

Contributions to a historical review of biological anthropology in Brazil from the second half of the twentieth century

Contribuições para uma recapitulação histórica da antropologia biológica no Brasil a partir da segunda metade do século XX

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Abstract: This article provides a preliminary historical survey of Brazilian biological anthropology from the second half of the twentieth century. Even today, little historiographic information on the last 50 or 60 years is available and/or has been explored, while few allusions to bioanthropology can be found in existing works on the history and contemporary state of anthropology in Brazil; this article attempts to span this gap. The first section examines various aspects of the general development of biological anthropology as it radiated from the centers (Europe and the United States) outward over time. This initial survey affords a clearer understanding of the Brazilian case, which is the topic of the second section. This is followed by a brief historical and bibliographic account of the most recent state of biological anthropology in the country, including a number of specialized areas of research. The article concludes with a short discussion of the material covered.

Keywords: History of anthropology. Biological anthropology. Brazilian anthropology.

Resumo: O artigo oferece uma contribuição inicial para uma revisão da história da antropologia biológica brasileira a partir da segunda metade do século XX. No que se refere aos últimos 50 ou 60 anos, são poucas, ainda, as informações historiográficas disponíveis e/ou trabalhadas, assim como são módicas as alusões à Bioantropologia dentro do conjunto de trabalhos dedicados a uma reflexão sobre a história e a situação hodierna do campo antropológico nacional. Posto isso, o artigo se encontra estruturado da seguinte forma: Em um primeiro momento, são abordados os aspectos mais gerais concernentes ao desenvolvimento geral da antropologia biológica a partir dos centros irradiadores (Europa e Estados Unidos) ao longo do tempo, aspectos necessários, em parte, para um melhor entendimento do caso brasileiro, assunto da segunda seção. A seguir, um pequeno apanhado histórico-bibliográfico relativo ao estado mais recente da área no país, em algumas especialidades, é apresentado. O artigo finda com uma pequena reflexão acerca do material exposto ao longo das suas páginas constituintes.

Palavras-chave: História da antropologia. Antropologia biológica. Antropologia brasileira.

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INTRODUCTION

Reviewing the historical development of biological anthropology in Portugal, Gonçalves Santos (2012) argues that the history of anthropology in the country has tended to ignore its naturalist offshoot, not only due to political episodes in the past, but because, with sociocultural anthropologists assuming the role of the discipline's historians, this history has mostly been told from their viewpoint to the exclusion of all but sociocultural anthropology. The author writes:

When placed in the context of this new historical conjuncture, my 'archaeological excursion' into the origins of physical anthropology seeks to counter a tendency among contemporary historians of Portuguese anthropology to neglect the study of the naturalist tradition and overlook the broader epistemological and institutional foundations of the field of anthropology. This neglect is no doubt linked to the strong historical association of the naturalistic tradition with the period of the dictatorship and its most extreme nationalist and racist ideologies, but there is another, less explicit, reason for this exclusion. Most historians of Portuguese anthropology are sociocultural anthropologists approaching the history of the discipline in light of current disciplinary divisions and from the perspective of their own field of expertise. (Santos, G., 2012, p. S35).

Despite its peculiarities, this is particularly true in the Brazilian case where the history of anthropology has also been limited – save for the period around the turn of the twentieth century – to a history of sociocultural anthropology, especially in relation to the period spanning from the 1950s to the present. Among other factors, this situation is closely related to the form through which anthropology was institutionalized in the country, linked to the social sciences, especially in the universities, and to the biodeterminist premises that informed its emergence and some areas of its development over the previous century, both within Brazil and internationally.

The main purpose of this article is to provide a preliminary review of the history of Brazilian biological anthropology from the second half of the twentieth century.

Over its course it will become clear that little historiographic information has yet to be made available and/or explored concerning the last 50 or 60 years of production, while few allusions to bioanthropology can be found in those works reviewing the history and contemporary situation of anthropology in Brazil. On the latter point, for example, it is worth citing some of the views collected in the volume edited by Eckert and Godoi (2006) or – for those more familiar with the area – some of the authors appearing in another iconographic volume (Corrêa, 2003), both commemorative volumes associated with the Brazilian Anthropology Association (ABA) and its meetings.

The article is structured as follows. In the first section, various general aspects of biological anthropology's development are examined as it gradually radiated from the centres (Europe and the United States) outward. This initial survey enables a clearer understanding of the Brazilian case, the topic of the second section. This is followed by a brief historico-bibliographic account of the most recent state of biological anthropology in the country, including a number of specialized subareas of research. The article concludes with a short discussion of the material covered over its course.

A BRIEF HISTORY OF INTERNATIONAL BIOLOGICAL ANTHROPOLOGY

What is known today as anthropology first emerged in various countries of the world alongside other nascent sciences in the nineteenth century as an audacious scientific project, albeit one not yet unified in institutional and nomenclatural terms. In its earliest formulations, the 'Science of Man' proposed to investigate 'Man' at virtually all levels, encompassing at a very general level the dimensions of biology and culture, past and present. During this initial phase, the vector associated with the human or social sciences (identified, depending on the national context concerned, by labels like ethnography, ethnology, comparative sociology, primitive sociology, social anthropology or cultural anthropology, almost always a mixture) and the vector linked to the natural sciences (then

called physical anthropology or simply anthropology) set out from unilineal evolutionist and/or biodeterminist and geodeterminist premises to explain how man had 'left' his animal condition and how behavioural differences had evolved between peoples or 'races' (Stocking Jr., 1968; Foley, 1996; Castro, 2005).

The quest to identify regular and natural laws capable of explaining how human societies function, an ever-present theme among the early anthropologists, became manifested in two forms. On one side were those who discussed the process of hominization/civilization from a racial angle like Gobineau and Agassiz, while on the other were anthropologists guided by the idea of progress like Morgan and Tylor. In both cases, though, the 'primitives' were deemed to belong to an earlier moment of this process of hominization, or a stage on the way to 'civilization'. Biological aspects were thus evoked, especially by physical anthropologists, to explain the cultural differences between societies.

However, this unilineal evolutionist perspective, present in both physical and sociocultural anthropology, irrespective of their distinct approaches, was already being challenged at the turn of the twentieth century, especially through the ideas of Franz Boas in the United States. Boas (1982, 2005) not only sought to establish new guidelines for the physical anthropology of the period, introducing a more dynamic approach by testing conflicting theories and highlighting the importance of heredity and environmental factors in microevolutionary processes, he also aimed to sever the connections between 'race', culture, geographic environment, language and behaviour, so cherished by the ethnology of his time. He thereby established the grounds for a relativist conception of culture (Boas, 1982, 2005; Stanford et al., 2009; Stocking Jr., 1968).

This contestation of the evolutionist and racial premises of anthropology – an endeavour in which we can include, beside Boas, his immediate disciples in the United States and the authors associated with functionalism in Europe – would lead to a widening gulf between sociocultural studies and physical (biological) studies. As the twentieth century unfolded, the theoretical and methodological ranges of anthropology's two major vectors ended up developing independently, separated by the increasing specialization impacting science as a whole over the last 100 years or so, and the particular orientations adopted by each¹.

More specifically, biological (physical) anthropology was long based on a minute description of the morphological diversity of humans and other primates (Little; Susmann, 2010) in virtually all the countries where it emerged, including South Africa (Low, 2012), Brazil (Santos, R., 1996, 2012), China (Hua, 2012)², France (Sibeud, 2012), Japan (Low, 2012; Nanta, 2008), Portugal (Santos, G., 2012) and Norway (Kyllingstad, 2012), as well as Germany, the United States and the United Kingdom (Little; Sussman, 2010). Basing their work on countless measurements of bones and bodies, used to distinguish the 'races' and rank them, physical anthropologists searched for the missing link that would elucidate the passage from the state of nature to culture. However the legacy of this early phase, when huge amounts of anthropological data on the origin of the species (palaeoanthropology) and the physical characteristics of living populations were collected, was that interpretations were dominated by a fixed and essentialist view of the origin and nature of 'racial types'.

In terms of human evolution – take as the origin, dispersal and formation of 'the races' – the problem remained largely unexplained from the nineteenth century

¹ Véran (2012) argues that over the last 50 or 60 years the paths taken by each of these vectors has contained some risks. In the case of biological anthropology, as he goes on to show, the danger is that it could become lost – once the aspects that had marked it until the mid-twentieth century had been surpassed – in a new form of positivism insofar as the latter is maintained by its technical apparatuses. Meanwhile, sociocultural anthropology, by avoiding any kind of accusation of positivism, in an attempt to distance itself from its passed link to European colonialism, runs the risk of abandoning any pretence of explaining scientifically anything.

² Unpublished (digital) text, kindly made available by the author for the present work.

to at least the middle of the twentieth, dependent mostly on paleontological findings. In their studies of living populations, physical anthropologists generally made oversimplistic connections between physical characteristics and other aspects like behaviour, morality and culture, rushing to hierarchize the 'races', implement nationalist projects and assure the scientificity of their practice. For authors like Linton (1945), Schaden (1954), Washburn (1951, 1969) and Castro Faria (1998), the interpretative limits of biological anthropology were contained in its methodology, centred on morphological descriptions and its fixation on the concept of 'race'. For all these authors, this approach was incapable of providing the theoretical and empirical foundations needed to elucidate the reasons behind human biological diversity, mainly in the present.

From the 1950/60s, genetics assumed a central role within the Neo-Darwinist synthesis that had been developing since the 1920s, assuming an increasingly dominant position in the biological sciences overall³. Physical anthropology was not immune to its influence either. In the 1950s, US anthropologist Sherwood Washburn joined forces with Theodosius Dobzhansky, a geneticist and central figure behind the establishment of the Neo-Darwinist synthesis, to promote a profound change in the field of physical anthropology by introducing the general theoretical perspective of Neo-Darwinism and the genetic concept of population (Stanford et al., 2009; Little; Sussman, 2010). They argued that physical anthropology should abandon its descriptive objectives, determined by nineteenth-century racial evolutionism, and become a discipline capable of interpretative analyses of human evolution inspired by Neo-Darwinism. Simultaneously, they urged replacing the

concept of 'race' with 'population'. Given the scale of the transformation implied, even the discipline's name should change: it would become known as the 'new physical anthropology' or biological anthropology, in contrast to the 'old physical anthropology' (Washburn, 1951).

Discussing this transformation, Little and Sussman (2010) highlight two decisive historical landmarks: the organization of a symposium by Dobzhanski and Washburn in 1950, entitled 'Origin and Evolution of Man', an event which Castro Faria (2000a) in Brazil described in glowing terms; and the publication of "The New Physical Anthropology" by Washburn (1951). Divergent readings of this change exist, however. Smocovitis (2012) argues that from the 1920s the proponents of Neo-Darwinism had been striving to integrate anthropology into their own perspectives, or make anthropology more aware of genetics. Marks (2012), by contrast, suggests that the idea that anthropology had ignored genetics until the 1950s and 60s was simply a myth. During the same period that Franz Boas was founding an anti-racist anthropology in the United States, most other researchers, Marks (2012) suggests, were championing a racist anthropology based on heredity. He also points out that physical anthropologists had already been involved with serological studies as a means to interpreting 'racial differences' in the first decades of the twentieth century.

Sudden or gradual, the fact is that for Washburn (1951, 1969) – a central figure in this 'conversion' of a morphological and descriptive anthropology into a more interpretative and molecular anthropology – it was imperative that anthropology, as well as being theoretically supported by Neo-Darwinism, had to absorb the lessons of genetics, both in primatology, his

³ Broadly speaking, the modern theory of evolution (or the synthetic theory of evolution, or Neo-Darwinism) can be comprehended as the confluence of the ideas of Charles Darwin (natural selection) with those of Gregor Mendel (genetic recombination). The theory began to take shape at the start of the twentieth century in studies that showed how variability between organisms could be explained via Mendelian inheritance (transmission of genetic characteristics) and via natural selection, among other evolutionary factors. In this new approach, natural selection assumed a central, albeit not exclusive, role with the discovery of direct evidence of its action on the evolutionary process of the species, including in relation to the human. On this topic, see Mayr (2002), Meyer and El-Hani (2005) and Marks (2012). For a critique of Neo-Darwinism centred on genetics, see, among others, Ingold (1990, 2006, 2013) and Jablonka and Lamb (2014).

own speciality, and in other areas of the discipline. At the time, genetics had made significant advances in branches of the biological sciences like systematics, palaeontology and zoology, changing its understanding of the origin, development and dispersal of species. Washburn (1951, 1969) thus hoped that anthropologists dedicated to physical studies would likewise cease to merely describe phenomena and become full-blown researchers, capable of analysing the biological differences between human beings more accurately, both synchronically (among living populations) and diachronically (studying paleoanthropological remains), mainly in theoretical terms.

But what would be specifically different about the 'new physical anthropology' compared to the 'old' kind? Put succinctly, Washburn (1951) argues that it would shift from being a technique to a means of understanding the evolutionary processes of primates and human biological variability, taking as a baseline the concept of genetic population (gene frequency). The notion of 'race' would be discussed via this new concept of population. Meanwhile analyses of processes of biological transformation would be preconditioned on numerous disciplinary alliances, especially where population migrations and genetic drift were involved. On this last point the author writes:

The new physical anthropology has much to offer to anyone interested in the structure or evolution of man, but this is only a beginning. To build it, we must collaborate with social scientists, geneticists, anatomists, and palaeontologists. We need new ideas, new methods, new workers. There is nothing we do today which will not be done better tomorrow. (Washburn, 1951, p. 304).

The foundations were set, then, for a vast series of transformations that would reshape biological anthropology over the ensuing decades. As signalled earlier, perhaps the most important transformation was that following this emergence of a 'new physical anthropology' the term 'race' would gradually fade from explanations of human difference in biological anthropology as a whole, albeit not becoming eliminated entirely (Foley, 1996). This

persistence arose from the fact that in the 1950s and 60s the category became adopted in the public sphere more widely, including by all kinds of political agents, and featured in numerous scientific studies in areas like health or genetics itself (Santos, 1996; Little; Sussman, 2010), without mentioning evolutionary psychology. Sometimes, 'race' was mobilized in close connection with terms like population, in biological anthropology, or ethnic group, in sociocultural anthropology (Véran, 2012), as evinced in more recent works like those of Santos et al. (2009), Gaspar Neto and Santos (2011) and Wade et al. (2014).

Of course, the trajectory of bioanthropology as a whole is not limited to questions of 'race', despite the central role played by the concept in its constitution as a scientific discipline and in discussions of its early period and historical development. While the concept allows connections to be made between anthropological enterprises and nationalist, colonialist and discriminatory political projects, as illustrated by the advocacy of eugenics in diverse countries, contemporary bioanthropology has long operated with the maxim that the biological unity of the species makes any attempts to separate humankind into 'racial' groups impossible (Foley, 1996).

It would exceed the limits of this article to detail the theoretical-conceptual development of bioanthropology in each of its specialities over the recent period. However, in addition to the questions raised in the previous paragraph, it is worth emphasizing that the subdiscipline's investigative techniques have also been subject to a wide-ranging process of modernization. To this we can add the expansion of its areas of interest, covering not only to classic themes like the origin and dispersal of *Homo sapiens*, but also, for example, the biomolecular structure of populations (genetic anthropology), ecology and health (Foley, 1996).

BIOANTHROPOLOGY IN BRAZIL FROM THE SECOND HALF OF THE TWENTIETH CENTURY

Historical reviews show that research in physical anthropology was already being conducted in Brazil during the nineteenth

century (Schwarcz, 1993; Santos R., 1996, 1998, 2012; Sá et al., 2008; Salzano, 1997, 2009; Castro Faria, 2000a, 2000b, 2000c; Keuller, 2008; Souza et al., 2009; Gonçalves, 2011; Souza, 2011; Gonçalves et al., 2012). Based at institutions like the National Museum in Rio de Janeiro and the Bahia Faculty of Medicine, these studies were focused both on the earliest human occupation of the Americas and on characteristics definitive of the different 'races' contributing to the national demographic makeup. Heavily influenced by the French Anthropological School led by Paul Broca, the professionals working in physical anthropology at the time used the craniometer as the principal tool for developing their theories (Castro Faria, 2000c; Keuller, 2008). These studies, like those developed in ethnology then under the sway of evolutionism, also informed much of the debate on Brazilian national identity in the nineteenth century and early twentieth. More than anthropologists, or medical anthropologists, the professionals dedicated to anthropological research during the early period of the discipline in the country presented themselves as intellectuals, men of science capable of providing reliable solutions to national dilemmas, invested with an authority associated with the institutions that they represented (Schwarcz, 1993).

It goes beyond the aims of the present review to analyse this period in the historical development of Brazilian biological anthropology in detail, or those immediately preceding and succeeding it. For the era spanning from the 1870s to the 1930/40s, the literature is relatively abundant, including discussions of specific people and institutions (Schwarcz, 1993; Keuller, 2008; Gonçalves, 2011; Gonçalves et al., 2012; Souza, 2011; Santos, R., 1998, 2012). However, as mentioned in the introduction, the literature on the period from the 1950s to the present is slight, save for a number of more general works like those produced by Santos R. (1996, 2012), Salzano (1997, 2013) and Santos et al. (2014), or texts dedicated specifically to the genetics of human populations (Souza et al., 2013; Souza; Santos, 2014).

A more informative and less incomplete history of the trajectory of Brazilian physical/biological anthropology

remains to be written, then, especially for the post-war period when the area experienced a theoretical and methodological renewal at international level, including a boom of specializations in the United States, Europe and elsewhere (Little; Sussmann, 2010; Lindee; Santos, 2012). Judging by how authors like Castro Faria (1998) and Schaden (1954) refer to the area in the 1950s and 60s, biological anthropology in Brazil – at least its more morphological version, and especially at centres like the National Museum in Rio de Janeiro and the São Paulo Faculty of Medicine – appears to have been somewhat isolated from this revival, a situation more immediately felt in the genetic research laboratories. Concerned with the fate of the naturalistic tradition of Brazilian anthropology, both authors publicly expressed their dismay over the growing disdain for biological anthropology within national academia, especially among anthropologists themselves: in their view, unlike the biological sciences (more specifically genetic studies), the area was still rooted in theoretical-methodological models rooted in the nineteenth century. For Castro Faria (1998) and Schaden (1954) alike, this reality was partly explained by the lack of familiarity of Brazilian anthropologists with certain theoretical points of modern biology (read: Neo-Darwinism) and by the absence of a consistent project for teaching biological anthropology in Brazilian universities. In 1963, talking at the 6th Brazilian Anthropology Meeting (Reunião Brasileira de Antropologia: RBA), held in São Paulo between 7-13 July, Castro Faria (1998, p. 47-48), he remarked:

Castro Faria has been sounding off about the subject [the deficiencies in the teaching of biological anthropology in Brazil] with almost rude insistence [...]. This apparent aggression, however, merely reflects his desire to help, correct and contribute locally to revalorising a field of knowledge that, due to the malicious artifices of our improvised university structure, is on the verge of falling into irremediable disrepute.

He also effectively predicted the fate of the biological anthropology taught on social science, history and geography courses:



If in the near future biological anthropology is completely excised from these courses, due to a failure to comprehend its ever greater topicality and the explanatory value of its basic premises, we will be forced to conclude that those primarily responsible for this situation were certain professors who allowed their teaching to become a mere exercise in fastidious uselessness. Students on these courses, most of them interested in teaching as a professional career, would understandably steer away from anthropometric records, callipers, bones and fossil lists. Personally I believe that this will indeed happen and that this will have favourable consequences. (Castro Faria, 1998, p. 48-49).

These remarks were probably made at a special meeting on biological anthropology held at the 6th RBA, the 'Symposium on the Contribution of Genetics to Physical Anthropology', organized by Castro Faria himself. The 'News' section of the journal "Revista de Antropologia" (RA) includes a brief report on the event:

This symposium [...] undoubtedly made a hugely important contribution to physical anthropology in Brazil. Creating a dialogue with the country's geneticists, its aim was to provide new guidelines and stimulus to anthropological studies by collaborating with a discipline that has reshaped the traditional approach to physical anthropology, and whose recent development in Brazil has been extraordinary. The symposium combined a discussion on the possibilities for cooperation between the two disciplines with discussion of works where the potential for this collaboration is clearly evident. (RA, 1963, p. 100-105)⁴.

Still on the quality of the bioanthropological research taking place in the country, and its teaching, Castro Faria (1993), in a text in honour of Egon Schaden, describes the latter, alongside Emílio Willems and Gioconda Mussolini, as 'heroes' of this period of Brazilian anthropology. For him, though trained in the human sciences, all three had

endeavoured to advance the teaching of bioanthropology at the centres where they worked⁵. Indeed in a short text included in the compendium edited by Mussolini (1969), "Evolução, Raça e Cultura" [Evolution, Race and Culture], published after a decade of delays, Fernandes (1969) observed a clear opportunity for biological anthropology to be reinvigorated in Brazil. Inspired by the transformations then taking place in the area at international level, as shown by the articles collected and translated by the book's editor, Brazilian biological anthropology would finally acquire a solid theoretical grounding for its analyses. It would become less obsessed with measuring bones and more focused on the big questions like the human fossil record and population genetics, exploring the evolutionary process of the species. For Fernandes (1969), the publication of "Evolução, Raça e Cultura" also implied the possibility of a radical reorientation in how physical and biological studies in anthropology were taught in Brazil. Recalling his own past experiences, he wrote:

The old system of teaching physical anthropology was a disaster: it cooled the student's enthusiasm, stopped professors from engaging in more stimulating work, and curbed the chances of recruiting talented people from the new generations by stifling whatever is lofty and unsurpassed in the adventurous spirit that drives scientific research in physical anthropology [...]. Even today I recall with horror my experiences of high school geography lessons precisely because of these methods and the dismay they provoked. The dryness and dogmatism that infected this kind of teaching also penetrated the colleges and cultivated a false image of physical anthropology as no more than a rehash of antiquated and outmoded zoological data and concepts. What should have been simply auxiliary and instrumental knowledge had become the central pedagogical goal, distorting the learning process and imbuing it with notions biologists themselves had abandoned back in the 1930s. (Fernandes, 1969, p. XIV-XV).

⁴ All quotations in Portuguese were translated into English by David Rogers.

⁵ In his assessment of the ten years of anthropology in Brazil since the first RBA in 1953, Castro Faria (1998) went as far as designing a course in biological anthropology to be taught at universities to students of social sciences, history and geography. The program content would include themes such as the principles of systematic zoology, racial typologies, human evolution and others. A brief mention of Castro Faria's proposals on the topic can be found in Mellati (2007). Egon Schaden's own interests in biological themes in anthropology can be discerned in the pages of "Revista de Antropologia", a journal he himself founded, both in the editorials and in the various reviews of books on biological anthropology, especially foreign works, that he himself wrote.

In a more recent article contesting the idea of biological homogeneity proposed by Marília Carvalho de Mello e Alvim – an anthropologist from the National Museum in Rio de Janeiro – for the populations discovered in Lagoa Santa, Minas Gerais, the authors Neves and Atui (2004) evaluate the biological anthropology produced in Brazil between the 1960s and the mid-1980s in the area of morphological analyses. According to the authors, unlike the period around the turn of the twentieth century, and more recently the end of the twentieth century and the beginning of the twenty-first, moments when Brazilian bioanthropological analyses of materials excavated at Lagoa Santa achieved international repercussions – the analyses made over these two decades and a half had failed to pass beyond ‘domestic consumption’ due to their ‘poor quality’. For the authors, the gap between Brazilian science and what was already being explored abroad (the ‘new physical anthropology’) reflected an even wider institutional gulf between the two major currents of anthropology in Brazil, biological and sociocultural. In their words:

Unlike these studies of international impact, conducted at the chronological extremes of the end of the nineteenth century/start of the twentieth, and the end of the twentieth century/start of the twenty-first, studies of these important human bone remains developed by Brazilian bioanthropologists during this interval [1960s to mid-1980s] failed to reach beyond the bounds of domestic consumption. This has to be understood through a critical analysis of the bioanthropology produced in Brazil during the 1960s, 1970s and the early 1980s, a task lying beyond the remit of the present work [...]. Primarily descriptive and typological, devoid of any acceptable theoretical base even for the era when they were generated, these studies not only promoted an almost irreconcilable gulf between the biological anthropology and sociocultural anthropology produced in the country, a gulf prophetically predicted by Luis de Castro Faria at least a decade earlier [...] they also crystallized unjustifiable myths among the national archaeological community – myths with a considerable anti-heuristic effect in terms of advancing our understanding of the biology of the prehistorical populations who once occupied Brazil's national territory. (Neves; Atui, 2004, p. 161).

Santos's (1996) historical review of the transformations to the concept of ‘race’ in biological anthropology over the twentieth century also includes a brief appraisal of the trajectory of Brazilian bioanthropology between the 1950s and 1980s. Generally speaking, the two processes took place concomitantly. On one hand there was a gradual substitution at international level of the term ‘race’ by the notion of population, a direct consequence of the impact of the evolutionary biology of the previous century on anthropology, as discussed earlier. On the other hand, accompanying the debate on use of the term ‘race’ in Brazilian biological anthropology from the 1950s, two general lines of investigation were developed, one maintaining a degree of continuity with previous work, the other shifting to a Neo-Darwinism approach.

As Santos (1996) adds, the work undertaken by the traditional line of research, exemplified by the National Museum in Rio de Janeiro, was focused on osteometric analyses of human remains from the prehistorical period. At the latter institution, the research headed by Professor Marília Carvalho de Mello e Alvim was centred on typological analyses of the collections of skeletons from the museum itself. Although these studies made no attempt to associate anatomical and morphological features with behavioural predispositions, the methodological orientation remained identical to the one developed at the start of the last century. At the same time, descriptions remained ends in themselves, as stressed by Neves and Atui (2004). Although the term ‘race’ might not have appeared explicitly in the National Museum's output, the analytic framework used predated the emergence of Neo-Darwinism. In other words, Santos (1996) argues, a ‘racialized’ conception of the anthropological collection was still at work, inherited from the nineteenth century and employed in the typological schemas dominant prior to the Second World War.

Pursuing different lines of approach, research was also developed outside anthropology departments (in biology sectors) on topics closely linked to anthropological research, especially in human population genetics. In these centres,

Santos (1996) asserts, bioanthropology had combined with studies in population genetics, heavily influenced by the synthetic theory of evolution. As a result, 'race' became operationalized in genetic terms, involving factors like spatial distribution, reproductive aspects and genotype frequency.

On this subject, it is interesting to note that, in an entry on physical anthropology in the "Dicionário de Ciências Sociais" [Social Sciences Dictionary], Messias (1986) – a specialist in this area at the National Museum alongside Marília Carvalho de Mello e Alvim – had emphasized how biological anthropology had recently been paying more attention to the genetic aspects underlying morphological differences, taking the population as the main unit of analysis. In his view, any social or cultural connotation had to be eliminated from the notion of 'race', while biologically the notion should be taken to refer to genetic frequency among populations, as advocated by Washburn (1951): "There is no correlation between race and mental characteristics, either quantitatively or qualitatively. Populations are potentially equivalent in terms of cultural possibilities. There is no correlation between race, culture or nationality" (Messias, 1986, p. 63-64).

As seen at international level too, the history of Brazilian biological anthropology is not limited to questions concerning the concept of 'race'. Nonetheless, it is important to mention one last aspect of the relations between this concept and more recent studies of biological anthropology in Brazil, especially those involving genetic analyses of living populations. Santos (1996) suggests that although many bioanthropological studies had absorbed Neo-Darwinist ideas of evolution, human population genetics and so on, some Brazilian works in this area remained bound to the typological premises of the past, making associations between morphological criteria and genotype structure. In these studies, the participants were 'racially' classified on the basis of external physical attributes in order to investigate their 'racial composition' and/or their degrees of 'racial mixture' at genetic level. The same author cites the works of Krieger et al. (1965), which served as a basis for subsequent research in the country, in particular "Retrato molecular do Brasil" (Pena

et al., 2000) whose international impact has been critically analysed by Santos and Maio (2004, 2005).

Looking beyond this topic, Santos (1996) is correct to assert that the trajectory of Brazilian bioanthropology since the 1950s to the start of the present century has involved a transformation with various ruptures but also continuities. Returning to one of the points discussed here, the idea of genetic population, for example, did not entirely eclipse the importance attributed by various lines of investigation to morphological characteristics, whether or not these were given a racial spin. On this aspect, the Brazilian case does not seem very different from the patterns observed in other contexts (Véran, 2012).

At any rate, this two-fold development of biological anthropology in Brazil led to a contemporary institutional scenario fairly different from other countries. As Salzano (2009, 2013) emphasizes, apart from researchers working at the National Museum of the Federal University of Rio de Janeiro (MN/UFRJ) and the Federal University of Pará (UFPA), all the academics dedicated to bioanthropological research in Brazil are based at centres and departments other than those where anthropology is taught and produced. The spatial constraints of the present article mean that a detailed exploration of this contemporary situation is impossible. As a supplement, however, the next section contains a small, non-exhaustive survey of the most recent bioanthropological work undertaken in Brazil in some specialist areas, allowing the reader a glimpse of the current situation.

A BRIEF SURVEY OF RECENT WORK IN BIOANTHROPOLOGY IN BRAZIL

Just as seen in sociocultural anthropology, the myriad interests within contemporary bioanthropology reflect the intense specialization experienced by the area since at least the second half of the last century. This has been partly impelled by methodological, technical and technological transformations not just within evolutionary biology but in other scientific areas too. Little and Sussman (2010) identify

only a few investigative subareas in biological anthropology during the first half of the twentieth century, such as palaeoanthropology, eugenics (and racial studies in general) and primatology, all of which were basically devoted to descriptive morphological analyses, numerous transformations have occurred in some of these specializations over the last 50 or 60 years, leading to the opening and/or development of new areas of exploration: bioarchaeology and forensic anthropology (Stanford et al., 2009; Little; Sussman, 2010; Hua, 2012), biomedical anthropology, human population genetics and paleopathology (Stanford et al., 2009; Hua, 2012), and even an anthropological neuroscience (Malone, 2009). In the Brazilian case, the following can be listed⁶.

We can begin with palaeoanthropology, an inquiry into the origin of modern humans and their dispersal across the planet, as well as their phylogenetic relations to other primates. As remarked earlier, paleoanthropological studies in Brazil date back to the first half of the nineteenth century when Peter Lund began work in the Lagoa Santa region of Minas Gerais and made his first discoveries: human remains associated with specimens of Pleistocene megafauna. These findings prompted considerable speculation on the antiquity of the human presence in the Americas (Neves; Pucciarelli, 1991; Prous, 1992; Neves; Piló, 2008). At the end of the nineteenth century and for much of the first half of the twentieth, the theme of the arrival and spread of the human population across the American continent attracted the attention of anthropologists in Brazil (Castro Faria, 2000c; Salzano, 1997) and abroad (Powell; Neves, 1999).

In the 1980s and 90s, Walter Alves Neves and diverse collaborators began a series of inquiries into the topic, including studies in the same region investigated by Lund, proposing their own model for the antiquity and biological profile of the first waves of humans to arrive in the Americas (Neves; Pucciarelli, 1991; Neves et al.,

1999b; Neves et al., 2003; Neves; Hubbe, 2005; Neves et al., 2007a; Neves et al., 2007b; Neves; Piló, 2008; Hubbe et al., 2010). More recently some geneticists have focused on the topic (anthropological genetics), proposing a new model that integrates morphological and molecular perspectives. Their findings can be read in the works of González-José et al. (2008), González-José and Bortolini (2011) and in the review undertaken by Salzano (2011). Contributions have also come from paleopathology and paleoparasitology (Ferreira et al., 2008).

Connections between biological anthropology and archaeology, bioarchaeology and paleopathology in Brazil lack the same time depth as palaeoanthropology. The first research in these areas dates back to the 1970s and a group of researchers based at the Sérgio Arouca National School of Public Health, linked to the Oswaldo Cruz Foundation (ENSP/FIOCRUZ) in Rio de Janeiro (Ferreira et al., 2008). In the case of bioarchaeology, Souza (2003) writes, development in Brazil lags some way behind other countries. She argues that this is due to the lack of any real integration between the archaeology and anthropology practiced in Brazil, especially in archaeological contexts where human remains are discovered. In any event, we can cite as examples studies carried out by Souza (1986), Souza and Alvim (1992), Souza, S. and Souza, A. (1994), Rodrigues-Carvalho and Souza (1998), Costa-Junqueira et al. (1999), Neves et al. (1999a), Lessa and Souza (2003-2004), Bastos et al. (2011) and Liryo et al. (2011). In the case of paleopathology, interested among other things in distinguishing between evolutionary and pathological traces in bone records (Stanford et al., 2009), we can cite studies by Souza (1977, 1992-1993), Lessa and Souza (2003-2004), Souza et al. (2006), Da-Gloria et al. (2011), Hubbe et al. (2012), Jaeger et al. (2013), Da-Gloria and Larsen (2014) and Bastos et al. (2015), among others. In the cases of bioarchaeology

⁶ For space reasons, the present survey is fairly concise and far more bibliographic than analytic, as originally intended. Furthermore, it omits at least two other specialities that deserve more careful investigative attention: forensic anthropology and primatology. The expectation is for a more detailed and critical survey, emphasizing the more recent academic production, to be published in a separate article soon.

and paleopathology alike, the investigative teams include both Brazilian and foreign researchers, while the analysed materials derive from sites located in Brazil and abroad.

In terms of biomedical anthropology, a subarea of bioanthropology related to health areas in general, there is an absence of solid historiographic information. However we can trace its formative moment in Brazil to the 1950/60s and studies of the growth and physical development of school-age children in urban centres carried out by the anthropologists José Bastos de Ávila and Maria Julia Pourchet. Some of this research has been analysed by Gonçalves (2011). In the case of anthropometric studies involving indigenous populations, conducted over much of the twentieth century, a critical review of the literature appears in Santos (1993). More recently, since the 1990s, various investigations have been conducted into the health, epidemiological and demographic profiles of indigenous, quilombola and river-dwelling populations in Brazil. Results from some of these studies can be found, among other sources, in Coimbra Junior et al. (1996), Santos and Coimbra Junior (1999), Santos et al. (1997), Coimbra Junior et al. (2004), Coimbra Junior et al. (2003), Pagliaro et al. (2005), Lourenço et al. (2008), Welch et al. (2009), Silva and Padez (2010), Piperata et al. (2011), Horta et al. (2013) and Guimarães and Silva (2015).

The general impact of human population genetics on the historical development of biological anthropology globally from the second half of the twentieth century has already been discussed in the previous sections. Likewise its development at national level merits a historical and ethnographic reappraisal. This would show, for example, how theoretical-methodological dimensions intermingle with the sociopolitical, as shown in Souza et al. (2013), Souza and Santos (2014), Santos et al. (2014), Kent et al. (2014) and Kent et al. (2015). Whatever the case, research on the genetic structure of indigenous populations and Brazilian society as a whole dates back to the 1950s (Santos, 1993, 1996; Salzano, 1997, 2010), exemplified, among other works, by the study of Salzano and Freire-Maia (1967). More recently, we find studies on ancestry, structure, degrees of 'racial mixture'

and evolutionary characteristics of the Brazilian and Latin American populations based on comparative analyses of genetic markers (proteins, autosomal DNA, mitochondrial DNA and Y-chromosomal DNA) associated primarily with Europeans, Africans and Amerindians, using samples collected in urban centres and rural locations. This work is described in Bortolini et al. (1997a, 1997b, 1997c, 1998, 1999), Silva Junior et al. (1999, 2006), Pena et al. (2000), Pena et al. (2011), Marrero et al. (2005, 2007a, 2007b), Wang et al. (2008) and Hünemeier et al. (2012).

CONCLUSIONS

Far from exhausting its theme, this article has aimed to provide a basic resource for future researchers interested in investigating the recent trajectory and current state of Brazilian bioanthropology, affording them the material to develop more in-depth accounts of these and other aspects (as exemplified in sociocultural anthropology) within what is normally identified as the field of anthropology in Brazil. It is now more than half a century since a survey of this kind was made by Castro Faria (1998, 2000b, 2000c). Even taking into account the information available in other contemporary initiatives, as cited in the introduction, there is still much more accumulated material to be explored along the same lines as historic and ethnographic investigations, for example, including with comparative aims. Such an endeavour would provide us, then, with something similar to the work undertaken in other countries where anthropology has been consolidated today as an academic discipline, as demonstrated by some of the international literature cited here.

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