

Europeans" and "Whites": Biomedical Knowledge about the "European Race" in Early Twentieth Century Colonial Contexts

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RESÜMEE

Akademische und Alltagsdiskurse über „den Europäer“ haben selten einen empirischen Gehalt. Die Lebenswissenschaften bieten eine wichtige Ausnahme zu dieser Regel. Seit dem Beginn des 18. Jahrhunderts bis heute betonen Wissenschaftler, dass Europäer sich in biologischer Hinsicht von anderen Menschen unterscheiden. Hinzu kommt, dass die Überzeugung von einem biologischen Kern des Europäerseins immer wieder in Alltagsdiskurse eindringt. Neuere historische Arbeiten haben die Bedeutung der Rassenanthropologie für die Herausbildung nationaler Identitäten und die schrecklichen politischen Folgen, die sich daraus ergeben haben, herausgestellt. Indes geht die Bedeutung der Rassenanthropologie weit über den Nationalismus hinaus. Ich untersuche in diesem Beitrag die Rolle der Rassenanthropologie und der Rassenklassifikationen für die europäische Identitätskonstruktion, wobei ich mich vor allem auf die Kolonialmedizin des frühen 20. Jahrhunderts konzentriere. „Weiße“ und „Europäer“ waren keine austauschbaren Begriffe in der biomedizinischen Wissensproduktion. Das heißt nicht, dass sie nicht gelegentlich verwechselt wurden. Aber sie transportierten verschiedene Bedeutungen. „Weiße“ scheinen hauptsächlich biologische Konnotationen gehabt zu haben, während sowohl eine Beachtung von Natur als auch von Kultur notwendig gewesen ist, um das Europäische des „Europäers“ zu erfassen.

Academic and popular discourses about “the European” rarely draw on empirical accounts. The life sciences offer a prominent exception to this observation: beginning in the eighteenth century and carrying forward to the present, scientists in this field have maintained that Europeans differ in biological terms from other human beings. Additionally, the assertion of a biological essence to “Europeanness” continues to pervade

popular discourses. Recent historical accounts have devoted considerable attention to the history of racial anthropology. In these inquiries, the focus has been on two interrelated subjects: constructions of national identity and the disastrous political consequences that flowed from them.¹ However, as I will argue, racial anthropology was used for much more than nationalistic purposes.

In this paper, I examine and critique the role of racial anthropology in European identity construction, focusing mainly on early twentieth-century colonial contexts. My investigation leads me to conclude that the current historiographical focus on *racial* anthropology alone is too narrow. The focus of scholarly interest should, in my view, be replaced by a wider exploration of the history of scientific investigations of human “racial”, or “genetic”, variation (or, as scientists prefer to put it since the 1950s, human genetic diversity). As I will explain, this focus reveals long-neglected continuities across time (especially the twentieth century) and space (particularly transnational dimensions).²

In order to trace these continuities, differing meanings of “knowledge” need to be taken into account. Today, scientific knowledge enjoys a place of prominence in our “knowledge-based societies.” However, scientific knowledge in the past – as in the present – was informed by other sources of understanding such as oral traditions, implicit learning, or everyday life experiences. With very minor exceptions, knowledge about human (genetic) diversity has always been produced in the midst of society; scientific findings have easily made their way into non-scientific, popular understandings and representations of human diversity, and vice versa. In the case of human diversity, the divide between scientific and non-scientific knowledge is not only weak and permeable; its very existence is questionable. In colonial contexts, constructing knowledge about “Europeans” was not just an academic undertaking, but of great practical importance. It was mainly for medical purposes or in medical institutions that colonial scientists investigated “Europeans” and “Natives” – as the latter were often called at that time – in comparison to one another.³

Curiously enough, biomedical scientists frequently used the term “European,” only occasionally the term “White” and very rarely “Caucasian.” In recent historical accounts, the three terms are by and large used interchangeably.⁴ One can perhaps argue that in general discourse today they are in deed used interchangeably, however, this can not simply be assumed for historical times. Questioning this assumption, I show that all three terms were by no means fully interchangeable. Instead, I aim to demonstrate that they represent quite different concepts employed in specific historical contexts.

1 To give but one out of numerous references: Ch. Geulen, *Wahlverwandte. Rassendiskurs und Nationalismus im späten 19. Jahrhundert*, Hamburg 2004.

2 Recently, a number of historical studies with some relevance for this paper have appeared; regrettably, they can not fully be considered for this paper.

3 C. Bruck, *Die biologische Differenzierung von Affenarten und menschlichen Rassen durch spezifische Blutreaktionen*, in: *Berliner klinische Wochenschrift* 26, 1907, pp. 793-797.

4 See for example B. Baum, *The fall and rise of the Caucasian Race*, New York 2006.

The findings I present here are part of the results of a research project on bio-scientific constructions of the European throughout the twentieth century. This project has addressed other empirical and conceptual aspects of the same topic, such as visualizations of human diversity,⁵ scientific representations of the "European" in German and European academic books after the Second World War,⁶ narrations of the evolutionary events leading to the emergence of the European,⁷ and transfers of knowledge about Europeans between bio-scientific, biomedical, and social or political contexts.⁸ It is important to note that, regarding the issue of "Europeans," "Caucasians" and "Whites" and whether these are all used interchangeably, there are significant differences between US-American and European discourses that have hitherto been underestimated. While in the US, for good reason, historians have focused on the relations between "Blacks" and "Whites," European historians have understandably ignored the "color line" as irrelevant in Europe and have instead concentrated on the nationalist anthropologies of their respective nation.⁹

Before turning to the empirical topic, it may be useful to very briefly sketch the history of biological knowledge about "Europeans" from 1700 to the present. Since notions of the "European" are often linked to notions of human "racial" or genetic diversity in general, I will have to jump between scientific considerations of human diversity and those of Europeans. When scientists first described "Europeans" and others as biological organisms around 1700, they rarely drew on direct observation. Rather, their accounts were based more on reports and drawings of research explorers – as well as crania (skulls). The "European" – or *Homo Europaeus* – represented one out of four races in these early classifications.¹⁰ However, writing in 1795, Johann Friedrich Blumenbach argued that the Europeans represented only a subset of one of five human races; this larger race, comprising "Europeans" next to other groups, he called "Caucasians". The Caucasians, in his view, displayed, in addition to white skin, the most beautifully formed skulls; the "original Caucasians," from which all other Caucasians ostensibly derived, traced their

5 In textbooks, encyclopedias, popular books; as phylogenetic trees, photographs, maps, drawings etc.

6 V. Lipphardt, Von der "europäischen Rasse" zu den "Europiden." Wissen um die biologische Beschaffenheit des Europäers in Sach- und Lehrbüchern, 1950–1989, in: L. Bluche, V. Lipphardt, K. Patel (eds.), *Der Europäer – ein Konstrukt. Wissensbestände, Diskurse, Praktiken*, Göttingen 2009, pp. 158–186.

7 For example, narrations about the European continent and its formative power; about the point of time when the ancestors of the "first Europeans" settled on the continent; and how they evolved from immigrants to "Europeans."

8 V. Lipphardt, J. Niewöhner, Producing difference in an age of biosociality. Biohistorical narratives, standardisation and resistance as translations, in: *Science, Technology & Innovation Studies*, 3 (2007), 1, pp. 45–65.

9 V. Lipphardt, *Knowing Europe, Europeanising Knowledge. The Making of "Homo Europaeus" in the Life Sciences*, in: Martin Conway, Kiran Klaus Patel (eds.), *Europeanization in the twentieth century: Historical Approaches*, London: Palgrave 2010, pp. 64–83.

10 On Bernier: S. Stuurman, François Bernier and the Invention of Racial Classification, in: *History Workshop Journal* 50 (2000), pp. 1–21; see also W. Schmale, *Geschichte Europas*, Wien 2001, pp. 39sq., pp. 145–155; C. von Linné, *Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus differentiis, synonymis, locis*, vol.1, Paris 1766/10 (1735), p. 29; for a German translation see H. Schulze/ I. Paul, *Europäische Geschichte*, München, 1994, pp. 56sq.; see also W. Demel, *Wie die Chinesen gelb wurden. Ein Beitrag zur Frühgeschichte der Rassen-theorien*, in: *Historische Zeitschrift* 225 (1992), pp. 625–666.

roots to the South Caucasus. In this geographically defined history of humanity, the Caucasian peoples assumed center stage, playing a more important role than any other.¹¹ Both ways of sorting humans from Europe into a biological classification of humankind (as “Europeans” or as “Caucasians”) remain influential until today.

By the mid-nineteenth century, knowledge about human diversity was being cast in new frameworks. Whereas crania had been the focus of attention in the previous period, now living individuals were increasingly subjected to measurement. Researchers noted, however, that this method was unsatisfactory, as members of the same European nation could belong to different “European races.” Their aim was not so much to develop a coherent story about the history of human diversity, but rather to study empirically intra-European differences that were not necessarily identical with national borders.¹²

After 1900, empirical and biological approaches received an additional boost. The collection of numerous anatomical, physiological, pathological, psychological, as well as other mental and physical data followed. Scholarly interest in the differences between “European races” faded, as the distinctions between Europeans and all other human beings (“non-Europeans”) assumed greater significance. In the colonies, researchers located plenty of “raw material” for their studies, and new laboratory methods provided an additional impetus to scientific observation. Systematic comparison of objects such as brain structures, blood composition, and stool samples ensued. Other popular comparisons included adaptability to tropical climates, susceptibility to disease, and immunities. Whereas in the past experts had known little about the “European” beyond basic information about body and skull size, new accounts boasted a range of “exact” data. Miscegenation, “racial mixing,” also came to the fore as a topic of special scientific interest.

During the 1920s, non-scholarly treatments of human (genetic) diversity gained popularity, as witnessed by the proliferation of family trees, maps, school books, non-fiction treatments, illustrations, photos, and other picture books. In these accounts, Europeans constituted a single race, defined first and foremost by their common skin color; various other characteristics, for example mental or cultural, were subsequently correlated with skin color. At the beginning of the 1930s, European scientists divided humanity into three, sometime four, parts; during this period, Europeans were described for the first time as “Europids” (and contrasted with “Negroids” or “Mongolids”).¹³ However, at that time, nationalist attitudes dominated anthropological discourses, and thus the discussion of racial classification concentrated on differentiations within Europe as well as between “Aryans” and “Non-Aryans.”

After the Second World War, Anglo-American biological scientists led efforts – including several supported by various UNESCO initiatives – to adopt new, anti-racist approaches

11 Baum, *Caucasian Race*, pp. 73-82, pp. 109-117 and p. 135.

12 See, for example, W. Z., Ripley, *The Races of Europe. A Sociological Survey*, London 1899. Cf. Baum, *Caucasian Race*, pp. 144-151.

13 E. Baur, E. Fischer and F. Lenz, *Grundriß der menschlichen Erblichkeitslehre und Rassenhygiene*, München 1927, pp. 135sq.

to human diversity research.¹⁴ Initially, scientists rejected racial classifications with nationalist undertones, but continued to assert the existence of three main human races, one of them being called "Europeans," "Europids," "Caucasians" or "Whites"; however, they now emphasized overlaps between the three main races, acknowledging a growing body of evidence about genetic complexity and increasingly questioning the scientific usefulness of the term "race."¹⁵

Since the 1970s, population genetics has provided further arguments to question the notion of race.¹⁶ Nevertheless, the category of "European" remained intact throughout this population-genetic phase. Both science and popular science emphasized the limitations and possibilities of population genetics, a viewpoint often coupled with anti-racist assertions. At the same time, the accumulation of knowledge about "the European race" or "the Europeans," now increasingly called "Europids" or "Caucasians," continued. Comparisons between "Europids"/"Caucasians," "Mongolids," and "Negroids" also continued to be part of this era's discourse.

During the past fifteen years or so, human diversity research has entered a new phase. Molecular genetic research, large-scale genome projects, the production of prescription drugs for particular ethnic groups, and growing interest in genetic genealogy have re-kindled fierce debates – mainly in the US – about whether races exist.¹⁷ For the large group of "Whites," many terms are used in medical and scientific practice: Caucasians, European Americans, White Americans. All of these terms are imprecise and not easily

- 14 E. Barkan, *The Politics of the Science of Race: Ashley Montagu and UNESCO's Anti-racist Declarations*, in: L. T. Reynolds and L. Lieberman (eds), *Race and other Misadventures: Essays in Honour of Ashley Montagu in his Ninetieth Year*, New York 1996, pp. 96-105. The original texts are reprinted in: L. C. Dunn: *The Race Question in modern Science*, in: *ibid.* (ed.), *Race, Science and Society*, Paris/London 1951, pp. 343-364; S. Müller-Wille, *Was ist Rasse?* Die UNESCO-Erklärungen von 1950 und 1951, in: P. Lutz (ed.), *Der (im-) perfekte Mensch. Metamorphosen von Normalität und Abweichung*, Köln 2003, pp. 79-93; J. Marks, *Race: Past, Present, and Future*, in: B. A. Koenig, S. S. Lee and S. S. Richardson (eds), *Revisiting Race in a Genomic Age*, New Brunswick 2008, pp. 21-38; K. Palm, *Der "Rasse"-Begriff in der Biologie nach 1945*, in: *AG gegen Rassismus in den Lebenswissenschaften* (ed.), *Gemachte Differenz. Kontinuitäten biologischer "Rasse"-Konzepte*, Münster 2009, pp. 240-255, particularly pp. 247sq.; J. Reardon, *Race to the Finish. Identity and Governance in an Age of Genomics*, Princeton 2005.
- 15 T. Brückmann, F. Maetzy, and T. Plümecke, *Rassifizierte Gene. Zur Aktualität biologischer "Rasse"-Konzepte in den neuen Lebenswissenschaften*, in: *AG gegen Rassismus in den Lebenswissenschaften* (ed.), *Gemachte Differenz. Kontinuitäten biologischer "Rasse"-Konzepte*, Münster 2009, pp. 20-64; L. Gannett, J. R. Griesemer, *The ABO Blood Groups: Mapping the History and Geography of Genes in Homo Sapiens*, in: H.-J. Rheinberger and J.-P. Gaudillière (eds), *Classical Genetic Research and its Legacy. The Mapping Cultures of Twentieth-Century Genetics*, London/New York 2004, pp. 119-172; L. Gannett, *Race and Human Genome Diversity Research: The Ethical Limits of Population Thinking*, in: *Philosophy of Science* 68 (2001), 3, pp. 479-492; D. Haraway, *Primate Visions: Gender, Race and Nature in the World of Modern Science*, New York 1989; J. Marks, *The Legacy of Serological Studies in American Physical Anthropology*, in: *History and Philosophy of the Life Sciences* 18 (1996), pp. 345-362; Marks, *Race: Past, Present, and Future* (note 12); A. M'Charek, *The Human Genome Diversity Project. An Ethnography of Scientific Practice*, Cambridge 2005; Reardon, *Race to the Finish* (note 12); R. Silverman, *The Blood Group "Fad" in Post-War Racial Anthropology*, in: J. Marks (ed.), *Kroeber Anthropological Society Papers*, Berkeley 2000, pp. 11-27.
- 16 Brückmann, Maetzy, and Plümecke, *Rassifizierte Gene* (note 13); Marks, *Race: Past, Present, and Future* (note 12).
- 17 *AG gegen Rassismus in den Lebenswissenschaften* (ed.), *Gemachte Differenz. Kontinuitäten biologischer "Rasse"-Konzepte*, Münster 2009; B. A. Koenig, S. S. Lee, S. S. Richardson (eds), *Revisiting Race in a Genomic Age*, New Brunswick 2008.

transferable to other national contexts. The debate, however, does not center on such classificatory problems, but rather on ethical issues.

Let's now turn the clock back to the beginning of the twentieth century, and to the question of whether or not the terms "White," "Caucasian" and "European," when used in biomedical contexts, were then meant to express essentially the same thing. To answer this question, I draw primarily on articles and reviews printed in "Archiv für Schiffs- und Tropenhygiene" ("Archive for the hygiene of boats and the tropics"), a medical journal in which tropical disease specialists published studies about the colonies. Reviews appeared in German, French, English, and Italian; articles were mostly, but not exclusively, written in German. Most of the articles cover pharmaceutical, chemical, or technical topics. That being said, a fair number of contributions addressed bodily differences between various "races," with reference to hygiene and living conditions in tropical climates. Most authors use the term "European" and not "White" – arguably no coincidence.

A 1916 article by Kurt Hintze, entitled "What Influence Does the Tropical Climate Exert on Members of the White Race?"¹⁸ appears to suggest a preference for the term "White." However, the text contains only observations about "Europeans" in the colonies. The author reports on heat tolerance, red blood cell counts, hemoglobin concentration, metabolism, food requirements, bodily capacities, dress, sexual drive, and alcohol consumption of Europeans living in the colonies and concludes:

*The healthy European, who happily avoids the pitfalls mentioned above, is in our opinion indeed quite capable of adapting to the tropical climate without falling prey to those difficulties which are often deemed unavoidable.*¹⁹

Hence, it was the life style of the individual that made Europeans "European." Although adapting one's life style to tropical conditions was an indispensable necessity, the adapting European did not therefore become a "Native": The appropriate life style for Europeans in the tropics had to be, and manifestly so, a particularly European one.

Only in one passage does the author speak of "Whites." Here, his attention turns to reproduction, or what he describes as "breeding in the tropical belt."²⁰ Hintze lists examples of colonial settlements where "Whites" from one single nation had ostensibly remained, in reproductive terms, isolated and thus "pure" since the arrival of the first settlers. According to Hintze, this development was actually problematic, as it might lead to inbreeding and degeneration. In other cases, he continued, there had been "such a thorough mixing with the native population" that one could no longer speak of reproduction within the "white race."²¹ Only in the case of a colony in Brazil that had avoided mixing with the native population does Hintze offer a positive assessment. However, in this case, the colony consisted of various "German tribes" along with people from the

18 K. Hintze, Welchen Einfluß hat das Tropenklima auf Angehörige der weißen Rasse? in: Archiv für Tropen- und Schiffshygiene 20 (1916), vol. 4-6, pp. 91-104, 122-138, and 148-172.

19 Ibid., p. 155 (translation: V. Lipphardt).

20 Ibid., p. 158.

21 Ibid., p. 162.

Netherlands, Switzerland, Luxembourg, and the region of Tirol. All these people had allegedly mixed favorably – “a fortunate mixture” (eine glückliche Mischung), as the author puts it.²²

Why did the author for this very specific topic switch from “Europeans” to “Whites”? As soon as the biological function of reproduction was at stake, where questions of life style, shaped by culture, seemed to fade into the background, light skin emerged as the primary criterion to describe humans. The parallel to Gregor Johann Mendel’s genetic experiments, rediscovered in 1900, is striking: Mendel had mixed plants with two strikingly different blossom colors and quantified the outcome in the offspring’s blossoms. Hence, in the arena of biological considerations the skin color – presumably a feature that could be measured scientifically and objectively – was favored over cultural designations.

Around 1900, life scientists generally regarded biological dispositions as more deeply rooted than culture. With respect to the genuinely biological problem of determining population reproduction, observing skin colors was deemed an essential tool. But, even the life scientist recognized that for a civilized and politically successful population, nature alone would not suffice: to be white *and* to maintain a European life style marked one as European, a creature reducible neither to nature nor to nurture. Against the backdrop of the political situation “at home,” Hintze’s utopia makes for quite an interesting read, warning as he does against national isolation and pretentious urban life styles, favoring instead European rural cooperation. In Europe, however, rural communities were not the most likely place to encounter a mixture of healthy Europeans: thus the colonies emerged as the only place where such ideal communities might be realized. In the European discourse about living conditions for Europeans in the colonies, we might conclude from Hintze’s example that national differences played a minor role and that larger identifications, “European” or “White,” were not used interchangeably but rather to describe and project different aspects of colonial life.

Discourses, however, are but one side of the story. How was the distinction between “Europeans” and “Natives” practiced on the spot – or in situ, as scientists would call it? A 1910 administrative report to the German Imperial Colonial Office (Reichskolonialamt) about “Pestilence in Dar es Salaam”²³ describes in detail housing conditions in this East African city, home to immigrants and colonists from many countries. The author claimed, “the historical evolution of Dar es Salaam has brought about a situation whereby Natives of all kinds, immigrants from Asia, and also some Europeans reside all mixed together.”²⁴ Furthermore, he complained that this was one reason why pestilence was able to spread so easily across the city.

City maps show Daressalam’s residential mix at that time.²⁵ For each single building complex, one can learn whether Europeans or other groups resided there; or, if more

22 Ibid., p. 163.

23 Today: Daressalam, Tansania; in 1910: Dar es Salaam, Deutsch-Ostafrika. Amtlicher Bericht an das Reichskolonialamt, Die Pest in Daressalam 1908/09, in: Archiv für Schiffs- und Tropenhygiene 14 (1910), 1, pp. 1-11.

24 Ibid., p. 3 (translation: V. Lipphardt).

25 Ibid., panel 1.

than one group resided in one building complex, as in public buildings, which of the groups predominated. The nationality of the Europeans living in Dar es Salam was not especially important, nor would skin color have sufficed as a criterion: this map was explicitly devoted to shared hygienic habits, that is, to cultural similarities. The distinction between Europeans and all others seemed obviously so significant that it justified a representation of spatial segregation. With this visual tool at hand, it seemed plausible to the author to argue for a total spatial separation of the various population groups.

It is important to recognize that the distinction between “Europeans” and “Non-Europeans” did not rely on rigid scientific categorization; rather, it was a very visible social practice that emerged in an ethnically heterogeneous city. In this way, the distinction suggested itself as a natural basis for medical statistics.

The relevance of spatial segregation for medical studies also holds true for a 1914 study entitled “Examination of stools of Europeans and Chinese in Shanghai.”²⁶ The author, Walter Fischer, considered it highly important to comparatively investigate intestinal parasites across diverse human populations in order to learn about human diversity. The most difficult problem, however, was to get hold of comparable material. The Chinese proved, in his experience, to be very skeptical of European doctors. Fischer reported that he was only able to examine “fresh material” due to the fact that the Institute for Pathology, where he worked, was located next to a hospital used by many Chinese. His “European material” came from the European General Hospital and other medical practices in the city. The internal social structure of each group, European and Chinese, remained unexamined.²⁷

The results, in part, confirmed the expectations of the author: “The Chinese proved to be, as expected, to a higher degree tainted by ascarids (roundworms).”²⁸ In other respects, however, the infection rates of the Chinese subjects were significantly lower than those of the Europeans, or at least below his expectations. This led the author to provide additional information about each group; he thus explained that his Chinese subjects were part of the urban population, and that, for example, their comparatively low rate of hookworm infection was thus unrepresentative.²⁹ The three cases of “Chinese liver fluke” he discovered among Europeans led him to submit that these individuals were not actually “Europeans,” but instead “crossbreds,” meaning offspring from “mixed marriages” between Europeans and Chinese.³⁰

Even the dysentery caused by amebic colitis was, contrary to expectations, much more common among Europeans than among Chinese. As Fischer argued, these results were insignificant as most of the Europeans under examination were already being treated for intestinal disorders – an explanation for their body’s weak defenses against other intesti-

26 W. Fischer, *Über Stuhluntersuchungen bei Europäern und Chinesen in Shanghai*, in: *Archiv für Schiffs- und Tropen-Hygiene* 18 (1914), 18, pp. 615-634.

27 *Ibid.*, pp. 615-618.

28 *Ibid.*, p. 619.

29 *Ibid.*, p. 622.

30 *Ibid.*, p. 623.

nal disorders like dysentery. The same held true for the examined Chinese patients, but the author failed to report this. The case histories of Chinese were, in his estimation, "at least somewhat unreliable" because they would not report correctly to the doctor. But, while other medical experts attributed the dysentery infection to the water supply, this author believed that direct contact infection should not be underestimated; in his words, "the dirty finger of a Chinaman seems to me just as dangerous as contaminated water."³¹ Ironically enough, one would have had to put it just the other way around: Most "dangerous" was the dirty finger of a European, who was much more likely to carry the infection.

Finally, the author silently dispensed with a conclusion that would have taken up his initial statement how important it was to distinguish between Chinese and Europeans. This is hardly surprising: The observable differences were far from being as clear cut as he had wished for. Results were ambiguous or counter-intuitive; sampling of test groups remained arbitrary. The social practice of difference served as the basis for the production of biomedical knowledge, distinguishing, as this example illustrates, "Europeans" from "others." Characterizations of "European" test groups, to which the authors themselves belonged, could not always be expressed in terms of skin color alone. Rather, one's life style, culture, civilization, and hygiene played important roles in these definitions.

"Arabs," for example, were also considered to be white, but they were believed to lack European culture. Studies by North American authors divided their subjects into groups of "Blacks" and "Whites"; that being said, scientists from the United States did not regard themselves as representatives of a European culture and way of life. However, in those instances where U.S. citizens residing in European colonies were included in biomedical studies, they were invariably lumped together with "Europeans."

None of the authors I have presented here drew on the essentialist notion of Europeans constituting a separate race. That was not what they sought to prove; rather, it was an underlying assumption in their endeavors. They did not formulate explicit distinction criteria because it seemed more or less evident who was to be regarded as a European and who was not. Nevertheless, how did such unreflective notions become explicitly formulated knowledge about Europeans?

An illuminating example of this transition is provided by the studies of Carl Bruck, who examined representatives of various "races" in Java: Europeans, Malays, Chinese, Arabs, as well as one Orangutan, with serological methods.³² The Europeans consisted mainly of "Dutchmen". Through his agglutination (the clumping of cells) experiments, Bruck claimed to have proven that the blood of a "superior" race reacted in a very specific way with the blood of an "inferior" race. His results were received with much interest in Germany, with several renowned scientists describing his efforts as promising steps toward a bio-chemical method to distinguish human races via laboratory work.

31 Ibid., p. 631.

32 C. Bruck, Die biologische Differenzierung von Affenarten und menschlichen Rassen durch spezifische Blutreaktionen, in: Berliner klinische Wochenschrift 26 (1907), pp. 793-797.

In conclusion, “White” and “European” were not interchangeable terms in biomedical knowledge production and representation. That does not mean that they were not occasionally conflated. Since they actually conveyed different meanings, I would suggest instead that these two terms, “White” and “European,” were complementary. A consideration of both nature *and* culture were indispensable to capture the “Europeanness” of Europeans. In all examples, the authors took for granted the fact that their participant groups were reasonably categorized into Europeans and others. This assumption rested mainly on non-scientific knowledge about diversity as it was socially practiced, as especially the examinations of stools (scatoscopies) carried out by Fischer in Shanghai make clear. As a basis for distinguishing between groups, scientists used what they considered the most visible, evident, and natural criterion: the social border represented most strikingly by the spatial separation of housing or medical treatment; between Europeans and Non-Europeans in the colonies; between Blacks and Whites in the U.S.; and between various alleged “racial types” in Europe. In any event, the difference that mattered to scientists was not between nations – a distinction which obviously seemed irrelevant to early twentieth-century biomedical investigators working in the tropics.