Crisis, end, or eclipse of reason? Max Horkheimer's Critical Theory contributions to an epistemology of eugenics

Crise, fim ou eclipse da razão? Contribuições da teoria crítica de Max Horkheimer para uma epistemologia da eugenia

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Abstract: This article investigates the foundations epistemological of Francis Galton's eugenics based on Max Horkheimer's Critical Theory. Grounded on a bibliographical research, we analyze the texts in which the English polymath structured the rationality of his science-religion, contrasting them with the theoretical-critical diagnosis of the crisis of reason. We conclude that Horkheimer's argument denouncing the enlightened roots of eugenics, despite not having been explored in historiography, remains fundamental to the understanding of the eugenic scientific rationality, which we denominated eugenic reason.

Keywords: Eugenics; Eugenic reason; Enlightenment; Max Horkheimer; Critical Theory. Resumo: O presente artigo investiga os fundamentos epistemológicos da eugenia de Francis Galton a partir da teoria crítica de Max Horkheimer. Baseados em uma pesquisa bibliográfica, analisamos os textos nos quais o polímata inglês estruturou a racionalidade de sua ciência-religião, contrapondo-os com o diagnóstico teórico-crítico de crise da razão. Concluímos que o argumento horkheimeriano que denunciou as raízes esclarecidas da eugenia, a despeito de não ter sido explorado na historiografia, continua fundamental para a compreensão da racionalidade científica a qual denominamos razão eugenista, eugênica.

Palavras-chave: Eugenia; Razão eugênica; Esclarecimento; Max Horkheimer; Teoria Crítica.

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Introduction

The creation of eugenics as a science is historically credited to the English polymath Francis Galton (1822-1911). According to English (2004), *Hereditary Genius* (1869) was the first explicitly eugenic text in which Galton quantified and qualified human beings, pointing out their racial differences through a genealogy of families considered "genetically superior" among the English aristocracy. Fourteen years

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later, in the work *Inquiries into Human Faculty and Its Development* (1883), Galton first registered the term *eugenics*, short definition for *science of improving human stock* (English, 2004). However, this dominant interpretation in the historiography of eugenics has been contested by Krementsov (2018), who pondered that eugenics extrapolated this traditional Anglocentric genealogy and that Galton himself defined eugenics in different ways throughout his intellectual trajectory, making changes in his works and giving his science different meanings which pose challenges to this field of research.

The historiographic investigation outlined by Krementsov (2018) is in line with the work of English (2004) when considering Inquiries into Human Faculty and Its Development (1883) as the text in which the term *eugenics* was created, but arguing that the article Hereditary Talent and Character (1865) published in the influential Macmillan's Magazine in London - and not Hereditary Genius (1869), as stated English (2004) - was the first sketch of Galtonian eugenics. Krementsov (2018) also denoted the multiform nature of eugenics, denouncing the generic use of the term to explain phenomena in such different places and periods, ranging from ancient Spartan infanticide to contemporary genetic engineering. Examining the Brazilian context, Souza (2016) found that, far from constituting a linear or homogeneous movement, eugenics comprised a complex, fragmented, and polymorphic field. These works were fundamental in the face of generalizing interpretations, which summarize eugenics to social Darwinism or classify it as a mere by-product of conservative thinking, ignoring that, under the discourse of scientific progress and the construction of Modernity that marked the beginning of the twentieth century, it developed in different ways according to each socio-historical context, surpassed the genocidal model of the German Rassenhygiene and spread throughout the feminist (Ortega, Beltrán & Mitjavilac, 2018), anarchist (Cleminson, 2008), communist, social democrat (Cassata, 2011) and black (English, 2004) movements.

Given this complexity that permeates the field of eugenics studies, this article focuses on the historical context in which this science was created, aiming to understand its epistemological foundations and to debate the mechanisms developed by eugenic intellectuals that allowed its theoretical elaboration and dissemination as a synonym for reason. To make this proposal viable, we carried out a bibliographical research supported by the Critical Theory of Max Horkheimer (1895-1973), specifically the texts *The End of Reason* (1941), *Eclipse of Reason* (1947/2004) and, written together with Theodor Adorno (1903-1969), *Dialectic of Enlightenment* (1947/2002). In *The End of Reason*, Horkheimer (1941, p.382) considered that "*Eugenics has its roots in the Enlightenment*", a fundamental argument in his Critical Theory, but so far unexplored in eugenics historiography¹. This silence regarding Horkheimer's

¹ Scientific articles on eugenics based on Critical Theory focus on the diagnosis of liberal eugenics

argument is what motivated us to develop this work, hoping that new investigations may emerge from this first step.

How is eugenics related to Enlightenment? What arguments structured its scientific rationality in its context of creation and diffusion in the transition of the nineteenth and twentieth centuries? Based on these questions, we intend to understand the mechanisms and strategies created by Galton in the process of transforming social and racial prejudices into a rationally justified science, socially accepted, and widely disseminated in the western context. Therefore, we analyze the arguments elaborated by Galton in the lectures at the University of London and in the Eugenics Education Society's meetings, published in 1909 in the collection Essay in Eugenics, two years before his death. These essays are part of the more "mature" phase of Galtonian eugenics, in which the English intellectual sought to clarify his scientific assumptions and rationally justify his project. We also investigate the discussions presented in his famous book Hereditary Genius: an inquiry into its laws and consequences, originally published in 1869. In a second moment, we contrast the Galtonian concept of reason with Horkheimer's diagnosis of a crisis of reason. We start from the hypothesis that this investigation will allow us to outline an epistemology of eugenics, contributing to the identification and denunciation of the theoretical assumptions according to which this science was created, the argumentative structure in which it was supported and the reproduction mechanisms that allowed its wide diffusion.

Eugenics as a science-religion

Eugenics was a dominant science² in the first decades of the twentieth century³, context in which Galton's ideas quickly spread in the intellectual field

developed by Jürgen Habermas (b.1929) in *The future of human nature* (2004) (cf. Amaral (2008), Schäfer (2019) and Chai (2016)). The works that explored the theses of Horkheimer and Adorno in understanding "historical" eugenics are restricted to articles by Roitberg (2021), Moura and Crochík (2016) and, more broadly and in depth about anti-Semitic racism, to the book *Politics of Unreason: The Frankfurt School and the Origins of Modern Antisemitism* by Lars Rensmann (2017). Although not specifically examining eugenics, Bodeman (2014), Bronner (2004; 2018), and Robertson (2014) developed analyzes on different forms of prejudice based on the so-called "first generation" of the Frankfurt School's critical theorists.

² As Nalli (2005) pointed out when analyzing the Brazilian eugenic movement, it is essential that eugenics be analyzed as a science that intends to be scientific and rational, even if it formulates false and epistemologically refuted theories. According to Stepan (1996, p.5) "Calling eugenics pseudoscientific is a convenient way to set aside the involvement of many prominent scientists in its making and to ignore difficult questions about the political nature of much of the biological and human sciences". In line with this perspective, we use throughout the article the term *science* instead of *pseudoscience*.

³ This does not mean that eugenics was a consensus in the intellectual field, which spread evenly, uniformly and without resistance. Even at its peak in the first three decades of the twentieth century, a small but influential group of intellectuals took a stand against eugenics or at least against its more radical and racist interpretation. We highlight the works of Roquette-Pinto (1929), Fróes

of Western countries, as recorded in the report of the International Commission of Eugenics published in 1924. Without being restricted to the Anglo-Saxon matrix, eugenics constituted a heterogeneous, contradictory social, cultural, and political phenomenon, with broad international relevance, but constituted of an archipelago of multiple national variations (Cassata, 2011). What explains the success of eugenics in this context? Souza (2019) considered that it has spread as an innovative science, based on rational engineering, and conceived as synonymous with Modernity. It reaffirmed scientific concepts outlined by naturalists, physicians, and biologists in previous centuries, who wanted to use applied science as a tool for social control and biological improvement of man. Examining the European context, Turda and Weindling (2007) pondered that the racial nationalism offered by eugenics changed the very way in which the nation-state was conceived: from an indistinct entity governed by impersonal laws to the guardian of the nation governed by biological laws.

Cassata (2011) used the expression *eugenic gospel* when stating that Galton's science became a kind of cult in the 1920s, which spread to several countries offering a scientific solution to political, economic, and social problems, such as the construction of national identity, social cohesion, and immigration. How could a movement that claimed to be scientific spread in the form of a religion? To answer this question, we will return to the essays published in the last years of Galton's life that contributed to structuring the scientific field of eugenics in the first half of the twentieth century. In *Eugenics: it's definition, scope and aims*, Galton (1909b, p.35) so defined his creation: "Eugenics is the science which deals with all influences that improve the inborn qualities of a race; also, with those that develop them to the utmost advantage". Throughout the text, the polymath was concerned to emphasize that eugenics was a rationally based science and that moral judgments should be left out of this debate.

Considering eugenics as synonymous with reason and the criticisms received as synonymous with a value judgment without a scientific basis was one of Galton's main argumentative strategies. In this way, the English intellectual was able to demarcate the boundaries of his field of studies, justifying the eugenic intervention as a possibility of curbing the degenerative process in which the West was due to the predominance of the "barbarian" and "savage" races, especially the black, that threatened the existence of "civilized" races. Galton (1909b) criticized unplanned marriages, performed under the aegis of instinct and emotion, and argued that the restraint and eugenic orientation of motherhood were the rational and scientific solutions for mitigating the degenerative problem. Encouraging the reproduction of "superior" races and preventing the reproduction of "inferior" races became, for

da Fonseca (1929), Chesterton (1922/2015), and Boas (1916).

Galton (1909b), a civilizing duty.

Throughout this same essay, Galton (1909b) broadened its definition by considering that, for its project to succeed, it was necessary to promote eugenics as a national concern, reaching two fundamental spheres of society: intellectuals and public opinion. To ensure its acceptance in the academic world, eugenics needed to be promoted as a rationally justified and scientifically indisputable fact, a process that was already underway thanks to the efforts of the eugenics movement. However, scientific discourse alone would not be enough for its dissemination to be successful among the population on a broader scale. To make this project feasible, Galton (1909b) pondered the urgency of eugenics entering the national consciousness as a new religion, whose purpose would be to ensure acceptance of the project of improving humanity through the quantitative and qualitative increase of "superior" races.

Galton (1909b) believed that to make eugenics popular, it was necessary to form a "priesthood" composed by intellectuals committed to the cause of betterment, capable of convincing the most skeptical minds through instruction and propaganda. Theoretically elaborating eugenics in the form of a science-religion, Galton (1909b) envisioned its broad adherence to the Western societies dominated by Christianity and, at the same time, to a scientific field that would only join the movement if eugenics were, from an epistemological point of view, a biological truth. Analyzing the historical context in which Galton (1909b) published *Eugenics: it's definition, scope and aims*, the concept of science-religion was elaborated in a period when eugenics was beginning to spread on an international scale, but within British borders there was still a strong resistance to its more radical measures, such as sterilization and matrimonial control (Bernardo, 2015).

According to Galton (1909b), without the recognition of public opinion, eugenics would not be able to overcome the barriers that impeded its dissemination, which ranged from the religious ignorance of the population to the academic milieu that misunderstood its scientific bases. Based on this observation, Galton (1909b) started to promote eugenics as a science-religion, which in the form of religion could be socially diffused, and in the form of science could provide the necessary tools to protect civilization threatened by "racial degeneration". In the short essay *Eugenics as a factor in religion*, Galton (1909a) literally defined eugenics as a *creed* grounded in evolutionary science. The eugenic creed was based on the promotion of philanthropy, social responsibility, patriotism, love for family and race, but it condemned the "sentimental charity" that constantly attacked race. Galton's concept of science-religion was summarized in the last sentence of this essay: "In brief, eugenics is a virile creed, full of hopefulness, and appealing to many of the noblest feelings of our nature" (Galton, 1909a).

Maximizing his conception of science-religion, Galton (1909b, p.43) wanted eugenics to become a true universal dogma, based on the assumptions of reason: "I see no impossibility to Eugenics becoming a religious dogma among mankind, but its details must first be worked out sedulously in the study". We therefore consider that the expression *eugenic gospel* written by Cassata (2011) is suited not only to the priesthood that mythologized Galton and his science and continued his project after his death in 1911, but to the very definition of eugenics as a science-religion elaborated by the English pioneer. This mythology of reason remained in the essay *Restrictions in marriage*, in which Galton (1909d) defended one of the main banners of the eugenics movement in the first half of the twentieth century, namely, the control of sex through science, argument that gave rise to the criticism elaborated by Horkheimer in the article *The End of Reason* (1941), which we will discuss in the second part of our work.

Galton (1909d) noted that his text was a response to criticism he received from intellectuals who claimed that science should not interfere with the freedom of marriage. Faced with this resistance that eugenics was receiving even in its first years of existence, the polymath considered that the issue of reproduction should be decided neither by morals nor by religion (which did not include his conception of eugenics as a science-religion), but by reason. Any position on the subject that went beyond the limits of his science was considered by Galton as unreason, that is, the result of natural instincts and not of rationally oriented science. On the other hand, Galton (1909d) considered in this same text that when the laws of eugenics were widely known, it would be embodied in both religion and legislation, and that the evolution and preservation of the "superior" races should be imposed as a religious duty. This text explains that, if on the one hand Galton (1909d) sought not to oppose eugenics to religious thought, promoting its wide acceptance by public opinion, on the other hand, the polymath considered eugenics as the only religion structured on the foundations of reason, which is why it should be disseminated and assimilated by other religions.

In Galton's discursive logic, eugenics was synonymous with reason, which was explicit in his defense of eugenicists as the only competent authorities to guide societies in the opposite direction to the degenerative abyss. This notion of eugenicists as masters, guides, and holders of reason had already been presented in his famous book *Hereditary Genius: an inquiry into its laws and consequences*. In the first edition published in 1869, Galton (2000) was emphatic in considering that the discourse of natural equality between men was a farce, since skills are innate and differentiate individuals from birth. In his racial scale, blacks represented the "inferior" race, while the ancient Greeks constituted the "most superior" race that ever existed. The lack of control in marriages and crossbreeding with foreigners culminated in

the violation of this racial purity, resulting in a heterogeneous population that was condemned to decay. From this premise, Galton considered that the salvation of civilization would require the improvement of the white European race from the artificial selection of individuals, as was already done with the breeding of dogs and horses. Despite the apparent pessimism, Galton (2000) recorded in the preface to the second edition of 1892 that, thanks to the systematic effort of intellectuals adept to his science-religion, eugenicists were in control, albeit indirect, over the process of racial improvement in vogue in Europe.

In the essay Local associations for promoting Eugenics, Galton (1909c) warned English intellectuals that the dissemination of eugenics should be done cautiously, avoiding its presentation to the public as something extravagant or utopian. The persuasion of public opinion should be done in accordance with the common feelings and practices of the population. His main concern was to define how eugenic institutions would be formed and what strategies would be drawn up so that they could become socially influential. Based on this assumption, Galton (1909c) wrote a kind of "booklet" for the construction of local eugenic societies, involving the formation of an executive committee, the designation of presidents and other members, the organization of lectures on heredity aimed at qualifying the members of society, the construction of a network of cooperation with local authorities, such as doctors, lawyers, politicians, priests and, finally, the creation of inquiries, aiming to map individuals and families with good racial qualities. In this text, Galton (1909c) explained his double interpretation of eugenics, understood at the same time as a science accepted in the intellectual milieu, which is why it needed to be rationally justified, but also as a popular religion among the population, ensuring its dissemination and acceptance by local communities. Considering that this "booklet" encompassed both a scientific manual and a kind of "catechism" - which constituted a base model for the creation of eugenics' institutes and commissions around the world - and that Galton himself defined eugenics as a science-religion, what would be, after all, its epistemological foundations?

From the end to the eclipse: the relevance of Horkheimer's Critical Theory for studies on eugenics

Rensmann (2017) investigated the theses elaborated by Adorno and Horkheimer in *Dialectics of Enlightenment* to understand the mechanisms of false projection that constituted modern anti-Semitic racism. For Rensmann, scientific racism emulates scientific ways to present itself as a logical and coherent system, even though, in practice, anti-Semitic resentments represent radical and reified distortions of the historical elements of Judaism. Thus, the author considered that anti-Semitism and racism need to be analyzed from their psychodynamics and the social contexts in which they develop, remembering that for the Frankfurtian critical theorists, there is no "eternal" perception of Jews, as well as there is no immutable racism (Rensmann, 2017). From this work, which inspired us to create the concept of eugenic reason, we consider that only a thorough analysis of the context of theoretical elaboration and diffusion of Galtonian theory in the light of Critical Theory will allow us to identify the epistemological foundations of eugenics.

Bethencourt (2018) traced a long history of racial theories that formed the basis of the eugenics developed by Galton in the late nineteenth century. From the first "eugenic" practices in ancient Greece to the classification systems for human beings developed by modern naturalists and anatomists, the differentiation of populations according to racial criteria intensified in the eighteenth and nineteenth centuries to the point of becoming one of the main marks of Western civilization, with an influence that ranged from the Enlightenment philosophers such as Immanuel Kant (1724-1804) to biologists such as Charles Darwin (1809-1882), cousin of Francis Galton. According to Leonard (2016), the nineteenth century ended guided by Biology, just as the eighteenth century had ended guided by Physics and Astronomy. From the social evolutionism outlined by Herbert Spencer (1820-1903) and the movement that would come to be known as social Darwinism, scientifically oriented regulation came to be conceived as a path to progress. Thus, the artificial selection undertaken by scientists would determine who would be the fittest, regulating immigration, marriages, and reproduction.

It was in this context that Galton's eugenics was developed, whose rationality was structured on three basic premises, which were later shared by eugenics programs in Western countries: 1. Differences in human intelligence, character, and temperament were due to differences in heredity; 2. Human heredity could be improved reasonably and guickly; 3. The improvement of the human stock should not be the result of causality, but the result of scientific investigations and the regulation of marriage, reproduction, and immigration (Leonard, 2016). Analyzing these premises from the diagnosis of the crisis of reason developed by Horkheimer in the article The End of Reason (1941), we can infer that eugenic reason constituted not the absence of reason, but its reduction to a pragmatic, cold, and sober instrument, linked to the logic of efficiency and transformed into a means to achieve ends. If on the one hand Elster (2009) stated that there is no canonical definition for reason, on the other hand Chauí (1996, p.26, free translation) pondered that what we define as "Western reason" consisted of "an intellectual and affective work to make sense of what, left to itself, drags us into myth, ideology and servitude", and that today, this same work "is called into question and constitutes one of the faces of the crisis of reason". In his first diagnosis of this crisis, Horkheimer (1941) opted for the term formalization,

denouncing that with the development of civilization, scientific discourse was no longer tied to reason or science and was submitted to subjective interests in the name of self-preservation. The very concept of reason, which since its Greek origins included the concept of criticism, became an instrument of the domination of man over nature and, consequently, of man over man (Horkheimer, 1941).

The regulation of sex by the authority of reason consisted, according to Horkheimer (1941), in the fundamental and most totalitarian element of eugenics, whose roots were found in the Enlightenment. Since Kant, who defined marriage as a mutual possession contract according to natural laws, "science objectified sex until it could be manipulated" (Horkheimer, 1941, p.382). This manipulation, criticized by Horkheimer as inhumane, was the foundation of the Galtonian science-religion that promulgated the submission of sexual relations to natural laws or, in practice, to the authority of eugenicists, holders of reason. At the apex of eugenics' institutionalization promoted by Nazi-fascism in Germany, love ceased to be a free choice and started to be organized by the State in the name of the race salvation. For Horkheimer (1941), this passive submission to sexual standards and eugenic population policy occurred as a result of the blindness produced by instrumental rationality that, in the name of a supposed emancipation, annihilated freedom and love.

In Eclipse of Reason (1947/2004), Horkheimer presented a new version of his critique outlined in The End of Reason (1941), opting for the term eclipse instead of end. The philosopher considered that while objective reason acted scientifically in favor of human destiny based on criticism and reflection, formalized or subjective reason was essentially relativistic, reduced to the faculty of classification, inference, and deduction regardless of content and without a reflection on its purposes. Enlightenment philosophers, pioneers of bourgeois civilization and spiritual and political representatives of the rising bourgeoisie, based their laws on reason, which regulated individual actions, the relationship between human beings and between human beings and nature. However, by abdicating its autonomy, reason became an instrument fully utilized in the social process, leading to blindness, and becoming a fetish, a magical entity uncritically accepted instead of being intellectually apprehended. The result of this formalization was the loss of the intellectual roots that supported the ideals of justice, equality, happiness, and tolerance. The objectives and ends remained but lacking a rational force capable of evaluating them and linking them to an objective reality (Horkheimer, 2004).

Critically analyzing the flaws in the concept of reason and the triumph of subjective reason in the rationalization process of Modernity, Horkheimer (2004) considered that technical progress occurred concomitantly with the dehumanization and nullification of the idea of man. This progressive rationalization obliterated the substance of reason in the name of which progress structured its own development.

Losing its autonomy and its objective dimension, subjective reason became essentially instrumental, uncritical, and relativistic, submitting itself to the capitalist politicalideological interests, aiming at the domination of men and nature. As postulated by Horkheimer (2004, p.17): "The more the concept of reason becomes emasculated, the more easily it lends itself to ideological manipulation and to propagation of even the most blatant lies".

We consider, from a theoretical-critical perspective, scientific racism as an ideological manipulation of the concept of reason, which justified capitalist exploitation and social inequalities through the discourse of inequalities determined by nature. According to Horkheimer (2004, p.83), social Darwinism has become a doctrine without any pretense of imposing ethical imperatives on society: "Whenever nature is exalted as a supreme principle and becomes the weapon of thought against thinking, against civilization, thought manifests a kind of hypocrisy, and so develops an uneasy conscience". This social Darwinism that became popular in the intellectual field in the second half of the nineteenth century rejected "any elements of the mind that transcend the function of adaptation and consequently are not instruments of self-preservation". Thus, reason belied its own primacy and professed to be just a simple servant of natural selection. In this deterministic logic, "the machine has dropped the driver", that is, at the moment of its consummation, reason became irrational and brutish in the name of self-preservation (Horkheimer, 2004, pp.86-87).

By emasculating the concept of reason, modern society allowed its ideological manipulation and, in its name, the propagation of lies, as did Charles O'Connor (1710-1791), who considered black slavery as fair, wise, beneficial, and ordered by nature. Despite not returning to the argument on eugenics developed in *The End of Reason*, Horkheimer (2004) denounced, based on the example of that famous American writer, a broader framework in which barbarism and all its forms of oppression and tyranny were rationally justified in the name of reason and scientific progress. The rationalists' concept of the universally human was formalized and therefore separated from all its human content. According to Horkheimer (2004, p.22), in the barbaric logic of formalized reason, "despotism, cruelty, oppression are not bad in themselves; no rational agency would endorse a verdict against dictatorship if its sponsors were likely to profit by it". In Galton's science-religion, this exclusion of individuals was rationally justified by their inferior nature and harmful to the social and biological development of civilized nations. The formalization of reason thus constituted the core of eugenic reason.

Written together with Adorno, the book *Dialectics of Enlightenment* (1947/2002) presented a broader notion of the diagnosis of the crisis of reason developed by Horkheimer. In this work, the critical theorists denounced the blocking of the possibilities of emancipation of the subjects envisioned by the Enlightenment

and demonstrated that the process of domination of nature paradoxically resulted in the naturalization of civilized man, since this naturalization became an inseparable element of social progress. Considering the Homeric Ulysses as the first *Aufklärer*, Adorno and Horkheimer (2002) pointed out that the causes of the transformation of the Enlightenment into a myth lay at the roots of the Enlightenment itself, which eliminated its own self-awareness, violated itself and became a hard enough thought to destroy the myth. The truth no longer mattered, only the effective execution of actions in the name of progress. Fulfilling the maxim exalted by Francis Bacon (1561-1626), power became synonymous with knowledge. By increasing his power over nature reduced to objectivity, man alienated himself from his own object of power and myth became Enlightenment (Adorno & Horkheimer, 2002).

For Adorno and Horkheimer (2002), regression did not constitute an accident of course in the trajectory of progress, but rather successful progress generating its own regression. The bourgeois form of Enlightenment was lost in its positivist aspect, confusing freedom with self-preservation. Society plunged into an obfuscation that dominated it, abandoning the Enlightenment that, reduced to its objectified figure as a technique, abdicated its own realization. The Enlightenment disciplined everything that is unique and individual, turning domination against the being and conscience of men, becoming destructive in the form of merciless progress. Reduced to the realization of practical ends, the most immediate objectives, and no longer human problems, Enlightenment became the very domination of science as predicted by Bacon, that is, the domination of man over nature culminated in the domination of man over himself (Adorno & Horkheimer, 2002).

Abromeit (2016, p.283) postulated that there are two concepts of Enlightenment in the Dialectic of Enlightenment: a genealogical concept, understood as "a bewildered form of self-preservation that has existed since the dawn of Western civilization", and a critical historicist concept, which conceived as Enlightenment "the critical and anti-authoritarian ideals articulated - most radically in eighteenth-century France - during the uneven development of modern bourgeois society". Abromeit (2016) criticized the genealogical concept for constituting a dehistoricized notion of instrumental reason and the domination of nature but reaffirmed the potentiality of the historicized concept as a mediated expression of the transformation of bourgeois society. Considering that the first concept became dominant throughout the *Dialectic* of Enlightenment, but that significant traces of the second also remained, the author suggested a reconsideration of this critical historicism, which reveals an initial model of Critical Theory present in Horkheimer's texts in the 1920s and 1930, whose relevance needs to be re-accessed (Abromeit, 2016). It is on this first historical and self-reflective model that we base our diagnosis of eugenic reason, which justifies our greater focus on Horkheimer compared to Adorno, despite the 1946 preface to *Eclipse of Reason*, in which Horkheimer considered that his philosophy and that of his Institute colleague were one (Horkheimer, 2004).

According to Lefort (1996), bourgeois domination rested on the utopia of rationalism and universalism, embraced by an intellectual elite that considered that history would spontaneously lead to the realization of reason. The discourse of bourgeois ideology, based on defense against the threat of decomposition of society by barbarism, took property, family, State, authority, homeland, and culture as a wall of civilization. In this process, the figure of the cultured and civilized man was contrasted with the image of the Other, which could mean both an external threat (foreigners and "barbarian" peoples) and an internal one (the subaltern classes and the revolutionary proletariat). The epistemology of Galtonian science-religion was based on this dichotomy, in which eugenics became theoretically elaborated and socially disseminated as the most rational and powerful barrier to protect this civilizing wall against moral and racial degeneration. According to Galton's logic, eugenics would be the salvation of a civilization that was beginning to collapse, which is why, more than a science, it needed to be popularized in the form of a cult that demanded sacrifices in exchange for salvation.

Like the criticism elaborated by Rensmann (2017), Bronner (2018) considered that barbarism developed using the same scientific method as its critics, elevating prejudices to the status of science. In this process, Enlightenment equated truth with the scientific system, using mathematical methods, Galileo's language, and Newton's theoretical thought (Ferrone, 2015). The scientific domain of nature turned against its supposed dominant subject, annulled its thinking quality, and turned it into a slave of facts. Reduced to facts, science has re-approached the myth, accused of being old and inadequate in the face of mathematical argumentation (Souza, 2011). The distinction between objective reason and subjective reason, nonexistent in The End of Reason (1941), developed in Eclipse of Reason (1947) and a fundamental element of Horkheimer's critical historicist concept still present in Dialectics of Enlightenment (1947) denoted that, unlike what was announced as the "end of reason", it was not reason in its entirety that disappeared, but only part of it, that is, its objective dimension which suffered an "eclipse". Radically detached from its objective contents, reason became reified, subjecting itself to relativism and transforming itself into a manipulable object (Petry, 2013). As we demonstrate throughout this article, this ideological manipulation of the concept of reason constituted the foundation of Galton's science-religion. It is surprising, therefore, that the Horkheimerian argument from the enlightened roots of eugenics thought, despite being so current and accurate, remains virtually unexplored in the historiography of eugenics.

Conclusion

The bureaucratization of civilized societies, which constituted the central aspect of the usurpation derived from instrumental reason, was based on the typical modern symbiosis between science and technique. Precursor of instrumental rationality, the Baconian ideal of "knowledge is power" led humanity to a point where the subjection of nature turned into the destruction of nature and man. Power has become master of itself (Lebrun, 1996). This absolute naturalization of man constituted the basis of the epistemology of eugenics, in which individuals were reduced to manipulated and manipulable organic bodies, devoid of any sociability (Nalli, 2005). Based on this premise, Galton was able to rationally justify the eugenic intervention in marriages, offering a scientific solution both for the containment of the degenerative process and for the progress of civilization mediated by science. This enlightened aspect of eugenics constituted, according to Horkheimer (1941), in the annihilation of freedom and love in the name of reason.

We do not intend with this analysis to generalize or mechanically transplant Galtonian epistemology to his countless proselytes around the world. However, we postulate throughout this article the fundamental assumptions elaborated by the creator of this science, which were shared and readapted by his followers according to the specificities of each national context⁴. Among these epistemological foundations, Galton's concern when considering eugenics as synonymous with reason, redemption, regeneration, and salvation in the face of racial degeneration, ignorance, and costumes that impeded his advancement in civilized societies stands out. His science-religion consisted, therefore, in the secularization of myth in the form of formalized reason. Eugenic science was, according to Galton, the new messiah, and only through him could man be saved from his inexorable fate. Ultimately, eugenics constituted, for Galton, in Enlightenment itself, rationally based as a science and popularly worshiped as a religion, which reduced man to nature and annulled the subject. Thus, according to Jay (1976), the Enlightenment that once proposed the liberation of man, ironically contributed to imprison him in a form of rational, scientific, and effective control and domination.

As Rensmann (2017) pondered, the debate on racism was left in the background by Critical Theory scholars, to the point that the text *Elements of Anti-Semitism* was artificially placed at the end of *Dialectics of Enlightenment* as a simple addendum, when in fact such discussion was central to Adorno. Regarding Horkheimer, Abromeit (2016) was emphatic in stating that even in the face of the essential effort of the

⁴ Regarding the reception of eugenics in national and regional contexts, we recommend the works of Bashford and Levine (2010), Turda and Weindling (2007), Krementsov (2018), Paul, Stenhouse and Spencer (2018), Stepan (1996), and Leonard (2016).

German philosopher in the foundation of Critical Theory, his work remains relatively neglected in academic literature compared to studies on Adorno, Herbert Marcuse (1898-1979), and Walter Benjamin (1892-1940). In line with the works of Rensmann (2017) and Abromeit (2016), we emphasize from our research the relevance of the concept of Enlightenment based on critical historicism and the diagnosis of the crisis of reason elaborated by Horkheimer (1941; 2004) and Adorno and Horkheimer (2002) in studies on eugenics, explaining from historical research both the enlightened roots of the science of racial improvement, and the conditions that ensured its diffusion and permanence in contemporary society.

Without intending to exhaust the theme or reduce the history of eugenics to Galton's epistemology, our investigation allows us to conclude that, according to the theoretical-critical perspective, eugenics would not comprise a kind of return to barbarism, but precisely the triumph of enlightened progress. The annulment of the subject from the reduction of the human being to its biological nature and the discourse of technical impartiality, basic foundations of Galton's epistemology, constituted, therefore, by-products of the more totalitarian face of the Enlightenment. Galton's definition of eugenics as a science-religion - thought shared by influential members of the international eugenics movement (cf. Kehl, 1935) - is understandable if we consider its scientific rationality, which we denominated eugenic reason, as a perverse manifestation of the transformation of reason into myth.

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