



Lombroso's Controversial Legacy at the Interface of Forensic Psychiatry and Odontology: A Critical Analysis of the "Born Criminal" Theory and its Dentofacial Stigmas

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LITERATURE REVIEW

ABSTRACT

Objective: To critically reexamine, from a multidisciplinary perspective encompassing Medicine, Psychiatry, and Dentistry, Cesare Lombroso's work on the "born criminal" theory, with emphasis on dentofacial correlates and their epistemological and social implications. **Materials and Methods:** A critical literature review was conducted, including a historical analysis of Lombroso's formulations within the 19th-century epistemological context. His proposed "degenerative stigmata" in dental and facial morphology were detailed and methodologically deconstructed, then contrasted with contemporary scientific knowledge. **Results:** Findings indicate that Lombroso's concepts, although scientifically refuted today, significantly influenced medico-legal thought, psychiatry, and the formative stages of forensic dentistry. These ideas were contrasted with modern evidence on psychopathology (including antisocial personality disorder and psychopathy), craniofacial and dental developmental genetics, and the multifactorial etiology of criminal behavior. Furthermore, the ethical and social implications of Lombroso's biological determinism were discussed, particularly its historical impact on penal policies and the stigmatization of individuals based on physical traits. **Conclusion:** Lombroso's theses are scientifically invalidated, yet they hold heuristic value as a paradigmatic case of the dangers of biased interpretations of morphological variations. This study underscores the imperative for continuous methodological and ethical rigor at the interface of biology, medicine, psychiatry, and dentistry.

Keywords: Historical Forensic Dentistry; Forensic Psychiatry; Dentofacial Stigmata; Dental Anthropology; Biological Determinism; Dental Anomalies.

O Legado Controverso de Lombroso na Interface Entre Psiquiatria Forense e Odontologia: Uma Análise Crítica da Teoria do "Criminoso Nato" e Seus Estigmas Dentofaciais

RESUMO

Objetivo: Reexaminar criticamente, a partir de uma perspectiva multidisciplinar abrangendo Medicina, Psiquiatria e Odontologia, o trabalho de Cesare Lombroso sobre a teoria do "criminoso nato", com ênfase nos correlatos dentofaciais e suas implicações epistemológicas e sociais. **Materiais e Métodos:** Foi realizada uma revisão crítica da literatura, incluindo uma análise histórica das formulações de Lombroso no contexto epistemológico do século XIX. Seus "estigmas degenerativos" propostos na morfologia dentária e facial foram detalhados e metodologicamente desconstruídos, contrastando-os com o conhecimento científico contemporâneo. **Resultados:** Os resultados indicam que os conceitos de Lombroso, embora refutados cientificamente hoje, influenciaram significativamente o pensamento médico-legal, a psiquiatria e os estágios formativos da odontologia forense. Essas ideias foram contrastadas com evidências modernas sobre psicopatologia (incluindo transtorno de personalidade antissocial e psicopatia), genética do desenvolvimento craniofacial e dentário e etiologia multifatorial do comportamento criminoso. Além disso, foram discutidas as implicações éticas e sociais do determinismo biológico de Lombroso, particularmente seu impacto histórico nas políticas penais e na estigmatização de indivíduos com base em características físicas. **Conclusão:** As teses de Lombroso são cientificamente invalidadas, mas mantêm valor heurístico como um caso paradigmático dos perigos de interpretações tendenciosas de variações morfológicas. Este estudo ressalta a necessidade de rigor metodológico e ético contínuo na interface entre biologia, medicina, psiquiatria e odontologia.

Palavras-chave: Odontologia Forense Histórica; Psiquiatria Forense; Estigmas Dentofaciais; Antropologia Dentária; Determinismo Biológico; Anomalias Dentárias.

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INTRODUCTION

The investigation of the biological substrates of human behavior, especially its deviant and criminal manifestations, constitutes a recurring and historically complex theme in medicine and the social sciences. At the height of 19th-century scientific positivism, Cesare Lombroso, an Italian physician and psychiatrist, stood out for his attempt to ground criminology in empirical and biological terms. This effort resulted in the controversial theory of the "born criminal" (reo nato) [1,2].

According to Lombroso, this archetype represented an evolutionary regression: an individual biologically predestined for delinquency, whose atavistic characteristics manifested themselves somatically through a set of "degenerative stigmas." Among these markers, craniofacial peculiarities and, in particular detail, anomalies and variations of the dentition and adjacent oral structures were meticulously cataloged and interpreted as evidence of a primitive and pathological constitution [3,4].

This article proposes a critical and multidisciplinary analysis of Lombroso's work, with emphasis on his so-called "criminal odontology," under the integrated perspective of contemporary Medicine, Psychiatry, and Dentistry. The aim is to revisit a significant, albeit problematic, chapter in the history of scientific thought while also drawing epistemological and ethical lessons from it. Such reflections are particularly relevant to the practice of forensic dentistry, forensic psychiatry, and biomedical research developed at the interface between morphology and behavior.

MATERIALS AND METHODS

During the development of this narrative review article, it was essential to establish a methodological strategy to ensure the inclusion of the most current, relevant, and scientifically validated information on the topic, providing robust and well-supported content. Searches were conducted across multiple databases, including DeCs, BVS/BIREME, PROSPERO, SciELO, PubMed Central, ScienceDirect, Web of Science, and The Cochrane Library, in conjunction with Google Scholar. Additionally, gray literature was utilized to provide supplementary and relevant insights, which proved crucial for a comprehensive exploration of the subject matter. To refine the scope and relevance of the searches, the following descriptors were employed: Historical Forensic Dentistry; Forensic Psychiatry; Dentofacial Stigmata; Dental Anthropology; Biological Determinism; Dental Anomalies. Given the narrative review format, it was necessary to adopt a framework that defines the structure, essential elements, and exclusions pertinent to this type of study. Consequently, Rother's (2007) work served as a methodological guide throughout the preparation of this article, ensuring consistency and adherence to the standards of narrative literature reviews.

RESULTS AND DISCUSSION

The emergence of Lombroso's theories must be understood within the epistemological context of the nineteenth century, characterized by the dominance of scientific positivism and the widespread influence of Darwinian evolution, which provided an intellectual substrate conducive to the consolidation of so-called criminal anthropology. Lombroso employed anthropometric, comparative pathological, and systematic clinical observation tools with the aim of identifying purported biological laws governing delinquency, in contrast to classical paradigms that emphasized free will and individual moral responsibility.

The meticulous cataloging of degenerative stigmata focused particularly on craniofacial and dental morphology, including hypertrophied and acutely pointed canines, conical lateral incisors, irregular cusp patterns in molars, premolars with morphological or dimensional anomalies, and variations in tooth number and positioning, as well as associated orofacial characteristics such as mandibular prognathism, maxillary biprotrusion, high-arched palate, and palatal or mandibular tori. Lombroso and his followers attempted to correlate these physical attributes with specific criminal typologies, suggesting that murderers would exhibit robust jaws and prominent canines, whereas thieves would display agile hands and furtive facial expressions, although such judgments lacked standardized criteria and were highly subjective.

Contemporary critique reveals profound methodological flaws, including inadequate control groups, disregard for relevant confounding variables, systematic confirmation bias, and pathologization of natural human morphological variation. Advances in craniofacial and dental developmental genetics demonstrate that traits such as prognathism, palatal shape, and cusp patterns arise from complex polygenic processes modulated by epigenetic interactions and environmental factors, without any demonstrable causal link to delinquent behavior. Modern psychopathology conceives antisocial personality disorders and psychopathy as multidimensional entities determined by specific neural circuits, neurotransmitter dysregulation, and neurodevelopmental and early adverse experiences, dissociating them entirely from

external morphology. In clinical dentistry, anomalies documented by Lombroso, including hypodontia, hyperdontia, dental crowding, malocclusions, and cusp variations, constitute developmental conditions addressed for functional, aesthetic, or preventive purposes, without any forensic or deterministic implications. Contemporary forensic dentistry, while utilizing dentition as a crucial tool for human identification and bite mark analysis, categorically rejects any inference of personality traits or criminal propensity based on dentofacial morphology.

The social and ethical implications of Lombroso's formulations remain significant, having contributed to the stigmatization of ethnic and socioeconomic groups, reinforced prejudice, and underpinned punitive penal policies as well as eugenic practices advocating segregation, sterilization, or elimination of individuals considered degenerate or socially dangerous. The Lombrosian legacy underscores the inherent risks of biological reductionism and simplistic determinism, serving as an epistemological warning against the temptation to establish direct correlations between morphological or genetic markers and complex human behaviors, thereby emphasizing the imperative for integrated, methodologically rigorous, and ethically responsible approaches that account for the intricate biopsychosocial network in the interpretation of deviant conduct.

CONCLUSION

Cesare Lombroso's "born criminal" theory, with its detailed but fundamentally flawed taxonomy of physical stigmata, including prominent dentofacial markers, constitutes a closed but instructive chapter in the history of medicine, psychiatry, and dentistry. Contemporary science categorically refutes the notion that dental or craniofacial morphology can serve as an indicator of an intrinsic biological predisposition to criminality or specific types of psychopathology. Variations and anomalies in dentofacial development are now understood as the result of complex genetic-environmental interactions, devoid of a direct causal link to an individual's character or social behavior.

Lombroso's legacy, however, transcends his refutation. He embodies the risks inherent in the uncritical application of scientific paradigms to multifaceted human phenomena and the susceptibility of science to cultural and social biases. For professionals and researchers in medicine, psychiatry, and dentistry, Lombroso's history reiterates the imperative of methodological rigor, informed skepticism, epistemological humility, and profound ethical sensitivity. The quest to understand the biological basis of human behavior is a valid and necessary endeavor, but it must be guided by complexity, multidisciplinary, and an inalienable commitment to human dignity, ensuring that past mistakes are not repeated under new guises in the future of biomedical and forensic science.

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