

On Race and Miscegenation: Portuguese Racial Studies During the 1930s and 1940s

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Abstract: In the first half of the twentieth century, miscegenation was widely discussed internationally, particularly as to the possibility of being biologically harmful. In Portugal, the scientific debate on miscegenation was complex, being generally in tune with different positions that aligned with political agendas of the dictatorial regime.

In the 1930s and 1940s, the Portuguese scientific debate regarding miscegenation, which in general favoured its rejection, was nuanced, reflecting different perspectives on inheritance, eugenics, and evolution.

This article aims at elucidating how different racial and inheritance conceptions contributed to the nuanced scientific discourse on miscegenation in Portugal. While considering eugenics, it will focus on publications within the field of Anthropobiology, particularly related to inheritance, physiology and human biochemistry, from the Anthropology schools of Porto and Coimbra. The article opens a window into a rarely studied topic: the way Portuguese scholars regarded miscegenation during the first decades of the Estado Novo, in connection with their ideological and scientific concerns.

Keywords: miscegenation; race; inheritance; anthropobiology; Portuguese dictatorship

Introduction

Throughout the nineteenth century, the questions of the origin, history and nature of the human races were intensely debated internationally. In Portugal, those debates emerged in the latter half of the century and were often related to colonial concerns in Africa.¹ The Portuguese debate on race, especially concerning miscegenation, was complex, and from a scientific perspective, was largely held in anthropology societies and institutes.² As in most colonial empires of the time, an important part of anthropology studies was focused on the study of the colonized “other,” as well as on the definition of the national population as opposed to “them.”³

Portuguese anthropologists were generally opposed to miscegenation during the first half of the twentieth century—a position aligned with the general international debate, for which the emergence of eugenics came to be crucial. International programs for race improvement ranged from health policies to sterilization and even theories of extinction of populations deemed “too primitive for modern survival.”⁴ Eugenicists, particularly of western origin, considered the “white race” superior to other races, both physically and mentally. Hence, eugenics concerned itself not only with racial improvement but also with the “protection” of the “superiority of the white race” from other “inferior elements.”⁵ Regarding miscegenation, the main view held that crosses between different races led to “disharmonies”—that different inheritable characteristics, when “mixed,” would not lead to viable, or at least “perfect” offspring. In this sense, the general discourses enforced the idea that miscegenation with the “white race” would reduce its quality and improve the other, “inferior,” race.⁶

The international development of eugenics was not uniform. More extreme eugenic measures, related to population control, segregation and sterilization, were more generally put forward by the Anglo-Saxon and Germanic scientific spheres, with policies having been enacted in countries such as the USA and Germany.⁷ The incorporation of Mendelian genetics in the

¹ Patrícia Ferraz de Matos, “Racial and Social Prejudice in the Colonial Empire—Issues Raised by Miscegenation in Portugal (Late Nineteenth to Mid-Twentieth Centuries),” *Anthropological Journal of European Cultures* 28, no. 2 (2019): 23–44.

² Matos, “Racial and Social Prejudice;” Richard Cleminson, “Between Germanic and Latin Eugenics: Portugal, 1930–1960,” *História, Ciências, Saúde—Manguinhos*, 23, no. 1 (2016): 73–91; Patrícia Ferraz de Matos, *Anthropology, Nationalism and Colonialism. Mendes Correia and the Porto School of Anthropology* (New York: Berghahn Books, 2023).

³ Philippa Levine, “Anthropology, Colonialism, and Eugenics,” in *The Oxford Handbook of the History of Eugenics*, eds. Alison Bashford and Philippa Levine, 43–61 (Oxford University Press, 2010).

⁴ Philippa Levine and Alison Bashford, “Introduction: Eugenics and the Modern World,” in *The Oxford Handbook of the History of Eugenics*, eds. Alison Bashford and Philippa Levine, 2–24 (Oxford University Press, 2010).

⁵ Stefan Kühl, *For the Betterment of the Race* (New York: Palgrave Macmillan, 2013), 47–69.

⁶ William Provine, “Geneticists and Race,” *American Zoologist* 26, no. 3 (1986): 857–887.

⁷ Levine and Bashford, “Introduction.”

1930s exacerbated this position in those contexts.⁸ However, a variety of debates on these topics were taking place in other countries. French eugenicists, for instance, proposed measures influenced by a neo-Lamarckian approach, highlighting ideas on the improvement of social and medical hygiene.⁹

In Portugal, racial studies during the 1930s and 1940s also started to integrate notions of race improvement and eugenic thought, but in distinct ways.¹⁰ Ideas about eugenics first began to circulate in Portugal in the early twentieth century,¹¹ framed within a neo-Lamarckian tradition, and were centred on improving medicine, hygiene and maternal care as means of racial improvement.¹² This reflected other developments in the Portuguese natural sciences, where the French tradition was particularly influential.¹³ This line of eugenics was more related to what Stepan, Turda and Gillette call “Latin eugenics.”¹⁴ However, a “Germanic” line, based on ideas of genetic determinism, started to emerge within anthropological circles with the assimilation of the Modern Synthesis theory of evolution.¹⁵ It was this so called “Germanic” line of eugenics, grounded on a neo-Darwinian framework, which found many supporters in the Portuguese anthropological community in the 1930s and 1940s, that ended up being more associated with mostly negative views towards miscegenation.¹⁶ Nevertheless, “Latin eugenics” remained in Portugal alongside the “Germanic” line.¹⁷

These different lines of eugenics, and the different assimilations of inheritance and evolutionary theories, have contributed to the complexity of the debate on miscegenation during those

⁸ Kühl, *Betterment of the Race*, 71-89.

⁹ *Ibid.*, 47-69.

¹⁰ For the development of eugenics in Portugal, see Richard Cleminson, *Catholicism, Race and Empire, Eugenics in Portugal, 1900-1950* (Budapest: Central European University Press, 2014); Ana Leonor Pereira, “Eugenia em Portugal?,” *Revista de História das Letras* 20 (1999): 531-600.

¹¹ Richard Cleminson argues that the first Portuguese work to discuss eugenics was Egas Moniz’s “A Vida Sexual” in 1901. Cleminson, *Catholicism, Race and Empire*, 17.

¹² Pereira, “Eugenia em Portugal?,” Richard Cleminson, “Eugenics in Portugal, 1900-1950: Setting a Research Agenda,” *East Central Europe* 38, no. 1 (2011): 133-154.

¹³ The appropriation of Mendelian genetics was not homogeneous in Portugal, having been appropriated in the late 1910s and early 1920s by the agronomic community. On the appropriation of Mendelism by the Portuguese scientific community, see Maria do Mar Gago, “The Emergence of Genetics in Portugal: J. A. Serra at the Crossroads of Politics and Biological Communities (1936-1952)” (MSc Diss., Universidade de Lisboa, 2009), 17-40.

¹⁴ Nancy Leys Stepan, *“The Hour of Eugenics”: Race, Gender, and Nation in Latin America* (London: Cornell University Press, 1991); Marius Turda and Aaron Gillette, *Latin Eugenics in Comparative Perspective* (London: Bloomsbury, 2014).

¹⁵ Cleminson, “Eugenics in Portugal,” Cleminson, “Germanic and Latin Eugenics.”

¹⁶ See Richard Cleminson, “Eugenics, Sex Reform, Religion and Anarchism in Portugal,” *The Journal of Religious History, Literature and Culture* 4, no. 2 (2018): 61-84; Cleminson, *Catholicism, Race and Empire*; Cleminson, “Germanic and Latin Eugenics.”

¹⁷ Cleminson, “Germanic and Latin Eugenics.”

decades. Despite a general opposition, Portugal's scientific debate on miscegenation was nuanced.

This paper seeks to contribute to a historical analysis of racial studies in Portugal during the dictatorship of the Estado Novo (New State),¹⁸ having as a place of departure the discussion on miscegenation, from the perspective of genetics, inheritance and anthropobiological studies. It proposes an in-depth analysis of the Portuguese scientific debate on miscegenation and race during the 1930s and 1940s. This analysis will focus on published materials, from research papers, books and congress presentations, primarily within the scope of anthropology as related to racial studies.

In the first part, the article will introduce the scientific and political contexts in which the scientific debate on miscegenation was held. It will then explore the nuances of the Portuguese scientific debate on miscegenation during these decades, revealing details regarding inheritance and evolutionary theories defended by different scholars. The overall imperialist and nationalist atmosphere of events such as the 1934 Colonial Exhibition and the 1940 Exhibition of the Portuguese World, where some of these discussions took place, will be considered, as will the ways in which the colonial ambitions of the Estado Novo shaped some of these discourses.

The topic of miscegenation was not, however, a focus of research for Portuguese anthropologists during this time. Hence, in seeking to better understand the scientific context of the positions on miscegenation, the second part of the article will introduce a broader range of anthropological studies in order to clarify the conceptions of race and classification methods applied. A focus will be given to the understudied field of anthropobiology, through the analysis of studies related to human biochemistry.

In the aftermath of World War II, the international discourse on race started to change drastically, and anthropological studies and their methodology started to be actively questioned and criticized.¹⁹ As a colonial empire, this affected Portugal, where the discourse on these topics started to change, more evidently in the 1950s.²⁰ The Estado Novo adopted, during that period, the Luso-tropicalist thesis put forward by Brazilian sociologist Gilberto Freyre, that claimed a “non-racist” ideology and the existence of a harmonious multicultural and

¹⁸ The Estado Novo was the dictatorial regime in power in Portugal between 1933 and 1974. It was an authoritarian, corporatist and colonialist regime, headed by António de Oliveira Salazar until 1968, and by Marcello Caetano from then until it was overthrown on the April 25 Revolution, in 1974.

¹⁹ Matos, *Anthropology, Nationalism and Colonialism*, 257-330.

²⁰ The political discourse surrounding colonial issues, in particular, changed drastically after the end of the war, and this is evident in the changing choice of terminology in the official discourse. See for instance Matos, *Anthropology, Nationalism and Colonialism*, 257-330; Cláudia Castelo, “O Modo Português de Estar no Mundo”—*O Luso-tropicalismo e a Ideologia Colonial Portuguesa (1933-1961)* (Porto: Edições Afrontamento, 1998), 45-67.

multi-racial community in the Portuguese overseas empire. According to Luso-tropicalism, together with the aim of expanding the Christian faith and cultural exchanges, a propensity for miscegenation had contributed to a pacific form of colonization.²¹ The research carried out suggests, however, that from 1945 to the end of the 1940s this changing discourse had not yet permeated the Portuguese scientific community, and anthropological publications during this half decade still followed the same trend of previous years.

In conclusion, the article will seek to bring together the Portuguese debate on miscegenation with the overarching studies on anthropobiology, by establishing a relation with the underlying biological conceptions of race and classification methods considered in these studies.

The Debate on Miscegenation

From the beginning of the twentieth century, racial studies garnered relevance in Portuguese anthropological circles on issues of racial classification, human origins and evolution. The discussion on the effects of miscegenation, which mostly concerned the colonial context, was closely connected with these issues, but was not central.²²

Importantly, the Portuguese population and colonized populations were studied separately, focusing on anthropometry and morphological traits. In many ways, this approach highlighted not only a separation between the national “self” and the colonized “other,” but also helped establish a hierarchy. This narrative was compatible with the nationalist and imperialist ideals of the Estado Novo, evidenced by the Colonial Act of 1930, which established that “it is of the organic essence of the Portuguese nation to perform the historic function of possessing and colonizing overseas territories and of civilizing the indigenous populations that dwell in them.”²³ The lack of racial studies concerning miscegenation was, however, recognized. In his inaugural speech to the First National Congress of Colonial Anthropology, in 1934, anthropologist António Mendes Correia stated that “the biological and social problems of *mestiçamento* . . . do not yet worry . . . enough our researchers.”²⁴ Indeed, it was mostly within

²¹ Warwick Anderson, Ricardo Roque and Ricardo Ventura Santos, “Introduction,” in *Luso-tropicalism and Its Discontents—The Making and Unmaking of Racial Exceptionalism*, eds. Warwick Anderson, Ricardo Roque and Ricardo Ventura Santos, (New York, Oxford: Berghahn Books, 2019), 1-20; Castelo, “*O Modo Português*,” 17-43.

²² Indeed, this was a period when the belief that human degeneration was brought upon by racial mixing still prevailed. In this sense, the idea that there was a high rate of racial mixing in its colonies could have reflected poorly on Portugal as a Nation and Empire. See Levine, “Anthropology, Colonialism, and Eugenics;” Matos, “Racial and Social Prejudice.”

²³ In *Acto Colonial*, Decreto-lei nº 22:465 (1930).

²⁴ António Mendes Correia, “Discurso Inaugural no I Congresso Nacional de Antropologia Colonial,” in *Extracto das Actas do Congresso* (Porto: Edições da 1ª Exposição Colonial Portuguesa, 1934), on 9. Portuguese terms such as “*mestiçamento*,” “*mestiçagem*,” “*mestiço/a*” and “*mulato/a*” historically refer

the established fundamental differences between the national “self” and the colonized “other” that discussions regarding the effects of miscegenation usually took place. It was relegated to theoretical discussions, which were generally put forward by the heads of anthropology schools at the time: the Anthropology Institute of Coimbra, directed by Eusébio Tamagnini; and the Anthropology Institute of Porto, directed by Mendes Correia.

Two points must be made regarding these schools and their directors. Both Tamagnini and Mendes Correia were politically active figures during the Estado Novo—Tamagnini was Minister of Public Instruction from 1934 to 1936; and Mendes Correia was mayor of Porto, and later member of parliament in the National Assembly from 1945 to 1956.²⁵ In addition, these anthropology schools were quite influential in Portugal during this period and maintained international contacts with other institutions. The relations between Portuguese anthropologists, especially from the Coimbra school, and researchers from the Kaiser Wilhelm Institute for Anthropology, have previously been studied.²⁶ The school of Porto established a wide network, although the Anglo-Saxon and Germanic spheres were quite prominent.²⁷ Additionally, despite their overlapping research interests (and to some extent approaches), these two schools of anthropology had well known rivalries.²⁸

The study of miscegenation and mixed-race people was complex, especially if one considers the lack of consensus within the international academic field on the parameters that distinguished

to miscegenation (“mestiçamento,” “mestiçagem”) and mixed-race people (“mestiço/a,” “mulato/a”). However, and importantly, they are tied to colonial terminology and have at their origin allusions to animal crosses and hybridism. “Mestiço/a” originally referred to crosses between dog breeds, while “mulato/a” originates from “mula” the hybrid offspring of crosses between horses and donkeys. It is important to note that these colonial terms are still used colloquially in the Portuguese language. Recognizing this, and the specific connotations they hold in Portuguese, I chose to leave these terms untranslated in citations throughout the paper. On the etymology of these and other colonial terminology see Miguel Vale de Almeida, “‘Longing for Oneself’: Hybridism and Miscegenation in Colonial and Postcolonial Portugal,” *Etnográfica* IV, no. 1 (2002): 181-200; and the Author’s Letter to the Portuguese Edition of Grada Kilomba, *Memórias da Plantação: Episódios de Racismo Quotidiano* (Lisboa: Orfeu Negro, 2019). Unless otherwise noted, all translations are my own.

²⁵ Maria do Mar Gago, “Things of Darkness: Genetics, Melanins and the Regime of Salazar (1936–1952),” *Centaurus* 57, no. 1 (2015): 1-27. During his years as member of the National Assembly, Mendes Correia made several interventions and proposals about colonial issues, about social and demographic concerns both in the metropole and overseas, as well as on topics related to science and scientific education. See Matos, *Anthropology, Nationalism and Colonialism*, 257-300

²⁶ See Gago, “Things of Darkness;” Cleminson, “Germanic and Latin Eugenics.”

²⁷ For the scientific exchange between Porto and the Royal Anthropological Institute, see Patrícia Ferraz de Matos, “Inclusions and Exclusions in the Production and Circulation of Scientific Knowledge: the Case of the Royal Anthropological Institute (RAI) and of the Portuguese Society of Anthropology and Ethnology (SPAÉ),” In *Changing Societies: Legacies and Challenges. Vol. I Ambiguous Inclusions: Inside Out, Inside In*, eds. Sofia Aboim, Paulo Granjo, Alice Ramos, 407-429 (Lisbon: Imprensa de Ciências Sociais, 2018).

²⁸ Matos, *Anthropology, Nationalism and Colonialism*, 63.

different races. This lack of consensus was recognized and brought to awareness in Portuguese academia during this time.²⁹ Despite this, questions such as “what constitutes miscegenation?” and “what is a mixed-race person?” were not usually addressed. The reality of miscegenation was taken *a priori*, and studies to define, classify and evaluate them were performed on top of these preconceptions.³⁰

The issue of miscegenation garnered a special focus on the First National Congress of Colonial Anthropology, which took place in the context of one of the Estado Novo’s landmark events—the First Portuguese Colonial Exhibition, of 1934, in Porto. Occurring only one year after the establishment of the Portuguese dictatorial regime, the Colonial Exhibition aimed at demonstrating Portugal’s colonial achievements and capabilities by exhibiting colonial commodities, animals and people, who would also be subjects of study. It reflected the colonial ambitions of the Estado Novo, setting a nationalist and imperialist tone that permeated the following decades of anthropological and racial studies in Portugal.

The 1934 Congress would serve not only to showcase the Portuguese research in this field but also act as scientific proof of the colonizing capabilities of the Portuguese—in studying colonized populations, Portugal would be able to better make use of the “natives” in the effort to value the colonies. As stated in the invitation letters sent by the Portuguese Society of Anthropology and Ethnology (Sociedade Portuguesa de Antropologia e Etnologia), responsible for the organization of the Congress and under the presidency of Mendes Correia, to potential participants:

The knowledge of these populations [colonial populations], from their multiple biological, ethnic and social aspects, is necessarily at the basis of any rational plan of organization and utilization of the colonies. Thus, the issues that the Congress will deal with have, in addition to their great scientific interest, a high national importance.³¹

The Colonial Exhibition allowed Portuguese anthropologists to study the colonial populations exhibited. According to Mendes Correia, more than 300 people were “exhaustively studied” in Porto, which was for him a noteworthy distinction of the Portuguese exhibition—“Our French

²⁹ António Mendes Correia, *Introdução à Antropobiologia* (Coimbra: Imprensa da Universidade, 1933); Eusébio Tamagnini, “Os Problemas da Mestiçagem: Conferência Proferida na Sessão Plenária do I Congresso Nacional de Antropologia Colonial,” in *Extracto das Actas do Congresso* (Porto: Edições da 1ª Exposição Colonial Portuguesa, 1934).

³⁰ Attempts to define a concept of race, or comments on different international opinions on the matter, are however present in some Portuguese publications, as will be discussed further in this paper.

³¹ Letter from the organizing committee of the First National Congress of Colonial Anthropology of 1934 to potential participants, dated March 22, 1934. In *Arquivo do Instituto de Antropologia Dr. Mendes Correia, Faculdade de Ciências da Universidade do Porto*. Reference code: PT/UP-FC/SIFCUP-IAP; document registry number: IAP1098.

colleagues desolately declared that they were not authorized to study a single one [“native”], of those gathered in the exhibition of Paris in 1931!”³²

The presentations that discussed miscegenation in the 1934 Congress, while generally opposing it, reveal important nuances which underline different understandings of inheritance, eugenics and the concept of race itself. Although these papers have been previously analysed by other authors regarding these issues from the perspective of race theory in the context of the history of Anthropology and Eugenics in Portugal,³³ the current analysis focuses on mapping the Portuguese scientific debate on miscegenation by clarifying the nuances of different scholars’ understanding of the above-mentioned topics, their reasoning for defending them, and how they tie in with their positions on miscegenation.

Tamagnini and the “Problems of Miscegenation”

Although opposition to miscegenation was prevalent, a vehement rejection was mostly put forward by Eusébio Tamagnini, particularly in his lecture to the plenary session of the 1934 Congress, titled “The problems of *mestiçagem*.”³⁴ From a biological perspective, Tamagnini based his rejection of miscegenation on two main points: the definition of race and hybridism. While at the time Portuguese scholars generally agreed that all human races were part of the same species, Tamagnini’s opinion, as presented in this lecture, is less clear on this matter: he both stated that “in the current state of knowledge of the Natural History of Man one can safely affirm that all races . . . comprise a single zoological species and derive from a single root,”³⁵ and that “evidently, there are no essential differences between the races and the species.”³⁶

For Tamagnini, the division of taxonomic groups was a “subjective creation,” leaving room for ambiguity in their definition. To demonstrate this ambiguity he put forth a neo-Darwinian approach on how species arise in nature through the concept of “genotypical complex”—a group of inheritable characteristics within a species, each of them possessing a range of variability. A “genotypical complex” would be shaped by a certain number of selective factors in the environment. In other words, different “genotypical complexes” would constitute different races. Hence, there could be an indefinite number of races depending on how restrictive the number of selective factors considered. According to Tamagnini, this was an arbitrary

³² Mendes Correia, “Discurso Inaugural,” on 11.

³³ Patrícia Ferraz de Matos, *As ‘Côres’ do Império: Representações Raciais no Império Colonial Português* (Lisboa: Imprensa de Ciências Sociais, 2006), 53-159; Cleminson, *Catholicism, Race and Empire*, 203-245.

³⁴ Tamagnini, “Problemas da Mestiçagem.”

³⁵ *Ibid.*, on 21.

³⁶ *Ibid.*, on 8.

decision—if one gradually considers a smaller number of selective factors to define a race, one will eventually reach the definition of the species as a whole. Through this line of reasoning, Tamagnini concluded there was a lack of essential differences between race and species—if the natural processes that give rise to them are the same, then their definition is arbitrary. This left ample room for the author to consider the existence of races as irrelevant, as all of them constitute the same species; or to consider that different races are equivalent to different species, since the process of natural selection acts in the definition of both. His comparison between miscegenation and hybridism experiments suggests that he was more inclined to support the latter.

The relation between hybridism and miscegenation in Tamagnini's lecture was not just a question of semantics, even though at this time "hybridism" was used to describe crossbreeding between species and between races almost interchangeably.³⁷ When he explained the biological "problems" of miscegenation, he drew examples from crossbreeding experiments between animals of different species. He highlighted biological problems that stemmed from these experiments, such as premature death, infertility or abnormalities leading to abortion.³⁸ However, this parallel did not hold when he discussed miscegenation in humans. He explained that those forms of extreme incompatibility had not been observed and, indeed, that "endogamy tends . . . towards racial degeneration" by increasing homozygosity and potentiating the rise of inheritable recessive diseases.³⁹ Nevertheless, for Tamagnini, from a genetics perspective the crux of the issue of human miscegenation was the following: "however, could there not be among them [genes from different races] differences that can lead to disadvantages for the offspring, in comparison to their progenitors?"⁴⁰ This was, at its core, a question of eugenics. Some combinations that are "efficient" may rise and, he argued, through natural selection, the most efficient would persevere. Over time, a new race, superior to both original races, would thrive. However, not only are the combinations a game of chance, but the time it takes for these natural processes to take place is too long for humans. This ended up defying the purpose of eugenics:

Through the intervention of natural and social selective processes, the elimination of individuals with certain gene combinations will occur, ultimately leading to the emergence of a new race. If the elimination is always based on the efficiency of gene combinations, it is clear that the new race will be superior to any of those partaking in the *mestiçagem*. But such a process requires, evidently, a long time.⁴¹

³⁷ Almeida, "Longing for Oneself."

³⁸ Tamagnini, "Problemas da Mestiçagem," on 14 – 16.

³⁹ Ibid., on 18.

⁴⁰ Ibid., on 17.

⁴¹ Ibid., on 20.

Tamagnini's talk was primarily a lesson in Mendelian genetics, but he also addressed the social "disadvantages" of miscegenation when discussing migration from Portugal to the colonies and mentioned Ernst Rodenwaldt, stating that "*mestiçagem* . . . is a risk for all human societies" and "should be discouraged."⁴²

Mendes Correia and the Uncertain Outcomes of Miscegenation

In the same 1934 Congress, Mendes Correia stated that inheritance studies in humans were just beginning.⁴³ In his view, this explained why there were such different opinions regarding miscegenation—if the inheritance pattern of racial traits in humans was still insufficiently studied, the outcome of racial crosses could not yet be predicted. "Possibly . . . some ethnic crosses lead to positive results in several bio-psychological aspects, and others are disadvantageous regarding those same aspects. We add that the same *mestiçamentos* may be advantageous on some aspects and disadvantageous on others."⁴⁴ At this point, Mendes Correia refrained from providing a positive or negative position regarding miscegenation—given the lack of national and international studies, he could only give a personal and not objective opinion on the subject.⁴⁵

His position, however, shifted towards a clearer opposition to miscegenation. This was evident in his presentations at the Congresses of the Portuguese World in 1940, which took place in the midst of the Exhibition of the Portuguese World of the same year. Like the Colonial Exhibition of Porto, the Exhibition of the Portuguese World was an important event in the political affirmation of the Estado Novo. Set as a "double centenary celebration"—of the foundation of the Portuguese nation, in the 1140s; and of Portugal's independence from Spanish rule, in 1640—this exhibition was intended to mark 1940 as the year of the "rebirth" of the nation, emphasizing Portugal's "glorious past" and "historical values" that the Estado Novo promised to reclaim. The exhibition would showcase Portugal's abilities as a nation and as a colonial empire, serving as an "educational tool" for the national and international population.⁴⁶

⁴² Tamagnini, "Problemas da Mestiçagem," on 27. Pols and Anderson argue that the views of eugenicist Ernst Rodenwaldt on race changed during the 1930s, in accordance with Nazi's rhetoric (see Hans Pols and Warwick Anderson, "The Mestizos of Kisar: An Insular Racial Laboratory in the Malay Archipelago," *Journal of Southeast Asian Studies* 49, no. 3 (2018): 445-463). See also Cleminson, *Catholicism, Race and Empire*, 203-245; Cleminson, "Germanic and Latin Eugenics;" Gago, "Things of Darkness."

⁴³ António Mendes Corrêa, "Os Mestiços nas Colónias Portuguesas," in *Extracto das Actas do Congresso* (Porto: Edições da 1ª Exposição Colonial Portuguesa, 1934), on 7-8.

⁴⁴ *Ibid.*, on 7-8.

⁴⁵ *Ibid.*, on 8.

⁴⁶ On the Exhibition of the Portuguese World, see Arthur Luis de Oliveira Torquato, "A Invenção da Velha Nação Civilizadora: Propaganda, Política e a 'Exposição do Mundo Português' de 1940," *HOLOS* 5 (2022): e15130; Cláudia Castelo, "Simulação e Dissimulação do Império Colonial Português em Belém, Lisboa (1940/2020): a Secção Colonial e o Jardim Botânico Tropical," *Anais do Museu Histórico*

The Portuguese nationalist and imperialist ideologies were fundamentally present in all the components of the Exhibition, including the different congresses held simultaneously.

In the Colonial Congress, integrated in the Congresses of the Portuguese World of 1940, Mendes Correia explained the different ways in which the heredity of human traits had been observed, in line with Mendelian genetics. It was not just a question of traits being dominant or recessive, as some could be inherited as an average of the parents' traits or even be outside their range.⁴⁷ Mendes Correia argued that the outcome was unpredictable, and he did not believe that the few studies and conclusions on this matter allowed for a clear statement on the value of miscegenation, not just for the nation but also for humanity as a whole.⁴⁸ It was this "Germanic" eugenics line of thought that led him to conclude that it was better to prevent miscegenation. But Mendes Correia went further in this eugenic perspective. In the long term, he expected that miscegenation would lead to a melting pot—a highly polymorphic population—in which all inheritable human traits would be in circulation, including degenerative and even lethal traits.⁴⁹ "What do we safely and definitively know about the biological process and consequences of *mestiçamento* to raise it, dangerous and imprudently, as a universal and fundamental rule for human regeneration and improvement?"⁵⁰ The fact that the viability and fertility of mixed-race people confirmed that humanity comprised a single species did not mean miscegenation should not be prevented. This position was reiterated in his speech at another 1940 event, the National Congress of Population Sciences, although this time he referred to the role of miscegenation as a possible degenerative factor.⁵¹

Mendes Correia recognized and referred to his shift in position concerning miscegenation during this time.⁵² It is not clear why Mendes Correia highlighted this nuance. On the one hand, this could be related to the consolidation of a Mendelian framework, which led him to believe that improving the living (environmental) conditions of mixed-race people was no longer enough to improve their usefulness. This point is particularly relevant, as the 1930s were an important decade for the institutionalization of genetics in Portugal.⁵³ In the work of

Nacional, Rio de Janeiro 51 (2021): 1-24.

⁴⁷ António Mendes Corrêa, "O Mestiçamento nas Colónias Portuguesas. Comunicação Apresentada ao Congresso Colonial," (Lisboa: 1940), on 7-9.

⁴⁸ *Ibid.*, on 7.

⁴⁹ *Ibid.*, on 12.

⁵⁰ *Ibid.*, on 12.

⁵¹ António Mendes Corrêa, "Factores Degenerativos na População Portuguesa e seu Combate," in *Extracto das Actas do Congresso Nacional de Ciências da População—Vol. I* (Porto: Imprensa Portuguesa, 1940), on 13.

⁵² Mendes Corrêa, "Mestiçamento nas Colónias," on 20. This reference has also been pointed out in Cleminson, *Catholicism, Race and Empire*, 203-245.

⁵³ Maria do Mar Gago, "A História da Biologia em Portugal (1700-1946): a Tradição Naturalista, as Ciências Biomédicas e a Emergência da Genética," in *Biologia e Biólogos em Portugal*, eds. Maria Eduarda

Mendes Correia it is also possible to observe a change from critical views of Mendelian schemes of inheritance concerning blood groups during the 1920s and early 1930s,⁵⁴ which contrasts with his discourse in 1940, as analysed above.

On the other hand, the political and nationalist environment in which these congresses took place encouraged a specific discourse that defended the “purity” and “exceptionalism” of the Portuguese, which by extension led to promoting a restriction of miscegenation in the colonies. The plural way Mendes Correia referred to these opinions in 1940 suggests that this was the general opinion of the anthropology school of Porto, under his direction.

Germano Correia—a Different Eugenic Approach to Miscegenation

While scholars such as Tamagnini and Mendes Correia discussed eugenic measures regarding miscegenation mostly within the context of prevention, a different approach was put forward by Alberto Carlos Germano da Silva Correia, a medical doctor and anthropologist of the Medical School of Goa (India). He published several works related to miscegenation, particularly Luso-Indians, and the adaptation of Luso-descendants.⁵⁵ It is important to note that Germano Correia was himself a Portuguese descendant (Luso-Indian), and his works on miscegenation, while not advocating it, put forward the idea that the Portuguese (European white) root of Luso-descendants was prominent, and significant when compared to the second race that took part in the racial mixture.⁵⁶

In the Colonial Anthropology Congress of 1934, Germano Correia stated that “it is absolutely impossible to stop or reduce the birth of *mestiços* . . . What is then our mission under these conditions? It is of capital eugenic importance.”⁵⁷ In his view, instead of discussing whether miscegenation should be restricted, efforts should be placed to uncover the appropriate conditions for procreation and proliferation of mixed-race people, as well as the ideal environment for them to dwell, in order to become “usable population aggregates.”⁵⁸ This

Gonçalves and João Freire, 171-214 (Lisboa: Esfera do Caos, 2009).

⁵⁴ For instance, António Mendes Corrêa, “Sur les Prétendues «Races» Sérologiques,” *L’Anthropologie* Tome XXXVI, no. 1-2 (1926): 437-445; António Mendes Corrêa, “Sur quelques Schémas de l’Hérédité des Groupes Sanguins,” *XV Congrès International d’Anthropologie & d’Archéologie Préhistorique, IV Session de l’Institut International d’Anthropologie – Extrait* (1931), 1-6.

⁵⁵ Alberto Carlos Germano da Silva Correia, “Os Euroafricanos de Angola,” in *Extracto das Actas do Congresso*, (Porto: Edições da 1ª Exposição Colonial Portuguesa, 1934); Alberto Carlos Germano da Silva Correia, “Les Euroasiens de l’Inde Portugaise,” *Arquivos da Escola Médico-Cirúrgica de Nova Goa* vol. A, no. 14 (1940): 71–462.

⁵⁶ Cristiana Bastos, “Race, Medicine and the Late Portuguese Empire: The Role of Goan Colonial Physicians,” *The Journal of Romance Studies* 5, no. 1 (2005): 23-35.

⁵⁷ Germano Correia, “Euroafricanos,” on 8.

⁵⁸ *Ibid.*, on 8.

would contribute to the “humanitarian duty” of nations like Portugal: to civilize colonized populations, by improving the “black race.”⁵⁹ This type of eugenic measure is much more related to the impact of the environment on development, and less to genetic determinism. Indeed, if the improvement of a race or of individuals could be obtained by improving environmental conditions (such as hygiene, medical care, or diet) then the question of whether miscegenation was advantageous or disadvantageous would be rendered null, according to Germano Correia. This type of eugenic approach was not supported by the heads of the anthropology schools of Coimbra and Porto during this time. In the Colonial Congress of 1940, Mendes Correia stated:

The relative optimism concerning *mestiçamento* . . . cannot scientifically reach the point of considering *mestiçamento*, without a selection comparable to the zoo-technical—inviolate in humans—, as a generator of new races that are perfectly stable in their morpho-psychological characteristics.⁶⁰

The idea that the differences between races were so vast as to make the outcome of miscegenation impossible to predict was echoed in the racial studies of the time and, in this presentation, Mendes Correia reinforced this idea by highlighting the complexity of the known mechanisms of human inheritance.⁶¹

Almerindo Lessa and the Defence of Miscegenation

During the decades of 1930s and 1940s, a clear acceptance of miscegenation as biologically beneficial was rare in the scientific community. Almerindo Lessa, a medical doctor from Porto, may have been the only scholar in Portugal who voiced ideas that came close to this position during this time. Throughout his life, Lessa’s medical work focused on haematology, although his early career reveals an interest in issues related to hygiene and sexual education, having published extensively on these topics. Within an anthropological approach, he later focused on the study of blood groups and of mixed-race people in Portuguese colonies. Lessa had also been a student of medical doctor Abel Salazar which, as Cleminson argues, might have influenced his interest in issues of hygiene.⁶²

During the 1930s and 1940s, his interest in eugenics veered toward a “Latin” eugenics approach. In a similar vein to Germano Correia, Lessa defended that human improvement could be achieved through improvement of the environment. Indeed, Lessa vouched for the application of restrictive eugenic methods, such as birth control, and the improvement of hygiene and

⁵⁹ Ibid., on 8.

⁶⁰ Mendes Corrêa, “Mestiçamento nas Colônias,” on 11.

⁶¹ Ibid., on 7–10.

⁶² Cleminson, “Germanic and Latin Eugenics.”

maternal and childcare, particularly in a publication for the Professional Association of Medical Students of Porto (“Associação Profissional dos Estudantes de Medicina do Porto”) in 1933, where different eugenic measures were explained—here, Lessa presented a more favourable position regarding contraceptive methods.⁶³

Lessa expressed a positive position towards miscegenation, and the most direct way he addressed it was in a lecture held in 1938 at the Faculty of Medicine of Lisbon. Lessa discussed how Fialho de Almeida, a Portuguese medical doctor and writer, explored eugenic ideas in his prose.⁶⁴ According to Lessa, Fialho de Almeida saw mixed-race people as “bad racial elements” physically, psychologically, and morally, a position that Lessa deemed “simple and detrimental, that still thrives in the national science,”⁶⁵ as well as “entirely wrong.” Lessa also pointed out that references to Hipólito Raposo’s book *Ana A Kalunga* were somewhat frequent when national scholars argued for the psychological inferiority of mixed-race people.⁶⁶ Lessa argued that psychological traits were the hardest to research and understand when studying mixed-race people, and stated that it was “risky to take conclusions or reinforcements from simple quotes of an impressionist” like Raposo, whose opinion Lessa believed was political in nature.⁶⁷ Importantly, while pointing out Raposo’s political opinion, Lessa also cited Manuel Bonfim—“the *mestiço* is the white’s victory condition”—at the end of this lecture.⁶⁸

Lessa also brought to attention different international positions on miscegenation. In 1938, he was the only Portuguese representative to attend the first meeting of the Federation of Latin Eugenics Societies.⁶⁹ In a published report, Lessa explained the points of view of different scholars, such as French anthropologist René Martial who defended that miscegenation

⁶³ Almerindo Lessa, *Exortações Eugénicas: Notas para um Programa de Política Genética* (Associação Profissional dos Estudantes de Medicina do Porto, 1933), on 13. See also Cleminson, “Germanic and Latin Eugenics.”

⁶⁴ Almerindo Lessa, “Fialho de Almeida, ou A Campanha Eugénica dum Prosador,” *Separata de A Medicina Contemporanea*, 13 (1938).

⁶⁵ *Ibid.*, on 16

⁶⁶ *Ana A Kalunga (Os Filhos do Mar)*, was a book published in 1926, written by Hipólito Raposo, an advocate of *Integralismo Lusitano*. It was cited by a few Portuguese anthropologists when referring to miscegenation, in reference to the social and psychological “problems” of mixed-race people. See for instance Mendes Corrêa, “Mestiços nas Colónias,” on 5-6.

⁶⁷ Lessa, “Fialho de Almeida,” on 22.

⁶⁸ Lessa, “Fialho de Almeida,” on 24. Manuel Bonfim (or Manoel Bomfim) was a Brazilian psychologist. Concerning miscegenation, Bonfim placed social, cultural and environmental influences in high order for human development, contradicting the idea that miscegenated populations were “inferior.” See Flora Süssekind, “Shifting Frontiers—Manuel Bonfim and A América Latina: An Introduction,” *Journal of Latin American Cultural Studies* 11, no. 1 (2002): 65-76.

⁶⁹ Almerindo Lessa, “Federação das Sociedades Latinas de Eugénica. Trabalhos da Primeira Reunião (Textos e Comentários),” *Arquivo de Anatomia e Antropologia* Vol. XIX (1938): 173-208 and 273-292. Lessa’s participation in this meeting was also discussed by Richard Cleminson. See Cleminson, “Germanic and Latin Eugenics.”

would have an efficient outcome in the future—Martial believed that the oriented selection of mixed-race people would eliminate outcomes of lesser quality, and spontaneous selection would promote “good *mestiços*.”⁷⁰ Lessa discussed how Martial compared miscegenation to the compatibility of crosses between people of different blood groups, concluding that immigration was “a massive ethnic blood transfusion, that can beneficially enter in a race.”⁷¹ This was used as an argument in favour of immigration selection policies. He also discussed Rodolfo Reyes’ view, who considered that miscegenation was “a feat of demographic policy,” and that Portuguese and Spanish colonizations, which had been characteristically forwarded by miscegenation, were “the greatest eugenic political achievement to this day.”⁷² Another pro-miscegenation position that Lessa pointed out was that miscegenation was an essential process to “invigorate races and the species.”⁷³ Although points of view related to a rejection of miscegenation were also discussed in this report,⁷⁴ Lessa’s publications during this period suggest that he supported more positive views toward miscegenation.⁷⁵

Looking at the Organism as a Whole—Defining a Race Through Anthropobiology

Notions of race improvement were important when discussing whether miscegenation should be prevented, encouraged or controlled. However, to understand more deeply the scientific discussions around miscegenation, and implications concerning inheritance and genetics, one must also discuss the definitions of race that were implicitly or explicitly accepted in Portugal. Examining the studies that were carried out can help understand how Portuguese scholars sought to characterize and define races, both in the colonial and national contexts.

⁷⁰ Lessa, “Sociedades Latinas de Eugénica,” on 190.

⁷¹ Ibid., on 190.

⁷² Lessa, “Sociedades Latinas de Eugénica,” on 189. Rodolfo Reyes was a Mexican doctor. He had previously voiced a favourable position concerning miscegenation in *Primeras Jornadas Eugénicas Españolas*, held in Madrid in 1933 (see Rodolfo Reyes, “Realización Política de los Principios Eugenésicos,” in *Genética, Eugenesia y Pedagogía Sexual. Libro de las Primeras Jornadas Eugénicas Españolas. Tomo II*, eds. Enrique Noguera and Luis Huerta (Madrid: Morata, 1934): 293-308. <http://sicalipsis.humnet.ucla.edu/exhibits/show/genetics/item/633> accessed on February 20, 2024). According to Lessa, Reyes’ communication in Madrid brought to international attention the idea that miscegenation held a “novelty promise” that could bear fruit in the future (Lessa, “Sociedades Latinas de Eugénica,” on 188).

⁷³ Lessa, “Sociedades Latinas de Eugénica,” on 188.

⁷⁴ Of the authors opposed to miscegenation, Lessa refers to Tamagnini, Italian demographer Corrado Gini, and Brazilian eugenicists Renato Kehl and Roquette Pinto. Lessa’s explanation of these opposing views is expository, and it does not allude to him sharing such opinions. Mendes Correia was not included among these authors—indeed, Mendes Correia’s shift in position towards a more assertive prevention of miscegenation only seems to be expressed in 1940. Lessa, “Sociedades Latinas de Eugénica,” on 187-188.

⁷⁵ Cleminson also proposes that Lessa agreed with a pro-miscegenation position. See Cleminson, “Germanic and Latin Eugenics.”

Several anthropological studies were conducted in the national population in this period, permeated with the underlying intention of establishing a national “purity” of the Portuguese.⁷⁶ This would not only distance the Portuguese from colonial populations, but also bring the Portuguese closer to the group of “European white races.” This level of categorization was also aligned with the general anti-miscegenation position of the scientific community of the time.

The prevalence of anthropometric studies during this period reveals a focus on morphology, both in the study of national and colonial populations. These studies were linked to a geographical notion of race, and throughout them there was a sense of trying to fit these anthropometric and geographical notions together. This morphological strand of anthropology aimed to define different races and uncover their origins.⁷⁷ However, while human evolution and inheritance were subjacent to these objectives, few of these considerations can be found in racial studies of the time, being mostly present in theoretical publications.⁷⁸ Regardless, a morphological conception of race seems to remain at the basis of Portuguese racial studies and discussions.

After 1945, with the end of the war, the debate on race changed significantly. In Portugal, this was particularly evident from a discursive point of view, with the adoption of the Luso-tropicalist thesis by the Estado Novo. It intended to bring forward the idea of a multi-racial community in the Portuguese Empire, fostered by good racial relations, as part of what made Portuguese colonialism unique.⁷⁹ From the perspective of scientific production, the current research suggests that from 1945 until the end of the 1940s, anthropological publications generally followed the same trend as in the previous years—through a reliance on anthropometric data, but also through the underlying debate on genetics and inheritance, and studies within a new subfield of anthropology that had started to garner traction in Portugal in the 1930s.⁸⁰

In 1932, Mendes Correia gave two introductory lectures on Anthropobiology at the Institute of High Studies (“Instituto de Altos Estudos”), which were later published under the title

⁷⁶ Evident in the work of Portuguese anthropologists such as Tamagnini, Mendes Correia and Joaquim Rodrigues dos Santos Júnior. See also Matos, “Racial and Social Prejudice,” and Richard Cleminson and Ricardo Roque, “Imagining the ‘Biochemical Race’: Sero-Anthropology and Concepts of Racial Purity in Portugal (1900s–1950s),” *European History Quarterly* 51, no. 3 (2021): 355–385.

⁷⁷ António Mendes Corrêa, “Antropologia Aplicada,” *Trabalhos da Sociedade Portuguesa de Antropologia e Etnologia* 3, no. 1 (1926): 5–48.

⁷⁸ Tamagnini, “Problemas da Mestiçagem;” Mendes Correia, *Antropobiologia*; António Mendes Corrêa, *Homo (Os Modernos Estudos sobre a Origem do Homem)*, (Coimbra: “Atlantida” Livraria Editora, 1926); António Mendes Corrêa, *Raça e Nacionalidade*, (Porto: Renascença Portuguesa, 1919).

⁷⁹ Castelo, “O Modo Português;” Matos, *Anthropology, Nationalism and Colonialism*, 257–300.

⁸⁰ For instance, Joaquim Rodrigues dos Santos Júnior, *Tabelas de Apreciação de Alguns Caracteres Descritivos em Antropologia* (Porto: Imp. Portuguesa, 1948); António Mendes Correia, “Mongoloidismo em África,” *Separata dos «Estudos de Morfologia»* (1947): 3–6; Eusébio Tamagnini, “Les Groupes Sanguins (Système ABO) et la Pigmentation (Couleur des Yeux et des Cheveux),” *Revista da Faculdade de Ciências da Universidade de Coimbra* XVII (1948): 5–19.

“Introduction to Anthropobiology.”⁸¹ In these lectures, Mendes Correia explained the basis of this new field of anthropology. Unlike a morphology-based anthropology, anthropobiology would place physiological aspects of the human being within the studies of human races:

Anthropobiology concerns itself with research on normal and pathological inheritance in man, eugenics, race physiology, blood groups and other areas of human biochemistry, constitution and temperaments, determining the biological basis of mentality and activity of different races, etc.⁸²

While still giving importance to morphology, the integration of physiology in these studies would complement and complete them, allowing for the definition of an overall human and racial profile. Mendes Correia stated that under anthropobiology, race was “a morphobiological entity and not purely morphological and static.”⁸³

Anthropobiology studies as Mendes Correia described them had already been taking place internationally for some time. Blood group studies, for example, were being published since the early 1900s, and their application in racial classification began to be theorized shortly afterwards.⁸⁴ However, it was only around the 1920s that this type of racial studies started to be discussed in Portugal, albeit not in a positive way. In 1926, Mendes Correia published two papers where he discussed and criticized some of the uses of these physiological studies in racial sciences. He took issue with the inheritance patterns described for some of the physiological traits, particularly regarding blood groups.⁸⁵ Cleminson and Roque, who have studied the implementation of sero-anthropological studies in Portugal, argue that the promise of a biochemical definition of racial purity—particularly to ascertain the purity of the Portuguese, their placement with other European “white races” and distance from African “black races”—paved the way for the introduction of these studies in Portugal.⁸⁶ The increasing acceptance of Mendelian genetics and inheritance in the anthropological circles during this time may have also been of key importance.⁸⁷

Firstly, blood groups seemed to present a clear Mendelian scheme of inheritance, which could be easily tracked, unlike anthropometric traits. Furthermore, sample collection and analysis were relatively easy, lacking the subjectivity of observation that occurred with anthropometric traits.

⁸¹ Mendes Correia, *Antropobiologia*.

⁸² Ibid., on 18.

⁸³ Ibid., on 17. Stated in reference to Eugen Fisher, Spengler and Rosell i Villar.

⁸⁴ Cleminson and Roque, “Biochemical Race.”

⁸⁵ Mendes Corrêa, “«Races» Sérologiques;” António Mendes Correia, “As Tentativas de Definição Bioquímica da Raça e do Indivíduo,” *A Águia* 3ª série, vol. VIII, no. 43-48 (1926): 5-17.

⁸⁶ Cleminson and Roque, “Biochemical Race.”

⁸⁷ Gago, “Emergence of Genetics,” 17–40.

If the same could be obtained for other biochemical traits, it would lead to great developments in the study of human inheritance, with application in eugenics.

The following subsections will analyse some instances of human biochemical studies in Portugal, within the context of racial studies. The search for biochemical indexes for racial classification, although not considered as reliable as anthropometric indexes, were appealing. They aligned with the idea of intrinsic defining traits, core to the individual (or race), that dictated their nature. Furthermore, the research on blood groups revealing a Mendelian inheritance pattern contributed to further the study and search for other biochemical, race defining traits.

Endocrinology and Morphological Development

The study of endocrinology and hormones was repeatedly mentioned in Portuguese publications as an important field to approach in racial studies. It was argued that different races could have different hormonal levels and gland activities that were race specific. These studies, however, did not take much hold in Portugal.

In his introductory lectures to anthropobiology, Mendes Correia stated that endocrinology studies were being initiated at Porto's anthropology school.⁸⁸ However, aside from publications by Mendes Correia where endocrinology is discussed theoretically, only one other publication by a researcher from the School of Porto could be found.⁸⁹

In 1926, Mendes Correia discussed the definition of race through various applications of the study of human biochemistry.⁹⁰ Among them was endocrinology. Mendes Correia pointed out the role of anthropologist Arthur Keith as the precursor of the idea that hormones were implicated in the morphological characterization of races.⁹¹ It would have been through the association between hormonal activity and morphological development that endocrinology racial studies would take place. Scholars evidenced the involvement of hormones in morphological development. Since morphological characteristics were already used as anthropological indexes, it followed that the excess or insufficiency of different hormones related to different morphologies would be associated to different races where that morphology was predominant.

⁸⁸ Mendes Correia, *Antropobiologia*.

⁸⁹ Alfredo Athayde, "Ensaio sobre a Determinação de Tipos Constitucionais e de Fórmulas Endocrínicas nos Portugueses," in *Extracto das Actas do Congresso Nacional de Ciências da População—Vol. 1* (Porto: Imprensa Portuguesa, 1940); Mendes Correia, *Antropobiologia*; Mendes Correia, "Tentativas de Definição Bioquímica." Mendes Correia, "Mongoloidismo."

⁹⁰ Mendes Correia, "Tentativas de Definição Bioquímica."

⁹¹ Ibid., on 9. In 1922, Arthur Keith (1866-1955) hypothesized, from a palaeontology perspective, that hormonal activity had an impact in the development of the skeleton of different types of man. See Wilfrid Edward Le Gros Clark, "Arthur Keith, 1866-1955," *Biographical Memoirs of Fellows of the Royal Society* 1, no. 1 (1955): 145–161. See also Matos, "Circulation of Scientific Knowledge."

The relation between different hormones and morphologies could be ascertained through the study of clinical conditions or syndromes that led to such morphological changes.⁹² A recurrent example was the study of what were considered “mongoloid traits,” which had been associated to thyroid insufficiency through pathological studies.⁹³ In a short paper in 1947, Mendes Correia discussed the existence of these traits in African populations through several hypotheses related to endocrinological activity and genetic inheritance, from the perspective of its relevance to racial origins and classification.⁹⁴

In this sense, in his introductory lectures to anthropobiology, Mendes Correia established a connection between the field of endocrinology and the study of human “constitutions” (i.e. the study of body morphology). “The morphogenetic influence of the endocrines is precisely one the most obvious.”⁹⁵ In his view, constitution comprised the synthesis of the parts in terms of structure and function. It was inheritable. However, he stated that:

Constitution is not the same as race. According to Saller, it is mostly a geographical entity. However, a common origin, ancient or recent, is the basis of the notion of race, and that common origin of individuals of the same race determines a group of common taxonomic traits that define it. It seems to me, however, that many traits used in racial description have a restricted or secondary biomorphological interest, which does not apply to traits that define constitutions in general.⁹⁶

In other words, although constitution was different from race, the geographical nature of the former was at the basis of the origins of the latter. Mendes Correia explained that individuals of the same race had the same origin.⁹⁷ This was evident by the presence of common racial traits which were biomorphological and genetic. These traits were independent and had no causal relation among them. On the other hand, constitutional (or physiological) traits were “correlative” to one another. It was presumed, although not directly stated, that constitutional traits were susceptible to change. In Mendes Correia’s perspective, racial traits (genetic) had a similar genesis to constitutional ones—they started by being constitutional, “correlative” and susceptible to change, before they were eventually “fixated,” becoming independent and unchangeable. Hence why the study of constitutions was so relevant to anthropology. Since hormones were known to be involved in growth and development, by understanding which

⁹² See for instance Christer Nordlund, “Endocrinology and Expectations in 1930s America: Louis Berman’s Ideas on New Creations in Human Beings,” *The British Journal for the History of Science* 40, no. 1 (2007): 83-104.

⁹³ Mendes Correia, *Antropobiologia*, on 72.

⁹⁴ Mendes Correia, “Mongoloidismo.”

⁹⁵ Mendes Correia, *Antropobiologia*, on 66.

⁹⁶ *Ibid.*, on 45.

⁹⁷ This consideration is made in reference to “Bunak,” presumably the Russian anthropologist Víktor Valeriánovitch Bunák, although no detailed reference is provided.

hormones were abundant or lacking, which glands were active or suppressed, a “biochemical profile” could be ascertained for different constitutional types.

Although the inheritance of these “biochemical profiles” was not directly discussed, it was assumed that they were inherited, particularly when one relates it with Mendes Correia’s discussion of constitutional and racial traits. Considering that a certain hormonal activity corresponds to a certain morphology, if one can determine the inheritance pattern of that hormonal activity one could apply it to the corresponding morphological trait—something that so far had proved difficult to ascertain through anthropometry. It is interesting to note, however, that Mendes Correia believed that hormones were in vogue and put forward a cautious position regarding its application.⁹⁸

The Biochemistry of Pigmentation

Pigmentation was notably a crucial trait in racial studies, whether it be of skin, eyes or hair. In Portugal, most studies on pigmentation were observational in nature. Pigmentation scales were used to ascertain the tones observed, and these would then be used, as in other anthropometric traits, to establish averages of different groups of people.⁹⁹ In fact, a number of these studies was performed in the national population, such as a long paper by Tamagnini mapping the pigmentation of the Portuguese population, in an effort to demonstrate its closeness to other “European white races” and, by extension, its distance from “African black races.”¹⁰⁰ The intent of defining a “Portuguese race” is clear in these works.

The study of pigmentation from a biochemical standpoint was carried out by José Antunes Serra, particularly during his doctorate studies in the 1930s at the University of Coimbra. His thesis, published in 1938, concerned the chemical properties of melanin and the genetic and inheritable aspects of human pigmentation.¹⁰¹

Maria do Mar Gago, who studied Serra’s scientific career, argued that Serra entered Coimbra’s Institute of Anthropology at a time that was ripe for this type of research, and in a way this revolved around Tamagnini—Serra’s supervisor—and his position as head of the Institute and

⁹⁸ Mendes Correia, *Antropobiologia*, on 59.

⁹⁹ Leopoldina Paulo, “Contribuição para o Estudo da Pigmentação dos Portugueses,” in *Extracto das Actas do Congresso Nacional de Ciências da População—Vol. 1* (Porto: Imprensa Portuguesa, 1940); Alfredo Athayde, “Estudos sobre a Pigmentação e sua Hereditariedade,” *Trabalhos da Sociedade Portuguesa de Antropologia e Etnologia* 6, no. 3 (1934): 229-236.

¹⁰⁰ Eusébio Tamagnini, “A Pigmentação dos Portugueses,” *Contribuições para o Estudo da Antropologia Portuguesa* Vol I, no. 3 (1936): 127-198.

¹⁰¹ José Antunes Serra, “Estudos de Pigmentação Melânica. A Determinação da Pigmentação e Escurecimento com a Idade. Composição das Melaninas,” *Revista da Faculdade de Ciências da Universidade de Coimbra* vol. VII (1938): 235-407.

of the recently founded Portuguese Society of Eugenic Studies.¹⁰² Studies on human heredity, with eugenic and colonial implications, were at the forefront of the Institute's interests.

Serra's research was performed on the national population, and he studied a phenomenon termed "darkening with age." Pigmentation varied in a single individual according to environmental factors, such as sunlight exposure, which could generally be accounted for. But the process of "darkening with age" still needed to be properly understood. How did skin, hair and eye pigmentation darken from childhood into adulthood? At what rate? Could this process be systematized? And what occurred at the genetic level? These were some of the questions posed by Serra, which aimed to clarify the inheritance pattern of pigmentation in humans, since these variations that had made it difficult to study would be accounted for. Genealogical records on pigmentation would also become more useful, as they accounted for people of different ages.

Serra was particularly interested in studying the "phenogenesis" of human pigmentation, meaning the physiological process that led to the development of melanin, from gene or genetic factor to the phenotype.¹⁰³ In this context, Serra discussed some previous hypotheses regarding the "darkening with age" process, contrasting them with his own ideas. Eugen Fischer, a German racial anthropologist, and director of the Kaiser Wilhelm Institute for Anthropology from 1927 to 1942, believed these changes occurred due to a change in "dominance" of the pigmentation factors, while Fritz Lenz, German eugenicist and a collaborator of Fischer's, believed that hormones were responsible for these changes.¹⁰⁴ Serra, however, proposed that this phenomenon was part of the growing process. He stated that, in this sense, hormonal action would explain this, but only in part. Serra speculated about the existence of enzymes that would finalize the production of different pigments. He also suggested that, as with other phenomena during the growth process, different genes would act during different stages of life. Therefore, the light pigment would manifest more during childhood than the dark due to its high affinity to a specific enzyme. Later, the growth process could disturb the enzyme levels in the body, allowing the dark pigment to prevail over the light. Although Serra recognized that this hypothesis was highly speculative, he believed his observations of hair pigment in early life stages, where the "adult pigment" was already present but in lower amounts, supported his ideas. Serra's line of thinking was grounded in a Mendelian perspective. He was proposing an interaction between different "genetic factors" that varied with aging. The changes during the

¹⁰² Gago, "Emergence of Genetics," on 67-71.

¹⁰³ Ibid., on 74.

¹⁰⁴ Serra, "Pigmentação Melânica," on 325. On Fischer, Lenz, and racial anthropology studies at the Kaiser Wilhelm Institute for Anthropology, see Sheila Faith Weiss, "Human Genetics and Politics as Mutually Beneficial Resources: The Case of the Kaiser Wilhelm Institute for Anthropology, Human Heredity and Eugenics During the Third Reich," *Journal of the History of Biology* 39 (2006): 41-88; Sheila Faith Weiss, "Race and Class in Fritz Lenz's Eugenics," *Medizinhistorisches Journal* 27, no. 1/2 (1992): 5-25.

growth process could result from the action of specific genes during certain stages of growth and affect pigmentation. In this line of reasoning, the notion of dominant and recessive pigmentation factors can still be applicable, although it would be dependent on other genes that would be, in a way, responsible for the variation of the levels of the enzyme Serra proposed.

Serra attempted to explain phenotypic variations due to aging through genetics and chemical reactions. Interestingly, throughout his thesis, Serra made very few considerations regarding race or the application of his work to racial classifications. In fact, in a footnote, Serra clearly stated that whenever he talked about “race” he was referring to the “strictly biological sense” of the word, i.e., “in the sense of a group of individuals that differ from another in at least one factor or gene. The other notions of race, geographic and taxonomic and the purely speculative, currently used especially by Germanic authors, do not interest me at this point.”¹⁰⁵ In the paper “New Pigmentation Study Methods and their Racial Importance,” presented to the National Congress of Population Sciences of 1940, despite this title Serra also made few racial considerations.¹⁰⁶ Here, the relations he established between pigmentation and racial studies were related to the possible existence of more than one melanin for skin pigmentation, which he did not believe to be the case; and to a correlation between pigmentation and predisposition to diseases, as a way to improve tropical medicine. Serra’s main interest in studying pigmentation was more related to its genetic and biochemical aspects and not so much to its racial and anthropological implications.

Final Notes

The Portuguese debate on race was intense during the 1930s and the 1940s. Portuguese racial studies were permeated with notions of national affirmation, through attempts to establish the purity of the Portuguese and put them on an equal footing with other European “white races.” By studying the national and colonial populations separately, scientists attempted to highlight the somatic and psychological differences between them, justifying these through a biological and innate perspective. These contrasts would, on the one hand, distance the Portuguese from colonial populations, but on the other, demonstrate the Portuguese capabilities in civilizing so called “primitive” populations. The nationalist and imperialist ambitions of the recently established Estado Novo went hand in hand with these discourses, and in many cases intensified them. In this context, studies directly related to miscegenation or mixed-race people were limited—they constituted a difficult, perhaps even controversial, line of study, as they had little to contribute to those nationalist and imperialist discourses.

¹⁰⁵ Serra, “Pigmentação Melânica,” on 239.

¹⁰⁶ José Antunes Serra, “Novos Métodos de Estudo da Pigmentação e sua Importância Racial,” in *Extracto das Actas do Congresso Nacional de Ciências da População—Vol. 1* (Porto: Imprensa Portuguesa, 1940).

Miscegenation was mostly discussed from theoretical and speculative perspectives and within a colonial context. This study shows that different positions on miscegenation reveal nuances regarding the assimilation of inheritance and evolutionary theories. Scholars such as Tamagnini and Mendes Correia, who more clearly rejected miscegenation, relied on neo-Darwinism and Mendelism. Their views, the most commonly held in Portuguese scientific circles of the time, were in line with the adoption of Mendelian genetics in Portugal during this period, as well as with the international networks in which the schools of Porto and Coimbra took part.

Germano Correia and Lessa, who had a more moderate stance, had a less deterministic view on inheritance and gave more importance to the influences of the environment on development. Their particular views are in all likelihood related to their formative influences, personal interests and, in the case of Germano Correia his own personal background.

The few studies related to miscegenation that were found led to broaden the scope of research for this paper, since it raised questions regarding what was, exactly, being considered a race in Portuguese racial studies.

The prevalence of anthropometric studies shows that a great importance was given to morphological differences, and the debate on human biochemistry was an extension of such studies. Biochemical traits presented an intrinsic notion—a trait that came from “within” and was hence more innate than traits exposed to the environment. They also fed into the ancestral idea of blood and purity. Endocrinology and pigmentation studies, in this regard, aimed to understand the biochemical aspect of morphology. The search for an inheritance pattern for these biochemical factors would be useful for the study of morphological traits—by determining the inheritance of the biochemical trait one could apply it to the corresponding morphological one. Ultimately, these studies contributed to the long list of studies that tried to establish fundamental phenotypic differences between populations, on an intrinsic level, rooted in a deterministic inheritance which in this case could be uncovered by an intrinsic (biochemical) trait. Taken together, these studies contributed to the classification of races by bridging the morphological and genetic aspects of race.

However, these studies seem to have been short-lived, leaving some points open to interpretation. The fact that they were mostly carried out in a national context is in line with the attempt to establish a national “purity.” Miscegenation is left out of the scope of these studies, but their short number does not allow to determine whether this was due to a contradiction of these ideals. They do connect, however, with notions of intrinsic determinism.

The debate on miscegenation, however, changed drastically in Portuguese scientific circles after World War II. The current research does not indicate an accompanying change in the anthropological scientific production in the short period, from 1945 to 1949, that is contained

in the time frame of this study. However, an integrated view of the Portuguese scientific debate on miscegenation from 1950 onward will help understand how national and imperial ambitions interacted with scientific discourse, and how the topic of miscegenation was utilized as a negative and as a positive point for those same ambitions. To this end, analyses of Portuguese studies of the later decades of the Estado Novo's regime are currently underway, focusing on underlying genetics, inheritance, and evolutionary conceptions.

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Competing interests

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