

Challenging ‘Derivative’ Explanations of Scientific Racism: The Case of Dr. J.C. de Man (1818–1909)

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ABSTRACT

This article evaluates the historiography of late nineteenth-century sciences of race. A key aspect of this historiography is the idea that sciences of race were designed specifically to justify preexisting ideas about race. This aspect is defined as the ‘derivative explanation of scientific racism’. I critique this explanation by focusing on one specific science of race, craniometry, and using one particular craniometrist, Dr. J.C. de Man (1818–1909), as a case study. I argue, first, that historians of the derivative explanation cause confusion because they apply current racial language in their characterization of craniometry of the past; second, that they overlook the emerging ideal of objectivity in science; third, that they tend to reduce social motivations for practicing science to being racial by definition.

Keywords: Craniometry; Dr. J.C. de Man; Objectivity; Scientific Racism

Introduction

Historians usually maintain that late nineteenth-century sciences of race, including craniometry, were ‘ethnocentric or simply racist practice[s]’.¹ A recurrent aspect of this historiography is the idea that sciences of race were designed specifically and intentionally to justify preexisting ideas about race. Racism, in this model of explaining scientific racism, precedes the science that justifies it. Kay Anderson and Colin Perrin characterize such assertions as explanations in which scientific racism is seen as ‘derivative of racial discourse’.² Following

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1 Kay Anderson and Colin Perrin, ‘Thinking *with* the Head: Race, Craniometry, Humanism’, *Journal of Cultural Economy* 2:1–2 (2009) 83–98, 84. <https://doi.org/10.1080/17530350903064089>.

2 *Ibidem* 84.

this characterization, I will refer to this trend in historiography as *derivative explanations of scientific racism* in the remainder of this article.

After a brief historiographical review in which I illustrate the derivative explanation of scientific racism, I will present three criticisms of this type of historiography by examining one particular science of race – craniometry – and focusing on one particular craniometrist: Dr. Johannes Cornelis de Man (1818–1909), a physician and scientist who operated in Middelburg, in the province of Zeeland, the Netherlands. Using De Man’s publications and correspondence to reconstruct the scientific context in which he operated, I will suggest that historians of the derivative explanation of scientific racism tend to make three conceptual mistakes. First, these historians tend to apply current racial language in their characterization of craniometry, causing a confusion between different historical meanings. Second, these historians tend to overlook the fact that scientists of the late nineteenth century were guided by ideals of objectivity; this notion contradicts the idea that craniometry was designed specifically to confirm a priori conclusions, which would imply a conscious sacrifice of the pursuit of objectivity. Third, these historians tend to assume that social motivations that encouraged craniometrists to practice their science were by definition about establishing or preserving certain race relations in society; this is a generalization because it overlooks other social motivations, such as nationalism.

De Man and Craniometry

The particular science of race examined in this study, craniometry, emerged as a sub-discipline of physical anthropology in the second half of the nineteenth century, but had its roots in a variety of earlier scientific theories and practices. The practice of measuring skulls emerged first in the works of anatomists such as Peter Camper (1722–1789) and later Johann Friedrich Blumenbach (1752–1840). In the same period as Camper, Johann Caspar Lavater (1741–1801) published his works of systematic physiognomy, which was later further elaborated by Carl Gustav Carus (1789–1869). Physiognomy was originally concerned with faces, but later incorporated the whole skull; it aimed to demonstrate that unequal levels of intelligence in individuals were due to different facial or cranial formations. Another influence on later craniometry was phrenology, which was founded by Franz Joseph Gall (1758–1828) and further elaborated upon by his follower Johann Caspar Spurzheim (1776–1832). Like physiognomy, phrenology propagated the idea that there was a relationship between bodily features and psychological attributes, but it extended this theory with the idea that the form of the skull is indicative of the strength of the underlying organs in the brain. Unlike physiognomy, phrenology became concerned with races, especially in the United States, although it remained focused on individuals. At the same time, historians started to adopt the idea of race as an essential causal factor in history, thereby popularizing the notion of historical races.³

Cranial measuring as it was later embraced by physical anthropologists started with the publication *The Physiological Characters of Human Race, Considered in their Relationships to*

3 Gustav Jahoda, ‘Intra-European Racism in Nineteenth Century Anthropology’, *History and Anthropology* 20:1 (2009) 37–56, 38–39. <https://doi.org/10.1080/02757200802654258>. For a more elaborate overview of the scientific context in which craniometry emerged, see, for instance, Anne Harrington, ‘The Brain and the Behavioral Sciences’, in: P.J. Bowler and J.V. Pickstone (eds.), *The Cambridge History of Science*, vol. 6: *Modern Life and Earth Sciences* (Cambridge 2009) 504–523. <https://doi.org/10.1017/CHOL9780521572019.028>.

History by physiologist and ethnologist William Frederic Edwards (1777–1842), in which he argued that the essential character of race is skull form. He subscribed to the phrenology-inspired idea that there was an association between physical and mental variations, and applied this theory to large populations in order to examine the idea of historical races. Similar ideas were developed by the Swedish anatomist Anders Retzius (1796–1860). He studied the shape of both ancient and contemporary skulls, and is well known for introducing the Cephalic Index, which he used to quantify and categorize skulls, and which was later widely adopted by craniometrists, including De Man.⁴

Following Retzius, the practice of measuring skulls was widely adopted by anthropologists later in the century, such as Paul Broca (1824–1880), Franz Pruner (1808–1882), and George Vacher de Lapouge (1854–1936). In the second half of the nineteenth century, physical anthropology came to be articulated increasingly as a distinct discipline throughout Europe. The project of physical anthropology was to capture human differences in numbers; the extensive recording of skull measurements into elaborate data sets became an important tool in this project.⁵ This practice was referred to as 'craniometry' or 'craniology' – the subject of this case study used the Dutch word 'craniologie', while his American correspondent William Z. Ripley used the two terms interchangeably.⁶ In the remainder of this article I will refer to craniometry, as most historians of the subject do.

One actor in the emerging field was Dr. Johannes Cornelis de Man, who considered his discipline to be, indeed, a subfield of anthropology.⁷ De Man was born in Middelburg in the province of Zeeland, the Netherlands, in 1818. After attending the Latin school there, he studied in Leiden between 1836 and 1842, where he graduated in medicine, obstetrics, and surgery. Between 1841 and 1842, he studied abroad in Paris and Vienna. After his studies, he returned to Middelburg, where he became a physician with his own practice. He occupied several additional positions within the city's medical community: he was city physician of Middelburg between 1845 and 1859, teacher of anatomy at the city's medical school from 1853 until its discontinuation in 1866, and an active member of several medical commissions and associations, including the medical reading association De Harmonie, the Geneeskundige Raad (medical council), and the Zeelandic department of the Nederlandsche Maatschappij der Bevordering der Geneeskunst (Dutch Society for the Advancement of Medicine). As a physician, De Man belonged to the hygienists ('hygiënisten'), a movement among physicians that believed that strategies to combat epidemics such as cholera were most effective if they were formulated according to findings of statistical research that had been conducted on a large scale. The hygienist approach to epidemiology replaced earlier research strategies

4 Jahoda, 'Intra-European Racism' (n. 3) 39–41. See, for example, J.C. de Man, 'De verspreiding der bevolking in oud-Zeeland's eilanden Walcheren, Noord- en Zuid-Beveland en Saftinge, opgehelderd door craniologische onderzoekingen. Rapport van de Commissie voor Ethnographie', in: J.C. de Man, *Craniologica et Ethnographica Zelandica: drie studies, herdrukt uit het Nederlandsch Tijdschrift voor Geneeskunde 1885–1889–1895* (Rotterdam 1944) 88–90.

5 Fenneke Sysling, *De onmeetbare mens. Schedels, ras en wetenschap in Nederlands-Indië* (Nijmegen 2015) 11.

6 See, for example: J.C. de Man, 'Boekaankondiging J. Sasse Az. Over Zeeuwse schedels' (overdruk uit Nederlandsch Tijdschrift voor Geneeskunde 1891, 476–483), in: Zeeuws Archief, Middelburg, Archief 26: Koninklijk Zeeuwsch Genootschap der Wetenschappen 1769–1969; inv.no. 11, no. 340: 'Craniologica', bundel overdrukken van artikelen door dr J.C. de Man, met meegebonden ingekomen stukken, foto's, tekeningen en situatietaartjes, 1865–1895 [hereafter ZA 26: KZGW 11, 340: 'Craniologica']; William Z. Ripley, *The Races of Europe: a Sociological Study* (New York 1899).

7 De Man, 'Boekaankondiging J. Sasse Az.' (n. 6) 478.



Fig. 1: Photograph of Dr. Johannes Cornelis de Man around the end of the nineteenth century. (Source: Zeeuws Archief, Zeeuws Genootschap, *Zelandia Illustrata*, vol. IV, no. 155–19).

that were based on informal and anecdotal correspondence between physicians spread out through the country.⁸

In addition to his medical activities, De Man also actively conducted research and published in a wide range of fields, including medical topography, pharmaceuticals, teratology, paleontology, the history of Zeeland, and anthropology. He became a member of the Zeeuwsch Genootschap der Wetenschappen (Zeeland Society of Arts and Sciences) in 1845, and was its chairman between 1895 and 1900. Much of his work was published in the

⁸ *Encyclopedie van Zeeland*, vol. 2 (Middelburg 1982) 280–281; E.S. Houwaart, *De hygiënist. Artsen, staat & volksgezondheid in Nederland 1840–1890* (Groningen 1991) 238.

official journal of the Zeeuwsch Genootschap (*Archief*), but he also published some of his work on his own.⁹

De Man married Neeltje Elisabeth Kamerman in 1849, and they had three children: a son named Johannes Govertus de Man, who later became a biologist, a daughter named Antoinette de Man, and another daughter named Maria de Man, who would later become active in the Zeeuws Genootschap as curator and numismatist. De Man was not affiliated with a religious denomination, and took an agnostic position towards questions about religion.¹⁰

The Derivative Explanation of Scientific Racism

Anderson and Perrin introduce a distinction between two approaches to explaining scientific racism in nineteenth-century craniometry. First, it is possible to approach the practice as *constitutive* of racial discourse; craniometry is regarded as contributive to the constitution of racial discourse rather than a product of racial prejudice. Second, it is possible to approach the practice as *derivative* of racial discourse; here, craniometry is assimilated 'to some overarching impulse or purpose, such as a racist conviction or an imperial project.'¹¹

Among derivative approaches to explaining scientific racism, Anderson and Perrin discern a 'familiar claim that nineteenth-century racial craniometry was designed to biologise longstanding aesthetic prejudices about variations in human physical appearance.'¹² Indeed, some historians of craniometry seem to adhere to a model of explanation in which racism precedes rather than follows the racist science. Thus, such historians imply that sciences of race were specifically designed to justify preexisting ideas about race. This implication is, for instance, present in Stephen Jay Gould's famous 1981 publication *The Mismeasure of Man*, in which Gould argues that the craniometrist Paul Broca 'used numbers not to generate new theories but to illustrate a priori conclusions.'¹³ Similarly, Fenneke Sysling argues that '[Dutch anthropologists] were guided to their field sites by their preconceived ideas about differences and hoped that these were measurable with their anthropological instruments.'¹⁴ Likewise, Patricia Fara notes that 'in addition to skull size [...], many other human characteristics [...] have been measured to justify discrimination between races and sexes on the grounds of inherent physical differences.'¹⁵ Terenzio Maccabelli, then, describes the works of the anthropologists Georges Vacher de Lapouge and Otto Amon as 'aimed at placing racism on a scientific basis.'¹⁶

9 *Encyclopedie van Zeeland* (n. 8) 280–281; W. Polman Kruseman, *Ter herinnering aan Dr. J.C. de Man* (Middelburg 1910) 24.

10 *Ibidem*.

11 Anderson and Perrin, 'Thinking with the Head' (n. 1) 84–85.

12 Colin Perrin and Kay Anderson, 'Reframing Craniometry: Human Exceptionalism and the Production of Racial Knowledge', *Social Identities. Journal for the Study of Race, Nation and Culture* 19:1 (2013) 90–103, 90. <https://doi.org/10.1080/13504630.2012.753346>.

13 Stephen Jay Gould, *The Mismeasure of Man: Revised and Expanded* (New York and London 1996) 106.

14 Fenneke Sysling, 'Geographies of Difference: Dutch Physical Anthropology in the Colonies and the Netherlands, ca. 1900–1940', *BMGN – Low Countries Historical Review* 128:1 (2013) 105–126, 107. <http://doi.org/10.18352/bmgn-lchr.8357>.

15 Patricia Fara, *Science: A Four Thousand Year History* (Oxford 2009) 191.

16 Terenzio Maccabelli, 'Social Anthropology in Economic Literature at the End of the 19th Century: Eugenic and Racial Explanations of Inequality', *The American Journal of Economics and Sociology* 67:3 (2008) 481–527. <https://doi.org/10.1111/j.1536-7150.2008.00584.x>.

These derivative explanations *implicitly* suggest that the outcomes of science were intentionally forged according to criteria distinct from natural phenomena. To be sure, few historians would argue that bias was an *explicit* actor's category. But in the phrasing of derivative accounts, an image of some sort of conscious subjectivity nevertheless emerges; in arguing that scientists 'used numbers [...] to' (Gould) or 'measured to' (Fara) this or that end, they depict science as merely the instrument of racism, deliberately and purposefully employed by scientists to that end only.¹⁷

Drawing upon Anderson and Perrin, I will refer to this historiographical tendency as the *derivative explanation of scientific racism*. The aim of this article is to reveal three weaknesses in that historiography, using the case study of Dr. De Man.

The Idea of Race and Racial Language

The first criticism of historians who defend a derivative explanation of scientific racism is that they tend to cause confusion between different historical meanings by applying current racial terminology to the nineteenth century. In science, the idea of race, which I define simply as the idea of how human beings could possibly be divided into groups, has evolved since De Man's time. The idea of race informs racial language. As a result of the evolution of the idea of race, therefore, scientific racial language has also evolved. In the following paragraphs, I will attempt to reconstruct the difference between a current and a nineteenth-century idea of race. Furthermore, I will give examples of how this idea informed, and still informs, racial language.

In the nineteenth century, the idea of race was broader and less well-defined than today. First, the idea of race was not defined strictly in terms of the biological. K. Anthony Appiah has argued that, by the end of the nineteenth century, most Western scientists had the belief that 'we could divide human beings into a small number of groups, called "races", in such a way that the members of these groups shared certain fundamental, heritable, physical, moral, intellectual, and cultural characteristics with each other that they did not share with members of any other race.'¹⁸ Appiah refers to this idea of race as 'racialism'. Racialism thus entailed the idea that cultural characteristics were 'inherited along with (or were in fact part of) a person's racial essence.'¹⁹ The English poet, cultural critic, and contemporary of De Man, Matthew Arnold (1822–1888), for instance, had a conception of race in which the character of literature that a race produced was essential to that race.²⁰

De Man's publications reflect this idea of racialism in that craniometrical research was usually combined with inquiries into culture – history and archaeology – in order to identify the racial origin of a skull or set of skulls.²¹ Moreover, races were often divided into sub-groups that usually coincided with cultural, religious, or national affiliations. De Man, in 'Beschrijving van eenige in het strand van Walcheren gevonden schedels' (Description of some skulls found at the beach of Walcheren), for instance, divided the sub-groups

17 Gould, *The Mismeasure of Man* (n. 13) 106; Fara, *Science* (n. 15) 191.

18 K. Anthony Appiah, 'Race, Culture, Identity: Misunderstood Connections', in: *Tanner Lectures on Human Values*, vol. 17 (Salt Lake City 1996) 51–136, 79–81.

19 Appiah, 'Race, Culture, Identity' (n. 18) 81.

20 *Ibidem* 79.

21 See for example J.C. de Man, 'De begraafplaats "Bloemendaal" te Domburg', in: De Man, *Craniologica et Ethnographica Zelandica* (n. 4); De Man, 'De verspreiding der bevolking' (n. 4).

according to skull type into 'korthoofden' (the short-headed), 'langhoofden' (the long-headed) and 'middelhoofden' (the average-headed), but nevertheless distinguished between different groups within these categories. The long-headed, for example, included both the Lappish, the Turkish, and the Italians.²²

Second, racial divisions, in the nineteenth century, did not have clear boundaries. Racial characteristics were often described as dispositions or tendencies, and were not necessarily observable in every individual of a race.²³ Indeed, De Man did not consider individual deviations problematic. In 'Bijdrage tot de kennis van den schedelvorm in Walcheren' (Contribution to the knowledge of skull shapes in Walcheren), for instance, he noted that there are many deviations in 'hoofdmaat' (head size) among the people from Walcheren. But these individual deviations did not prevent him from drawing conclusions about larger tendencies towards a specific racial makeup.²⁴

The fact that the idea of race, in De Man's time, was rather loose – broad and without clear boundaries –, informs the racial language of the time. De Man, for example, used several words that subtly differed in meaning to approach the idea of a racial category. Usually, when considering the idea of race especially as defined by skull size, he used 'type', whereas 'stam' (tribe) was often used for a broader category that incorporated aspects of culture as well.²⁵ Other words to refer to the idea of race included 'groep' (group), 'volk' (people), 'nationaal typus' (which translates to national type and thus related the concept of race to the nation), 'volksstam', or 'stamvolk', with the latter two merging the elements 'volk' (people) and 'stam' (tribe).²⁶ Interestingly, I did not encounter usage of the Dutch word for race, 'ras', in De Man's publications. That absence, to be clear, does not imply that De Man is not representative of racial science. In fact, as will become apparent from the arguments I develop below, both the content of De Man's work and the scientific network in which he was embedded were strongly grounded in a tradition of scientific racialism. The absence is nevertheless significant in the sense that, from the many different words that De Man used to approach the same *idea*, it becomes clear that this idea in itself was somewhat ambiguous, and evidently not grounded in biological categories with clear boundaries.

In its current meaning, race is an idea with an inherently negative connotation referring to a socially-constructed division of human beings into well-defined categories based solely on biological differences. We no longer tend to incorporate culture into our definition of race and now refer to a division of human categories based on both culture and physical features as 'ethnicity'. Race has become a strictly biological idea. Audrey Smedley and Brian D. Smedley, for instance, have defined racialized science, that is, science that makes use of the concept of race, as seeking to 'explain human population differences in health,

22 J.C. de Man, 'Beschrijving van eenige in het strand van Walcheren gevonden schedels en van een Cranium osteoscleroticum (overdruk uit Archief VI, uitgegeven door het Zeeuwsch Genootschap der Wetenschappen (Middelburg 1865) 135–170), met ingeplakt ingekomen stukken over schedels, 1866–1898', in: ZA 26: KZGW 11, 340: 'Craniologica' (n. 6).

23 Appiah, 'Race, Culture, Identity' (n. 18) 80.

24 De Man, 'Bijdrage tot de kennis van den schedelvorm in Walcheren', in: De Man, *Craniologica et Ethnographica Zelandica* (n. 4) 26, 28.

25 See, for example, De Man, 'Bijdrage tot de kennis' (n. 24) 29.

26 Ibidem 29 (groep); De Man, 'Boekaankondiging J. Sasse Az' (n. 6) 479 (volk); De Man, 'Beschrijving van eenige in het strand van Walcheren gevonden schedels' (n. 22) 38 (nationaal typus), 30 (volksstam) and 28 (stamvolk).



Fig. 2: Photograph of a human skull owned by De Man. (Source: Zeeuws Archief, Archief 26: Koninklijk Zeeuwsch Genootschap der Wetenschappen inv.no. 11, no. 340).

intelligence, education, and wealth as the consequence of immutable, biologically based differences between “racial” groups.²⁷

This biological conception of race, moreover, has become highly controversial, as, over the course of the twentieth century, it became commonplace among sociologists and other scholars and scientists to regard the biological conception of race as a social construction – a change that was the result of research in both the natural and social sciences, including history, as well as political realities.²⁸ This social constructivist approach to race has also resulted in the ‘widespread feeling that the word “race” indicates something undesirable and that it should be left out of all discussions.’²⁹

The current idea of race as a dangerous, socially-constructed biological ‘reality’ translates into racial language as well. Consider, for instance, the widespread use of the word ‘racism’ as a pejorative by historians.³⁰ Racism is defined by the *Oxford English Dictionary* as:

[...] a belief that the members of different racial or ethnic groups possess specific characteristics, abilities, or qualities, which can be compared and evaluated. Hence: prejudice, discrimination, or

27 Audrey Smedley and Brian D. Smedley, ‘Race as Biology is Fiction, Racism as a Social Problem is Real: Anthropological and Historical Perspectives on the Social Construction of Race’, *American Psychologist* 60:1 (2005) 16–26. <https://doi.org/10.1037/0003-066X.60.1.16>.

28 Ann Morning, ‘Everyone Knows It’s a Social Construct: Contemporary Science and the Nature of Race’, *Sociological Focus* 40:4 (2007) 436–454. <https://doi.org/10.1080/00380237.2007.10571319>; John Hartigan Jr., ‘Is Race Still Socially Constructed? The Recent Controversy over Race and Medical Genetics’, *Science as Culture* 17:2 (2008) 163–193, 164. <https://doi.org/10.1080/09505430802062943>.

29 Ernst Mayer, ‘The Biology of Race and the Concept of Equality’, *Daedalus* 131:1 (2002) 89.

30 See, for example, Jahoda, ‘Intra-European Racism’ (n. 3); John P. Jackson Jr. and Nadine M. Weidman, ‘The Origins of Scientific Racism’, *The Journal of Blacks in Higher Education* 50 (2005/2006) 66–79; Paul Lawrence Farber, *Mixing Races: From Scientific Racism to Modern Evolutionary Ideas* (Baltimore 2010).

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antagonism directed against people of other racial or ethnic groups (or, more widely, of other nationalities), esp. based on such beliefs.³¹

In this definition, the meaning of racism is informed by a current idea of race, because it adopts the idea that for someone to be racist, that person must have the belief that different racial groups possess specific characteristics. The words 'prejudice', 'discrimination', and 'antagonism' reflect the negative connotation that the underlying, current idea of race has acquired. The word 'racism' is thus a good example of current racial language.

In short, craniometrists had a *loose* idea of race; their division incorporated more than the biological, and racial characteristics may well have deviated within groups. The current idea of race, on the other hand, is *fixed* – it is defined in terms of biological categories. Moreover, inherent to the idea of race is a negative connotation – that of a harmful social construction. The evolution of the idea of race was accompanied by a semantic evolution in racial language.

Awareness of historical ideas and meanings is important, because it will caution historians of craniometry against applying current racial language, such as the word 'racism', to De Man's time, which inevitably exposes historians to what Quentin Skinner refers to as 'the perpetual danger [...] that our expectations about what someone must be saying or doing will themselves determine that we understand the agent to be doing something which he would not – or even could not himself have accepted as an account of what he was doing.'³²

The Ideal of Objectivity

The second criticism of historians who defend a derivative explanation of scientific racism is that they tend to overlook that scientists of the late nineteenth century were guided by a specific ideal of objectivity. Lorraine Daston and Peter Galison have established that, by the mid-nineteenth century, a new epistemological project began to emerge: mechanical objectivity, or 'the insistent drive to repress the willful intervention of the artist-author, and to put in its stead a set of procedures that would, as it were, move nature to the page through a strict protocol, if not automatically.'³³ Mechanical objectivity became the new moral economy, in which scientists had the duty to 'restrain themselves from imposing the projections (...) of their own unchecked will onto nature.'³⁴ In their attempt to realize this project, scientists started to use instruments, procedures and strict protocols; the rationale was that thereby they would distance themselves from their science, avoid bias and produce an objective understanding of their object of study. Although Daston and Galison trace the emergence of mechanical objectivity by studying atlas making, they argue that it can be found in other scientific endeavors of the period as well. Moreover, Daston argues that objectivity was also an epistemic virtue in the humanities.³⁵ Mechanical objectivity, having

31 Search result for 'racism', in: *Oxford English Dictionary Online* (2016): [http://www.oed.com/view/Entry/157097?redirectedFrom=racism& \(13-04-2016\)](http://www.oed.com/view/Entry/157097?redirectedFrom=racism& (13-04-2016)).

32 Quentin Skinner, 'Meaning and Understanding in the History of Ideas', *History and Theory* 8:1 (1969) 3–53, 6. <https://doi.org/10.2307/2504188>.

33 Lorraine Daston and Peter Galison, *Objectivity* (New York 2010, 1st ed. 2007) 121.

34 *Ibidem* 120.

35 Lorraine Daston, 'Objectivity and Impartiality: Epistemic Virtues in the Humanities', in: Rens Bod, Jaap Maat, and Thijs Weststeijn (eds.), *The Making of the Humanities*, vol. 3: *The Modern Humanities* (Amsterdam 2014) 27–41.

emerged in the mid nineteenth century, had become well-established and omnipresent by the 1880s, around the same time that De Man was publishing most of his craniometrical works.³⁶

In considering objectivity in relation to De Man's publications, I will point to the presence of two aspects of mechanical objectivity. First, I will consider the methodological aspect, referred to by Daston and Galison as 'the mechanical', reconstructing the way in which De Man used a mechanized procedure in order to realize mechanical objectivity. Second, I will consider the ethical aspect, referred to by Daston and Galison as 'the restrained', showing that De Man makes normative remarks in his publications that suggest that he was operating within the moral economy of mechanical objectivity.³⁷

One methodological way in which scientists attempted to realize mechanical objectivity was by mechanizing scientific procedures.³⁸ De Man mechanized scientific procedures by means of quantification, which is an integral aspect of all his craniometrical publications. In order to illustrate the working of such a quantification, I will summarize the methodology of one of these publications, namely 'De verspreiding der bevolking in oud-Zeeland's eilanden Walcheren, Noord- en Zuid-Beveland en Saftinge, opgehelder door craniologische onderzoekingen' (The distribution of the population in old-Zeeland's islands Wacheren, North- and South-Beveland, and Saftinge, clarified with craniological examinations), published in 1895.³⁹

The objective of this publication was to further knowledge about the history of habitation in Zeeland by combining craniometrical research with findings of other historians and archaeologists. In the craniometrical section of the publication, De Man combined the data of measurements that had been previously conducted by himself and five other craniometrists with the data of new research. The previous measurements concerned sets of skulls that had been excavated at nine different locations in Zeeland. To this, De Man added the data of his recent measurements of two other sets of skulls: fourteen skulls that had been recently obtained in Nieuwelande, as well as six skulls that had been derived from an old cemetery in Arnemuiden.⁴⁰

De Man collected data about the 'Cephalic Index' (CI) of these skulls. This index had been formulated by Retzius in 1842. It measured the 'ratio of the breadth of the skull to its length, expressed as a percentage.'⁴¹ Based on the cephalic index, Retzius had introduced a dichotomy between dolichocephalic (long-headed) and brachycephalic (short-headed).⁴² De Man used a somewhat more elaborate scheme of classification, dividing the skulls according to their cephalic index into six categories: strongly dolichocephalic (CI between 60–69), dolichocephalic (CI between 70–74), mesatocephalic (CI between 75–79), brachycephalic (CI

36 I do, of course, not intend to give the impression that mechanical objectivity became epistemological reality.

It was merely an ideal, a guide point. Daston and Galison emphasize that mechanical objectivity was never completely realized: Daston and Galison, *Objectivity* (n. 33) 121. With the exception of De Man, 'Beschrijving van eenige in het strand van Walcheren gevonden schedels' (n. 22), which is from 1865, all the publications by De Man that I consider in this article are either from the 1880s or the 1890s.

37 Daston and Galison, *Objectivity* (n. 33) 124.

38 Lorraine Daston, 'The Moral Economy of Science', *Osiris* 10:1 (1995) 2–24, 19. <https://doi.org/10.1086/368740>.

39 De Man, 'De verspreiding der bevolking' (n. 4).

40 Ibidem.

41 Jahoda, 'Intra-European Racism' (n. 3) 41.

42 Ibidem.

between 80–84), strongly brachycephalic (CI between 85–89), and skulls with a CI of 90 or higher. For each set of skulls, all the individual skulls were measured and then divided into these categories and converted into a percentage of the total (for example, of a set of 48 skulls from Middelburg, 25% was dolichocephalic, 40% was mesocephalic, 27% was brachycephalic and 8% was strongly brachycephalic). He also calculated the average cephalic index for every set. He then combined all the craniometrical data into an appendix.⁴³ As De Man assumed that different historical races had different cephalic characteristics, this overview of data, combined with findings of other historians and archaeologists, could then be used as the body of evidence in the rest of the publication, in which De Man attempts to give a history of the racial makeup of the inhabitants of Zeeland.⁴⁴ De Man thus used a mechanized procedure – measuring the cephalic index of the individual skulls in a set, calculating percentages and averages and processing that data into an overview – in order to realize mechanical objectivity.

But mechanical objectivity was not only concerned with a method designed to ensure accuracy; it was also concerned with morality. According to Daston and Galison, objectivity became moralized in the sense that the 'all-too-human scientists must, as a matter of duty, restrain themselves from imposing their hopes, expectations, generalizations, aesthetics, even ordinary language on the image of nature.'⁴⁵ Objectivity is thus an example of a moral economy, a 'web of affect-saturated values that stand and function in well-defined relationship to one another.'⁴⁶ In his publications, De Man makes several normative remarks that seem reminiscent of the values in the moral economy of objectivity. In 'De begraafplaats "Bloemendaal" te Domburg' (The cemetery 'Bloemendaal' in Domburg), for instance, De Man articulates his will to self-restraint by saying that he was as 'onpartijdig' as possible in deciding that a certain set of skulls had belonged to youthful and healthy men.⁴⁷ 'Onpartijdig' can be translated as impartial, unbiased or neutral. Admittedly, Daston distinguishes between the epistemic virtues of objectivity and impartiality, arguing that they both have distinct histories that were not always harmonious. In her study of epistemic virtues in history writing, she argues that, whereas objectivity 'resided primarily in certain techniques applied to, as well as attitudes toward, the subject matter of history', she defines impartiality as:

Impartiality by no means implied value neutrality on the part of the historian. On the contrary, the aim of historical impartiality was to reach sound conclusions about moral matters as they were played out in the wars and political conflicts of the past, much as the aim of judicial impartiality was to reach a just verdict in legal matters as presented in criminal and civil cases.⁴⁸

In De Man's case, however, it seems likely that his ideal of 'onpartijdigheid' (impartiality) reflects an underlying ideal of objectivity rather than the kind of impartiality that Daston defines, because he expressed the ideal outside the context of a debate about a moral or

43 De Man, 'De verspreiding der bevolking' (n. 4) 88–90.

44 Ibidem.

45 Lorraine Daston, and Peter Galison, 'The Image of Objectivity', *Representations* 40 (1992) 81–128. <https://doi.org/10.2307/2928741>.

46 Daston, 'The Moral Economy of Science' (n. 38) 18.

47 De Man, 'De begraafplaats' (n. 21) 76.

48 Daston, 'Objectivity and Impartiality' (n. 35) 28.

political matter. Here, the ideal of 'onpartijdigheid' seems, in fact, to be a striking example of the kind of asceticism that nineteenth-century objectivity preached.⁴⁹

In addition to expressing a general value of self-restraint as a scientific virtue, De Man appears to have a moral expectation of more specific standards for scientific research, aimed at ensuring objectivity. For instance, he expected other craniometrists to always enclose the statistics they used to justify their claims in their publications. In 'Boekaankondiging J. Sasse Az.', a short introduction to and review of Johan Sasse's 1891 dissertation *Over Zeeusche schedels* (On Zeelandic skulls), De Man praises Sasse for schematically including all of his craniometrical data, as 'others have often wrongfully forgotten [to do so].'⁵⁰ The word 'wrongfully' clearly suggests that De Man considered including an overview of measurements as a moral obligation for craniometrists. Furthermore, De Man put great emphasis on the importance of sample size for the sake of accuracy. In *Twaalf schedels van Reimerswale en de bevolking van Zeeland* (Twelve Skulls of Reimerswale and the Population of Zeeland), De Man, discussing craniometrical measurements that were conducted by other craniometrists, asserts that the sample size they used was too small: 'the number of observations is absolutely too small to rely on.'⁵¹ Whenever he himself makes a suggestive interpretation based on data with a small sample size, he clearly indicates this and emphasizes that, therefore, his interpretation may not be reliable.⁵²

These normative statements reflect values one might associate with the 'restrained': De Man moralizes methodology outspokenly. Combined with the presence of the 'mechanical' – the mechanizing of procedure by means of quantification –, it is evident that De Man was guided by an ideal of objectivity.

The derivative explanation regards craniometry as a science that was designed specifically to confirm a priori conclusions regarding race. This notion, however, is contradictory to the presence of the guide point and moral economy of scientific objectivity among craniometrists, in which imposing one's own will onto nature was a vice. It is evident that scientists that strived to be objective were not necessarily successful in eliminating bias completely. Nevertheless, one cannot aim to repress the scientific self with all its prejudices while at the same time *consciously* design science to have conclusions that support a priori conclusions. Therefore, such historical narratives are contradictory. Using a derivative explanation of scientific racism, then, fails to acknowledge or explain the craniometrist's ideal of scientific objectivity.

The Social Motivation

The third criticism of historians who defend the derivative explanation of scientific racism relates to what motivated craniometrists to practice craniometry. Derivative scholars often formulate their assertions in such a way that they imply that craniometrists were guided primarily by a social motivation, namely either establishing or preserving certain race relations in their society. According to Patrick Wolfe, for instance, 'a hodgepodge of scientific theories was used to bolster racial discrimination [in the nineteenth century].'⁵³ Anthony

49 Daston and Galison, *Objectivity* (n. 33) 122.

50 'iets dat velen vaak verkeerdelijk hebben vergeten.' De Man, 'Boekaankondiging J. Sasse Az.' (n. 6) 478.

51 'Het aantal der waarnemingen is zeker te gering om er veel op te vertrouwen.' J.C. de Man, *Twaalf schedels van Reimerswale en de bevolking van Zeeland* (Middelburg 1893) 8.

52 See, for example, De Man, 'De verspreiding der bevolking' (n. 4) 90.

53 Patrick Wolfe, 'Race and Citizenship', *OAH Magazine of History* 18:5 (2004) 66–71, 68. <https://doi.org/10.1093/maghis/18.5.66>.

Synnot and David Howes argue that 'the American, the French, and the British schools [of craniometry] used measurement to legitimate racial, gender, and colonial hierarchy', concluding that 'the physical was political.'⁵⁴ Abha Sur asserts that 'phrenology, craniometry, and measurements of almost all parts of the human anatomy were employed to establish biological bases for the inequities of the social order.'⁵⁵ Craniometry, according to these scholars, was nothing but an instrument for social causes related to race relations. Craniometrists, then, become defined by these social motivations.

Reconstructing what motivated De Man to practice craniometry, however, suggests that this is an overgeneralization. While his publications do suggest that De Man had a social motivation for practicing craniometry, this motivation does not relate to race relations. It seems more likely that De Man was primarily guided by a nationalist principle: a drive to bring science in the Netherlands up to the standards of the international scientific community.

By the end of the nineteenth century, craniometry had become a well-established method for physical anthropological research in many countries, having emerged earlier in the century with the works of Retzius, whose methods for measuring skulls in order to justify racial classification schemes were adopted and developed by many European and American anthropologists over the course of the second half of the century.⁵⁶ However, there was little anthropological activity in the Netherlands, and little research had been done into the racial characteristics of the Dutch. Physical anthropology, in the Netherlands, would not come to flourish until the first half of the twentieth century.⁵⁷ The Dutch craniometrist Johan Sasse illustrated the lack of anthropological activity in the Netherlands in his dissertation of 1891:

There are some ethnologists in the Netherlands, but small is their number and even smaller the appreciation that they receive in the motherland. It is peculiar, how also in this regard the Netherlands fall behind in comparison to other countries. While here the most civilized people are completely unfamiliar with the large difference between skulls mutually, and one will ask you with comic surprise what difference it makes whether one skull is one centimeter longer or shorter than the other, in other countries, ethnology is taught at many universities by an especially appointed teacher – elsewhere, great flourishing societies for the study of anthropology (the study of human races) are being founded and research is conducted regarding hair color and the eyes of school children.⁵⁸

While there was little craniometrical activity in the Netherlands, the scientific community in which De Man was embedded stretched far beyond the Dutch borders. De Man had

54 Anthony Synnot and David Howes, 'From Measurement to Meaning: Anthropologies of the Body', *Anthropos* 87 (1992) 147–166.

55 Abha Sur, 'Persistent Patriarchy: Theories of Race and Gender in Science', *Economic and Political Weekly* 43:43 (2008) 73–78, 74.

56 Jahoda, 'Intra-European Racism' (n. 3) 39–48.

57 Sysling, 'Geographies of Difference' (n. 14) 111.

58 'Wel zijn er ook in Nederland nog volkenkundigen, doch gering is hun aantal en geringer nog de waardeering, die ze in 't moederland ondervinden. Merkw aardig, hoe ook in dit opzicht Nederland weer achterstaat bij andere landen. Terwijl hier de meest beschaafde menschen volkomen onbekend zijn met het groote verschil tusschen doodskoppen onderling en men u met grappige verbazing vraagt, wat het uitmaakt of de ééne schedel één centimeter langer of korter is dan de andere, wordt er in andere landen aan vele universiteiten in volkenkunde onderwijs gegeven door een leeraar, alleen daarvoor aangesteld – worden elders groote bloeiende vereenigingen gevonden tot bestudeering der Anthropologie (leer der menschenrassen) en onderzoek gedaan omtrent kleur van haar en oogen der schooljeugd.' Johan Sasse, *Over Zeeusche Schedels* (Koog aan de Zaan 1891) 1.

gained his first international experience between 1841 and 1842, during his medical studies at Leiden University, when he stayed in Vienna and Paris for study purposes.⁵⁹ Studying his publications and correspondence suggest that, by the time he was practicing craniometry, he had become profoundly internationally oriented. He mastered at least three languages: he published in both Dutch and French, and, as one of his American correspondents remarks that he wishes that he ‘could address you as fluently in your native language as you write me in English’, it seems that De Man was also fluent in English.⁶⁰ Furthermore, he was familiar with and drew upon the work of many international craniometrists, including the American Samuel George Morton, the French Paul Broca, and the German-Swiss Karl Vogt.⁶¹ He also engaged in international correspondence with other craniometrists in order to discuss results and to exchange photographs of skulls.⁶²

Notably, De Man corresponded extensively with the American economist and craniometrist William Z. Ripley (1867–1941) of the Massachusetts Institute for Technology, who has now become a notorious example of alleged scientific racism. Ripley is known specifically as the author of *The Races of Europe. A Sociological Study* (1899), in which, according to Heather Winlow, he ‘utilized cartography to manipulate, represent, and legitimate racial categories.’⁶³ In this book, Ripley in fact paid gratitude to De Man: ‘Dr. De Man, of Middelburg, is also an authority upon the especially interesting district of Zeeland. He has courteously placed much original matter at my disposition.’⁶⁴

De Man also corresponded with the British ethnologist John Beddoe (1826–1911) about both craniometrical and personal matters. In a letter from 1898, for instance, Beddoe expresses his condolences to De Man for the death of his wife.⁶⁵ De Man’s travelling experience, language knowledge, knowledge of international craniometrical literature, and international correspondence, thus, demonstrate that he functioned in an international network of craniometrists.

It seems that, in light of his cosmopolitan orientation, De Man became aware that Dutch anthropology was behind on international developments. De Man expressed his sentiment of dissatisfaction with the state of Dutch anthropology in his review of Sasse’s dissertation:

We hope that [Sasse] will let this field of science flourish, and this is desirable because, in our country and concerning our own population, so little is being done in anthropology, of which craniology is only an area.⁶⁶

De Man’s own publications suggest that his primary motivation for practicing craniometry was merely to establish that field in the Netherlands. In ‘Bijdrage tot de kennis van den schedelvorm in Walcheren’, for example, De Man writes:

59 *Encyclopedie van Zeeland* (n. 8) 280.

60 ZA 26: KZGW 11, 340: ‘Craniologica’: William Z. Ripley, Letter to J.C. de Man, 3 February 1898.

61 De Man, ‘Beschrijving van eenige in het strand van Walcheren gevonden schedels’ (n. 22) 31.

62 See the letters and photographs in ZA 26: KZGW 11, 340: ‘Craniologica’.

63 Heather Winlow, ‘Mapping Moral Geographies: W.Z. Ripley’s Races of Europe and the United States’, *Annals of the Association of American Geographers* 96:1 (2006) 119–141, 119. <https://doi.org/10.1111/j.1467-8306.2006.00502.x>.

64 Ripley, *The Races of Europe* (n. 6) 295.

65 See, for example, ZA 26: KZGW 11, 340: ‘Craniologica’: John Beddoe, Letter to J.C. de Man, 31 January 1898.

66 ‘Wij vleien ons, dat [Sasse] dien tak van wetenschap in ons land zal doen bloeien, en dat is te wenschen omdat er aan anthropologie, waarvan craniologie slechts een onderdeel is, in ons land, wat onze eigen bevolking betreft, zoo weinig wordt gedaan.’ De Man, ‘Boekaankondiging J. Sasse Az.’ (n. 6) 476.

Challenging 'Derivative' Explanations of Scientific Racism

Should I dare to take another step in craniological research, and give the little that I have, it is only in order to show no indifference towards a field of science, that is practiced in all countries, and will perhaps once solve the deviations in human tribes. What I do now, is thus simply an attempt to demonstrate that, in this field, there is something to be done in the Netherlands as well, as long as there exists spirit and cooperation.⁶⁷

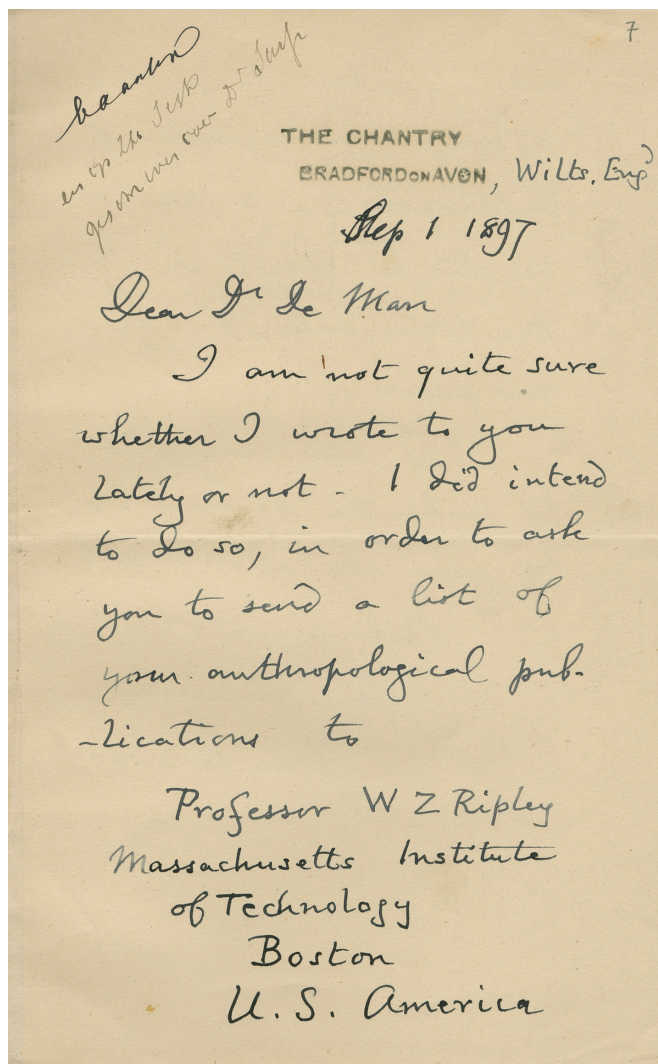


Fig. 3: 1897 letter (presumably) send by William Z. Ripley to De Man, in which De Man is requested to send a list of his anthropological publications to Ripley at the Massachusetts Institute of Technology in Boston. (Source: Zeeuws Archief, Archief 26: Koninklijk Zeeuwsch Genootschap der Wetenschappen inv.no. 11, no. 340).

⁶⁷ 'Waag ik het dus nog eens een stap te doen op craniologisch gebied, en het weinige te geven, wat ik heb, dan is het alleen om geene onverschilligheid te toonen in een tak der wetenschap, die in alle landen beoefend wordt, en eenmaal misschien de afwijkingen in de menschenstammen zal oplossen of ophelderen. Wat ik nu doe, is dus maar eene poging, om aan te toonen, dat er op dit gebied ook in Nederland wel iets zou te doen zijn, indien er maar lust en medewerking bestond.' De Man, 'Bijdrage tot de kennis' (n. 24) 5.

That De Man was primarily motivated by the aim to advance Dutch anthropology is further demonstrated by his emphasis on data collection and his reluctance to draw conclusions from the data he collected. De Man, it seems, was aware that he was initiating the practice of craniometry in the Netherlands. He assumed that Dutch craniometry was still too early in its development to attach much value to its conclusions. De Man, therefore, focused on collecting as much data as possible, in order to enable future generations of craniometrists to supplement that data with their own research and create a database sufficiently large to establish reliable conclusions about Dutch racial history. Schoute, in his early biography of De Man, writes that ‘it was primarily De Man’s intention to collect material.’⁶⁸ Indeed, De Man often refused to draw conclusions from his research. For instance, in ‘Bijdrage tot den kennis van den schedelvorm in Walcheren’, De Man describes that Dr. Sasse had asked him to inform him about skull shape in Walcheren, but apologizes for being unable to meet Sasse’s request:

Gladly would I have answered him, if I would have been able to meet the expectation that Dr. Sasse may have had of me; yet, for reasons that are easy to apprehend, I was unable to do so, and still am.⁶⁹

When he did interpret data, he usually cautioned the reader not to attach too much value to his interpretation; Schoute therefore describes De Man’s conclusions as ‘aarzelend’ (hesitative).⁷⁰ That De Man considered Dutch craniometry to be underdeveloped, and hoped that future craniometrists would further advance the science, is also reflected in ‘Bijdrage tot de kennis van den schedelvorm in Walcheren’, where he, describing his research, asserts that ‘others will have to do better.’⁷¹

I have shown that De Man operated in a craniometrical network which transcended the Dutch borders. Such transnational projects cannot be properly understood in a historical framework that is confined by national borders. De Man’s craniometrical network consisted of numerous – to use Latourian vocabulary – ‘centres of calculation’, of which De Man’s Middelburg was just one, and, for instance, Ripley’s Cambridge (MA) another.⁷² Nevertheless, De Man had the aim of advancing the field specifically in his own country. That De Man was primarily guided by a nationalist principle is unsurprising in the historical context of the late nineteenth century. According to Henk te Velde, historians agree that, during this period, the Netherlands was characterized by a relatively fierce nationalism. He argues that a symbiosis of politics and culture existed in which humanities, literature, and fine arts, according to many, had the task to reinforce the ethical foundations of the political community. National awareness, then, was regarded as the basic principle for connecting politics and culture.⁷³ Klaas van Berkel notes that science was considered as an element of culture as well. Science could

68 ‘het [was] allereerst De Man’s bedoeling materiaal te verzamelen.’ D. Schoute, *Het wetenschappelijk leven van dr. J.C. de Man* (Middelburg 1915) 15.

69 ‘Gaarne had ik aan die roepstem gehoor gegeven, in dien ik in staat ware geweest aan de verwachting, die Dr. Sasse misschien daarvan had, te voldoen; doch om gemakkelijk te bevroeden redenen was ik daartoe niet in staat en ben ik het nog niet.’ De Man, ‘Bijdrage tot de kennis’ (n. 24) 5.

70 Schoute, *Het wetenschappelijke leven* (n. 68) 15.

71 De Man, ‘Bijdrage tot de kennis’ (n. 24) 5.

72 Bruno Latour, *Science in Action* (Cambridge MA 1987) 232–233.

73 Hendrik te Velde, *Gemeenschapszin en plichtsbef. Liberalisme en nationalisme in Nederland, 1870–1918* (Groningen 1992) 2.

be used to reinforce national awareness up to an unprecedented level, and was an important means for the Netherlands to regain and maintain a significant position internationally. Indeed, De Man's case suggests that science was connected with politics through national awareness in a similar fashion as other cultural institutions, such as the humanities.⁷⁴

De Man's primary motivation for practicing craniometry was nationalist rather than racist; he simply wanted to bring Dutch science up to international standards. De Man's case suggests, therefore, that defining craniometrists solely by a racist social motivation is an overgeneralization.

Conclusion

The historiography of late nineteenth century sciences of race is sometimes characterized by a derivative explanation of scientific racism; historians of this historiography adopt the idea that scientists had racial prejudices that needed a scientific justification, and intentionally designed the outcome of their sciences accordingly. Examining the history of one such scientist, Dr. De Man, within one such science of race, craniometry, informs three points of criticism to historians who adopt this model of explanation. In consideration of these criticisms, it becomes less clear to what extent derivative explanations are sustainable. An essential aspect of the derivative historiography is the assumption that there was a great deal of intentionality involved in the constitution of scientific racism. Such narratives, perhaps, become attractive to the current historian in light of the role that scientific racism would play in events of the twentieth century such as the Holocaust, or the practice of eugenics in the United States; they clearly point towards who is guilty, and can thus be held responsible, in the developments that lead to such events. Derivative explanations, in short, are attractive because they add a clear moral dimension to the historical narrative of scientific racism.

The criticisms presented in this article, however, show that, while derivative explanations may be attractive, they sacrifice historicity. They suggest that the alternative historiographical approach – the constitutive explanation of scientific racism –, may be more appropriate. Anderson and Perrin describe what such a constitutive approach should look like:

[Racial discourse] must be grasped as an open and precarious process in which its constitution, along with the relationships and connections between its constitutive elements, must be accounted for and not assumed. These elements may then be understood, not as the expression of some idea of racial difference or hierarchy that precedes them, and that exists essentially apart from them, but as integral parts of the formulation, elaboration and realization of a racial discourse that must be conceived as assembled out of these parts.⁷⁵

Indeed, in De Man's case, it seems unjust to characterize the craniometrist as simply one who gave expression to, and applied, some kind of independently existing and historically omnipresent racial bias. Nevertheless, De Man's scientific endeavors are, evidently, somehow related to the historical phenomenon of scientific racism. Recognizing him as an integral yet unconscious part of the constitution of scientific racism, rather than viewing his scientific activities as merely the product of that very phenomenon, may contribute to the creation of a more accurate narrative of the history of racial science.

⁷⁴ Klaas van Berkel, *De Stem van de wetenschap: Geschiedenis van de Koninklijke Nederlandse Akademie van Wetenschappen*, vol. I: 1808–1914 (Amsterdam 2008) 432–433.

⁷⁵ Perrin and Anderson, 'Thinking with The Head' (n. 1) 85.