

RESEARCH ARTICLE

# Does the concept of genetic ancestry reinforce racism?

A commentary on the discourse practice of archaeogenetics

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**Abstract** • Genetic ancestry is seen as an alternative to the problematic concept of race and is positioned against abusive racist and nationalist perspectives. The concept of genetic ancestry is nevertheless not free of racial categorizations. Increasingly, it is becoming an integral part of identity politics. Genetic ancestry is promoted as a way to give identity and visibility to marginalized groups but is also rejected as a form of biocolonialism. In xenophobic and racist discourses of right-wing groups, the concept has found fertile ground. The field of genetics is partly to blame for this since it opens the door to problematic identity discourses through a careless use of archaeological, ethnic, and genetic categories.

**Fördert das Konzept der genetischen Abstammung Rassismus?**  
*Kommentar zur Diskurspraxis der Archäogenetik*

**Zusammenfassung** • *Genetische Abstammung wird als Gegenentwurf zum überkommenen Konzept der Rasse gesehen und gegen missbräuchliche rassistische und nationalistische Perspektiven in Stellung gebracht. Das genetische Abstammungskonzept ist dennoch nicht frei von rassistischen Kategorisierungen. Zunehmend wird es zum integralen Bestandteil von Identitätspolitik. Genetische Abstammung wird als Möglichkeit propagiert, marginalisierten Gruppen Identität und Sichtbarkeit zu verschaffen, wird aber auch als eine Form des Biokolonialismus zurückgewiesen. In den xenophoben und rassistischen Diskursen rechter Gruppen hat das Konzept Konjunktur. Daran trägt die Genetik eine Mitschuld, da sie durch leichtfertigen Umgang mit archäologischen, ethnischen und genetischen Kategorien problematischen Identitätsdiskursen die Tür öffnet.*

**Keywords** • *ancestry, genetics, migration, race, racism*

The new technical possibilities of genome sequencing and decoding of ancient DNA (aDNA) have led to an avalanche of palaeogenetic studies, which have received great attention not only in scientific debates but also in the public media. Next generation sequencing (NGS) exponentially increases the throughput of genome analyses compared to previously common methods. For the first time, complete genome analyses can be performed comparatively inexpensively in a relatively short time. Initial assessments of the new methods were euphorically optimistic about their potential for further research (Mardis 2008; Knapp and Hofreiter 2010). Although later judgements have already become slightly overcast, the positive assessment generally remains unbroken (Goodwin et al. 2016; Orlando et al. 2021). The new possibilities are appreciated as a genome revolution; in archaeology, a scientific revolution has been proclaimed (Kristiansen 2014). Revolutions are a promise of a better, in science a more enlightened and knowledgeable future. Although only the future itself will show what it is really like, it is already possible to see the beginnings of where the journey is heading.

The technical problems of genome analysis are becoming increasingly manageable, so that it is now possible to analyze sample material that has so far eluded investigation. Instead, new challenges are now emerging at points that were not previously seen as problematic. The new high-frequency throughput of analyses generates an unprecedented data stream that seems almost unmanageable. The control of the data is usually carried out neither by the disciplines that provide the sample material nor by the geneticists who generate the data, but rather by computer scientists and statisticians whose task it is to process the data and ultimately to make them interpretable in the first place. This represents a shift in the epistemic basis of the disciplines involved (Jones 2019). The problem area has shifted from data generation to data interpretation, and at the same time the locus of interpretation is moving increasingly away from the fields that were the sources of the data – as has already been criticized (Meier and Patzold 2021). This shift leads to a number of ‘undead’ creeping into scientific discourse (Burmeister 2019,

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pp. 356–357). One of these ‘undead’ is the concept of race and its ideological implementation in racism. In the remainder of the paper, the issue of race, racism and genetic ancestry will be the subject of scrutiny.

Geneticists such as David Reich (2018 a) aim to answer fundamental issues in the history of humankind. One of his core statements is that all people have a shared history, that we are all hybrid beings who are related to each other to different degrees. Against the background of human evolution and the exodus from Africa together with the subsequent colonization of the planet, our differences are trivial. In recent studies, the processes of genetic mixing of populations over the last 100,000 years have gained a hitherto unknown historical depth of focus and detail,

visional situation due to the current state of research. So, it is not surprising that for the period between 1998 and 2007, Chow-White and Green (2013) note a clear increase in racial discourse within genetics that suggests that race has a genetic foundation.

In a *New York Times* column, Reich (2018 b) published a slightly modified version of his book chapter on “The Genomics of Race and Identity”, in which he explicitly emphasized that the “average genetic differences among ‘races’” could no longer be ignored and that “differences in genetic ancestry that happen to correlate to many of today’s racial constructs are real”. One of his most prominent examples is the genetically higher disposition for prostate cancer in African Americans, the majority of whom are descendants of slaves deported from West Africa. The same

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which opens new perspectives on the history of humankind. For Reich, his research is also a rejection of racist and nationalist instrumentalization of population history. But is DNA analysis a weapon against racism and nationalistic interpretive abuses?

### **Ancestry as an alternative to the problematic concept of race**

The concept of race has been problematized in biology and in the social sciences, where it was long ago exposed as a cultural construct. In genetics its place has now been taken by ancestry, which no longer focuses on individual traits of human appearance – however certain or insinuated they may be – but on individual and collective relationships. In their plea to take race out of human genetics, Yudell et al. (2016) differentiate between race and ancestry as follows: While race is a “pattern-based concept” with which individuals can be assigned to preconceived groups, ancestry is a “process-based concept” that makes statements about genetic kinship.

But genetic kinship means more than mere relationship of familial descent. Genome-wide association studies identify and define ancestry groups based on specific gene variations. Certain allele expressions are part of the individual biological machine code and thus become characteristic features of individual ancestry groups. They are an individual and collective trait that has the potential for labeling and group assignment. It is not surprising that studies are not limited to identifying ancestral groups but, for example, aim also to detect typical dispositions for specific diseases. Nor are intellectual capacities taboo. Even David Reich (2018 a, pp. 254–258) demands an open mind, albeit stating that our understanding of the genome is still too immature to draw far-reaching conclusions. He therefore rejects those studies that aim at behavioral traits, but this is only a pro-

genetic characteristics can also be found in members of today’s West African population. So, does this observation permit the statement that West Africans as an ancestry group on their own confirm the social construct of race as real? Are West Africans in this sense a “race of their own” at all? Reich overlooks the conditions of formation of racial constructs, which do not argue with an origin from West Africa, but rather with the outer appearance of black people and their status in a white slaveholder society. Accordingly, black people, not West Africans, were constructed as a race. Reich mixes categories of different contexts of formation and different levels of integration that cannot be reduced to a common denominator. Studies that could support Reich’s postulate would have to be designed completely differently. Only recently has the missing diversity in human genetic studies been criticized (Sirugo et al. 2019). Even when the authors expressly problematize the predominance of studies on groups with European ancestry, it is clear that an over focus on a selected group out of populations with shared ancestry results in a bias that diminishes the meaningfulness of the scientific outcome.

### **Criticism of the concept of ancestry**

The aim here is not to criticize the formation of categories in general, which are a fundamental part of any scientific work, but rather the obvious myopia facing the social context of these categories and the careless use of racial terminology (BuzzFeed Opinion 2018). It is remarkable that geneticists almost obsessively and without scientific necessity bring race into play to express the apparently inexpressible. The social sciences have been monitoring genomic science for a long time and have often criticized the fact that the concept of genetic ancestry is permeated by problematic racial categorizations that have ultimately not lost their compatibility with racist perspectives of past cen-

turies and instead even reinforce them (Gannett 2014; Morning 2014; Nash 2015; Panofsky and Bliss 2017).

Nevertheless, genomic studies cannot all be lumped together, and a clear distinction must be made between different approaches of ancestry analysis. While admixture mapping and ancestry information markers still include racial categorizations, the genetic ancestry made possible by genome-wide association studies is free of a priori settings and therefore actually manages without racial categorizations. This approach has been co-developed by Reich and has now become standard in palaeogenetic studies (Patterson et al. 2006; Price et al. 2006). However, it should be borne in mind that due to statistical dispersion of the data, the analysis does not always lead to clear distribution pat-

terns, and groups may only be represented as tendencies of their statistical means – a matter that is usually neglected when reaching conclusions. Depending on the data, ancestry groups so defined are influenced by subjective interpretations. But we can agree with Fujimura and Rajagopalan (2011, p. 22) that this is a viable methodological approach that works without the problem of racial or ethnic categorization. So, it is all the more surprising that geneticists are still playing the race card.

And the spiral of problems keeps growing. Genetic ancestry is increasingly becoming an integral part of identity politics. It is propagated as a way of assigning identity and visibility to marginalized groups (Guglielmi 2019), but it is also rejected as a form of biocolonialism (TallBear 2013). White nationalists reify their racist worldview by analyzing their own genetic ancestry, whereby their pride results not only from genetic “purity” but also from the awareness that they are part of a specific history (Panofsky and Donovan 2017). The extreme right-wing Greek political party, Golden Dawn, saw the results of a palaeogenetic study (Lazaridis et al. 2017) as confirming a racial continuity of the Greeks from the Bronze Age to the present day. Surely, the best scientific study is not immune from abusive misinterpretations, but here the authors of the study have contributed their part through awkward wording and the problematic combination of archaeological, ethnic and genetic categories (Hamilakis 2017; Maran in press). Fujimura and Rajagopalan (2011, p. 20) already warned that the “subtlety of the difference between race and ancestry may get *lost in translation*”.

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2008). By comparing aDNA and recent DNA, statements on prehistoric migrations and population-genetic continuities can be made. Today’s English population is genetically closely related to populations from Denmark, northern Germany and the Netherlands (Leslie et al. 2015; Schiffels et al. 2016). Continental European ancestry was inscribed into the genomic profile of the British population via the Anglo-Saxon migration around 1,500 years ago. By collecting data from individuals whose families have lived in a region for several generations, recent migration events are excluded, while earlier demographic processes can be identified. The population of the Netherlands as a postulated ancestral home of the English has, however, been shaped to a considerable extent by numerous later migrations over the last 1,000

years (Abdellaoui et al. 2013; Altena et al. 2020; Lao et al. 2013). A genetic identity of the Dutch population around AD 500 with that of 1900 can therefore hardly be assumed.

Genetic similarities can be explained with genetic ancestry, but no direct statement can be made about historical population identities. Moreover, this approach is problematic in that it mixes ethnic and genetic categories, thus opening the door to problematic identity discourses (Lipphardt 2019). Thus, it is not the ethnic self-attribution or citizenship that determines who is German, Danish or British, but the birthplace of the grandparents. In studies on the genetics of national or regional groups, individuals whose ancestors immigrated only one or two generations ago are excluded. Are British citizens with Pakistani roots not British, children of Turkish immigrants not Germans? By comparing aDNA with modern DNA, statements are made about prehistoric migrations and genetic continuities. Here the argumentation of right-wing groups is served unintentionally, and indeed, they increasingly refer less to race and more to ancestry. “Biological Germans”, e. g., is their rhetoric to exclude all German citizens whose families have not already lived in Germany for several generations.

For the reconstruction of past migration processes, this approach may be methodologically adequate, but it is problematic because the results of these studies and the postulated ancestry become part of national identity discourses. Reich (2018a, p. 253) sees ‘ancestry’ as a necessary term to discuss genetic differences between people. However, Mathieson and Scally (2020) show that ancestry is neither clearly defined nor does it have a consistent meaning. Ultimately, it captures genetic similarity and not genetic ancestry in the strict sense. While genetic similarities can be traced back to heredity and thus to a common ancestry, genetic ancestry does not map all ancestral relationships. Only some of the ancestors have passed on their genetic material, so that genetic similarity does not permit a statement

### **Ancestry as biocultural artefact**

It is an established method in the analysis of genetic differences between modern populations to refer to individuals whose grandparents were born in the same region or country (Novembre et al.

about all ancestors. Consequently, genetic ancestry has numerous blind spots and is only an excerpt of our genealogical ancestry. The concept of ancestry has a much broader semantic field than genetic similarity is able to cover. It includes some people and excludes others. It is part of cultural practice, and even the hard facts of genetics do not change this: as “biocultural artefacts” (Abel and Schroeder 2020, p. 200) they are part of “genealogical imaginaries” (Nash 2017) and have a social life (Pálsson 2002).

## Ancestry as door opener for a new racism

Let us come back to the question posed in the title, whether ancestry reinforces racism. The conclusion must be that it does not necessarily do so, but it can. Geneticists themselves repeatedly draw the race card, without always making a clear distinction between social and biological categories. Furthermore, they seem to ignore the historical and often ideological ties of social categories or to be unaware of them. Geneticists have for the most part a critical awareness of the biological concept of race – and beyond all doubt do not have a racist agenda. On September 11, 2019, the Jena Declaration was published, co-authored by the geneticist Johannes Krause. It clarifies that the concept of race is the result of racism and not its prerequisite (Jena declaration 2019). But to state again that racism has no scientific basis is to miss the real problem. Racism as an ideological orientation is a social practice that does not need a scientific foundation. That is why the emancipative approach, which David Reich, for example, never tires of emphasizing, fizzles out in social reality.

geneticists oppose their concept of ancestry to the traditional concept of race in an enlightened way, they do not consider current right-wing discourses. In the face of political reality, the emancipative approach goes up in smoke.

It goes without saying that geneticists cannot be blamed that their studies are misused by third parties, but part of the problem lies in the geneticists’ lack of awareness of the social and discursive conditions of categorizations and knowledge. A general problem arises when genetic data leave the laboratory and are linked to phenomena in the world outside. This necessarily leads to the confrontation of genomic classifications, for example of genetically defined ancestry groups, with classifications of other epistemic systems. This is particularly evident when genomic ancestry is associated with archaeological cultures. Archaeological cultures are technical classifications for ordering the archaeological record; they do not reflect the material remains of ethnic groups or populations. A correlation between common ancestry and culture would at least have to be proven first and should not anticipate the result of a study by assigning labels beforehand. Problems arising from the need to name groups can be minimized by using neutral, technical terms (Eisenmann et al. 2018).

But even this is not a definite solution against political misuse. As modern populations are used as reference groups, geneticists fling the gates wide open for political identity discourses. Genetic reference to contemporary national populations correlates neither with individual self-attributions nor with the legal criteria of citizenship. The national or regional label is not a scientific classification of a genomic fact, but a terminologically problematic construct that pretends to objectively identify and

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Stuart Hall (1989) and Etienne Balibar (1991) diagnosed racism without races 30 years ago. There is no need for a pronounced race theory to exclude groups identified as “other” from postulated communities. Ancestry fulfills all the requirements for a practice of social exclusion. Today, xenophobic discourses among the European Right argue less with race and instead draw on cultural descriptors and genetic ancestry. Thus, politicians of the right-wing populist party Alternative for Germany (AFD) demand that the so-called bio-Germans with two German parents and four German grandparents (!) must prevent the “Great Exchange” caused by immigration. The Nazi “Aryan certificate” was also based on this genealogical approach. The AFD follows the ethnopluralist concept of the European New Right, which promotes the ethnocultural unity – and purity – of peoples in a conscious departure from classical racism (Bundesamt für Verfassungsschutz 2019). Peoples, genes, culture and land are seen – at least in the political vision – as a unity. When

name ancestry. The groups thus defined become exclusive ones that disguise who is excluded from them. This unintentionally leads to identity discourses that provide arguments for racist politics, especially in the right-wing political spectrum.

Geneticists not only provide impressive and important research results but also produce narratives of cultural and national belonging that reveal their political impact in society. These narratives become independent, solidify into ways of thinking and worldviews, and in the end leave the realm of purely scientific discourse to affect society. In right-wing discourse, they become toxic narratives (Baldauf et al. 2017). Ancestry has the potential for a new racism. A change in labeling practice is one solution. But the calls to reflect on one’s vocabulary, to avoid biological essentialism and racial, nationalistic or simplistic narratives (Orlando et al. 2021, p. 4) trail off. What is needed is a closer cooperation with the social sciences as a necessary contribution to technology assessment.

Genetic sequencing methods generate raw data, not history (Bösl 2017, p. 25). The data and statistics alone do not provide historical knowledge; this can only be achieved within the framework of historical sciences. As data can always be read in different ways, this requires an open and comprehensive discussion with the participating scholarly disciplines, which takes into account the epistemic potential of the respective evidence as well as the controversies within the disciplines. Reich and many other geneticists do not achieve all this – nor can they be expected to, given the complexity of the research problems of all the fields involved. Instead, one sees a practice that makes affirmative use of a wide range of relevant sciences and ignores everything that does not seem to fit its own results. The geneti-

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cist Mark Jobling (2012, p. 797) already diagnosed cherry-picking as a problem that could only be circumvented if the disciplines involved entered into a dialogue and tried to understand the others. But there is still a long way to go; much is still in conflict and many things seem incompatible.

Reference has already been made to the different cultures of publication, which are diametrically opposed to a debate that does justice to the different scientific discourses (Jones and Bösl 2021, p. 13; Meier and Patzold 2021, p. 36). Jones and Bösl (2021) see that genetics is driven by the quest for attention, celebrity and impact. A hype is created to promote the financing of further research, which continues to be cost-intensive. The high-impact journals such as *Science* or *Nature*, with their relatively short articles in which the complexity of research problems is either relegated to an appendix or suppressed altogether, fuel this process. There are no deliberative publications that address controversies – and are permitted to do so with appropriate length – of the kind that are common in the social and cultural sciences. Neglecting complexity inevitably leads to simplistic narratives. As long as genetics determine the style and content of the debate, this will not change – and the calls not to serve racist or similar narratives remain unfulfilled appeals.

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