Schulgattungen*» as opposed to a «*Realgattungen*» (cf. 8:178). Kant makes the point again in 1788:

> The appellations of the *classes* and *orders* express quite unambiguously a merely logical separation which *reason* makes among its concepts for the purpose of comparison only. However *genera* [*Genera* (Latin)] and species [*Species* (Latin)] can also refer to the *physical* separation which *nature* itself makes among its creatures with respect to their *generation* [*Erzeugung*]. Thus the character of the race can be sufficient for classifying creatures in accordance with it, but not for making a special *species* [*Gattung*] out of them, since the latter could also refer to a separate line of descent [*Abstammung*], which we do not want to be understood by the name of a race. It needs no explaining that we here take the word class not in the extended meaning in which it is taken in *Linné's* system; but use it for division with an entirely different intention (8:164).

And we find once more the same insistence by Kant that in this domain we have to understand the categories of species and kind to be determined only by conspecifity within a given line of descent: «Thus in natural history species [*Gattung*] and kind [*Art*] would mean one and the same thing» namely, inheritance of line-specific «peculiarities» which make them incompatible with or siloed off

from other lines of descent. By contrast, he insists, race is a trait that can be inherited in such a manner that it manages to be compatible with the human line as a whole, even as its necessary inheritance makes it stable enough for it to create a durable division into a subspecies (8:165; cf. 8:99)[28].

With that much clear, we can now return to the 1775 essay with attention to Kant's use of *ausarten*. As mentioned already, Kant follows Kästner in using this verb and its cognates for the kind of degeneration that would create a new line, one no longer capable of producing fertile offspring with members of the parent line of descent. As he tells readers later in the 1775 piece:

> Air, sun, and nutrition can modify the growth of an animal body but they cannot also provide this change with a generative power that would be capable of reproducing itself even without this cause; rather what is supposed to propagate itself must have laid previously in the generative power as antecedently determined to an occasional unfolding in accordance with the circumstances in which the creature can find itself and in which it is supposed to persistently preserve itself. For the animal must not be subject to a foreign intrusion into the generative power, which would be capable of gradually removing the creature from its original and essential determination and of producing true degenerations [*Ausartungen*] that would perpetuate themselves (2:435).

This prohibition against the production of new kinds or «true degenerations» with an ability to produce fertile offspring, is repeated by Kant in every discussion of organic generation in the 1780s.

[28] Attention to the language here, and especially to the importance of Kästner's translation choices for Buffon's texts, can clarify much of what seems to be obscure and even inconsistent in Kant's discussion of species, variety, and race. As a result I am led to disagree, therefore, with the direction taken when reading these passages by both Phillip Sloan and Stella Sandford. Each translates *Gattung* as genus when reading the race essays, a choice that creates unnecessary conceptual confusion, in my view, not least because Buffon's rule would certainly not hold at the *genus* level. Indeed, it is because of this decision to use genus for Gattung that Sandford goes so far as to argue that Kant has eliminated the category of species altogether in favour of a taxonomy of just genus and race. Her conclusion might well be warranted if one were to focus on the permanence of racial types and eliminate the category of species – certainly Kant's theory suggested something along these lines to Forster – but as I demonstrate here, this is not what Kant's texts suggest once one becomes clear on the language in play. See Phillip Sloan, *Buffon, German Biology, and the Historical Interpretation of Biological Species*, «The British Journal of the History of Science», 12 (1979) 2, pp. 109-53; Stella Sandford, *Kant, Race and Natural History*, «Philosophy and Social Criticism», 20 (2018), pp. 1-18, and *The Taxonomy of Race and the Anthropology of Sex: Conceptual Determination and Social Presumption in Kant*, in Susanne Lettow and Tuija Pulkinnen (eds.), *The Palgrave Handbook of German Idealism and Feminist Philosophy*, Palgrave, London 2023, pp. 131-50.

What then are we to make of Kant's decision to use *Ausartung* for describing racial determination in 1775? In the portion of the essay devoted to tracking the shaping effects of climate and geography on a subspecies, Kant notes at the opening «that *air* and *sun* appear to be those causes which most deeply influence the generative power and produce an enduring development of the germs and predispositions, i.e., are able to establish a race,» for «in order to adhere to the generative power, something must affect not the *preservation* of life but its *source*, i.e., the first principles of its animal set-up and movement.» Thus «the human being, transposed to the glacial zone, had to gradually degenerate [*ausarten*] into a smaller stature because in the latter – with the power of the heart remaining the same – the circulation of the blood occurs in a shorter time, thus the pulse becomes faster and the warmth of the blood increases» (my emphasis, 2:436). The essay continues in much the same manner, with Kant suggesting one selective pressure after another as a basis for understanding a people's resultant phenotype.

For the 1777 publication of Kant's essay (recall that in 1775 it had only been printed as an announcement for that year's iteration of the Physical Geography course), Kant rewrote the final paragraphs of the course announcement and added a final section to the essay. Announcing that «all subspecies [*Abartungen*] still need a lineal species [*Stammgattung*]», Kant starts out by admitting that «one cannot hope to find the original human shape unchanged anywhere in the world now» given the long history of local adaptations that we must presume to have taken place thus far (2:444). That said, he is still ready to speculate on the probable location and look of early members of the species (white brunettes located somewhere between the 31st and 32nd degree of latitude)[29], before closing the essay with an account of a specific problem facing naturalists. The problem was the same one Darwin later confronted in the lead up to the *Origin of Species*, namely, how to explain phenotypic differences between peoples located far apart but nonetheless subject to similar climatic conditions. «America in its hottest climate exhibits no east Indian shape, much less a Negro shape native to the country» as Kant explains the problem, and «in

[29] Kant's location between 31 and 32 degrees has been mistakenly cited as between 31 and 52 degrees in the Academy edition (2:440) and then reproduced in the Cambridge and SUNY translations. For Kant's original see *Der Philosoph für die Welt*, herausgegeben von J.J. Engel, zweiter Theil, Leipzig, 1777, p. 158. My thanks to Peter McLaughlin for pointing this out to me.

Arabia or Persia there is no indigenous Indian olive-yellow colour, despite the fact that these countries very much agree with India in terms of climate and property of the air, and so on» (2:241-42). Kant's solution would be to argue that once a racial type had been set, no further *racial* adaptation could take place, regardless of subsequent transplantings. In his words, «only the lineal formation [*Stammbildung*] can degenerate [*ausarten*] into a race; however, once a race has taken root and has suppressed the other germs, it resists all transformation just because the character of the race has become prevailing in the generative power» (my emphasis, 2:442).

The choice of *ausarten* is deliberate on Kant's part, and what confirms this is the repeated emphasis placed on the *permanence* of racial categories in the 1785 essay. The tenor of this essay is different than the first one, with most of Kant's energy devoted to the small goal of restating the definition of the concept of race that he had provided ten years earlier: «Among the subspecies [*Abartungen*], i.e., the hereditary differences of the animals which belong to a single line of descent, those which persistently preserve themselves in all transplantings (transpositions to other regions) over prolonged generation among themselves and which also always beget half-breed [*halbschlächtige*] young in the mixing with other subspecies of the same line of descent [*Abstammung*] are called *races*» (2:430). In 1785 Kant is at pains to emphasise the fact of racial fixity, insisting again and again that when it comes to a proper determination of the concept of race we must look to «*the classificatory difference of the animals of one and the same line of descent in so far as this difference is unfailingly hereditary*» (8:100). With this definition – and indeed with Kant's special vocabulary now well in view – we can see that racial fixity has assumed the same significance for Kant as species fixity. Had he given up on the monogenesis of the species? Not at all, as we saw before in his repeated insistence that the races were not different *kinds*. But if he was not a polygenist, he had nonetheless produced a theory that came about as close as possible to adopting an explanation of racial formation that amounted to the special creation, to the *ausarten*, of durable racial types.

Kant might well have understood this, since the verb disappears after 1777 from his explanation of racial formation. But when Georg Forster published his response to Kant's 1785 essay, he picked up immediately on Kant's attention to the stability of the racial types, challenging Kant's effort to explain these as subspecies only. As For-

ster put it, if the Latin term «species» were to be translated into German as «*Gattung*», then unalterable distinguishing features «in the Linnaean sense» are required. Kant might well have wanted to say the situation was different for natural history given its concern with «generation and descent», but surely this turned it into «a science for gods and not for human beings»[30]. When Kant responded to Forster in the 1788 essay on race, he would continue to insist on the unity of the human species, explaining to Forster that he would continue to translate race as «subspecies [*Abartungen*] (progeny that establishes a class), in order to distinguish race from degeneration [*Ausartung*] (progeny that establishes a species)» (8:164). As for the early hopes for some kind of rapprochement between taxonomy and an approach focused on generation and descent, Kant is now ready to declare that the two sciences are «entirely heterogeneous» (8:162)[31]. He will continue to maintain, however, that the concept of race can extend natural historical investigations so far as it is can serve as a heuristic tool that would be «well-grounded in the reason of each observer of nature» (8:163). Despite their heterogeneity, therefore, observational work in natural history still has a positive role to play.

> The *human species* [*Menschengattung*] (understood in accordance with its universal marks in the description of nature) could be divided in a system of natural history into *a stem-line* or lines [*Stamm*, *Stämme*], *races* or subspecies (*progenies classifica*) and different *human sorts* [*Menschenschlagen*], the last of which do not contain unfailing marks that are hereditary according to a law to be specified and thus are not sufficient for a division into classes either (8:164).

If the investigator of nature proceeds in this way, then «one gets to know more closely the extent of actual cognitions in natural history (for one possesses some) as well as the latter's limits, which lie in reason itself, together with the principles according to which natural history could be enlarged in the best possible manner» (8:162).

What were these «teleological principles for use in philosophy», as Kant titled his response? They seem to be akin to the ideas described before in the Appendix to the *Critique of Pure Reason*, and thus functioning in line with reason's need to sort nature into lines

[30] Georg Forster, *Noch Etwas über die Menschenraßen*, p. 156.

[31] For a thoughtful discussion of Kant's many efforts to distinguish natural description from natural history, see John Zammito, *The Gestation of German Biology: Philosophy and Physiology from Stahl to Schelling*, University of Chicago Press, Chicago 2018, pp. 224-33.

of maximal unity while not losing sight of its evident diversity. As Kant puts it in 1788, the vocabularies of difference work together as «an idea of the way in which the greatest degree of manifoldness in generation can be united by reason with the greatest unity of descent [*Abstammung*]. Whether there really is such an affinity in the human species [*Menschengattung*] must be decided through the observations that make known the unity of descent» (8:164). Only by employing a teleological principle regarding the unity of the human species, in other words, and then searching for clear signs of a *unity of descent* among its four subspecies or races by way of attention to biracial children, according to Kant, do we engage in the work of natural historical investigation. The work of natural description, by contrast, is one where systematists create only a collection of titles, producing thereby indeed a methodical nomenclature, but one with sets of nominal affinities alone.

With this I think we can bring the «mapping exercise» to a close for now. The importance of Buffon as a source for Kant – and perhaps of Forster too, as a prod for Kant to try again for a third time to clarify his position – has been shown above all in their opening up a larger question for Kant regarding the relationship between genealogy and typology, and within that for thinking about unity and difference, and in particular of variation and inheritance in the history of the human species as a whole.