

## A Short Note on Biomedicine and Public Health

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### Abstract

Biomedicine is a branch of medicine that applies biological and physiological principles to clinical practice. It is also known as mainstream medicine, Western medicine, or conventional medicine. The emphasis in biomedicine is on standard, biologically validated, evidence-based treatment that is administered by formally trained physicians, nurses, and other licensed practitioners.

In the Western world, the idea that medical or quasi-medical concepts can intervene in the process of aging to slow, stop, or even reverse it has become a popular and scientific buzzword. An interdisciplinary approach that draws on ethics, cultural anthropology, sociology, and history to provide a new understanding of biomedicine as a social and cultural practice as it engages with Western society's quest for longevity is the focus of this special issue, which focuses specifically on biomedicine and its relationship to anti-aging cultures. Several major themes emerge from the historical and sociocultural context in which anti-aging movements have constructed aging bodies and the aging process: the contested nature of anti-aging as a legitimate field of gerontology, the competing definitions of old age within biomedicine, the medicalization of old age, and the ethics of the anti-aging market. The following are some suggested areas for future research on the subject of anti-aging medicine and its place in Western society: the necessity of contrasting the science and biomedicine of antiaging with those in this "targeted" age, paying closer attention to the various stages of old age and the gender dynamics involved, taking into account the social and economic differences among the elderly, and analysing the role that the media plays in forming and shaping anti-aging and biomedicine discourses. The papers in this special issue show how anti-aging in biomedicine has many different aspects and how it is changing what it means to be old.

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### Introduction

The history of bacteriology, which has been well-documented, is illustrative of these opposing trends. Although bacteriological cultures and diagnoses, as well as a few remarkable therapeutic agents like the diphtheria antitoxin, were widely discussed and celebrated innovations, bacteriology did not have a significant impact on public health in the early 20th century [1]. A powerful and frequently mentioned illustration of this is the history of tuberculosis in industrial Europe. The success of animal modeling, which resulted in the identification of Koch's bacillus, and the effectiveness of X-rays, which enabled the early detection of tubercular lesions, are not the only factors that contributed to

the recognition of the bacteriological trajectory of tuberculosis. It is also characterized by the enduring dominance of public hygiene and palliative care in sanatoria, as well as the controversies surrounding the combined roles of heredity and infection in the aetiology of the disease.<sup>5</sup> It is only after the beginning of the antibiotic era, in the late 1940s and early 1950s, that decisive improvements in the control of the white plague could be attributed to the combination of chemical and bacteriological work conducted both in academic and industrial laboratories. In Western societies, the image of the aged body has become increasingly prevalent as aging populations and medical promises of longer lifespans continue to grow [2]. Anti-aging has emerged as a popular movement for promoting activity, mobility, and lifestyle

choice to counter traditional images of decline and decrepitude. While the rapid demographic aging has raised contemporary debate about the financial and ethical "burdens" of aging bodies to the health care system, the idea of anti-aging is that medical or quasi-medical concepts can slow, stop, or even reverse the process of getting older [3]. The biomedical field associated with the anti-aging movement has been interpreted by recent critics as representing a significant shift from biomedicine as a profession devoted to healing bodies to that of enhancing bodies. The goals of painless functionality and timeless performance are shared by all biomedical anti-aging standards [4].

With this special issue, we want readers to reevaluate the anti-aging medicine debate positions that are frequently portrayed as polar opposites. Instead, we propose that anti-aging is a continuum of activities, and in line with Binstock, the anti-aging movement is shaped by the "boundary work" of various fields. In point of fact, the emphasized distinctions between health and disease, normal and pathological, in aging cultures have historically not been very clear [5].

The desire to live forever in order to achieve immortality dates back a long time, but it has evolved over time just as much as theories about how old age, health, and disease relate to one another. The concept of humors connected to the four elements served as the foundation for the classical understanding of old age, which began with Aristotle. As people got older, the body lost its vital heat, and death was the point at which it was gone for good. As a result, one's sense of humor changed throughout their lives, eventually turning cold and dry in extreme or advanced age. The awareness that one's stage in life was on a continuum was essential to this understanding of old age [6]. As a result, just as there were stages of youth and childhood, there were "degrees" of old age.

Although classical authors shared a humorous understanding of the body, they did not always share an understanding of old age [7]. Aristotle compared the characteristics of old age to the idealized stage of middle age in his relentlessly negative conception of the subject. As with Aristotle, Hippocrates focused his commentary on the ailments of old age. However, he argued that the condition of old age was cold and moist, not cold and dry. Galen defeated Hippocrates convincingly regarding the dry nature of old age; However, Galen and Seneca the Younger were still at odds regarding whether old age was a "disease" or a natural condition. The term "diseased state" was used to describe old age for the majority of the ancient world [8, 9]. In point of

fact, Seneca referred to it as incurable. Despite the fact that old age was certainly not regarded as a state of perfect health, Galen held a different viewpoint and argued that it was a natural process and was not an illness. Galen believed that aging was a separate condition, and his humorous model would dominate medical culture well into the seventeenth century. In this model, a harmonious balance between humors and elements was necessary for both the pursuit of long life and the maintenance of good health [10].

## Conclusion

Christelle Rigal's paper examines the clinical research program on leukaemia carried out under the leadership of Jean Bernard at the Saint-Louis Hospital in Paris and demonstrates how such disdain for numbers had by the 1960s become unacceptable in some circles of the medical elite. The "resistance" of the French grands cliniciens toward medical statistics is a common trope in the history of French medicine. It is frequently linked to Claude Bernard's famous plea against the use of percentage and computation in both experimental and clinical this transformation was made possible in large part by the internationalization of leukaemia research. The earlier-mentioned "biomedical triangle" is revealed by Rigal's research, which also describes the development of international studies initiated by the American National Cancer Institute. These studies tested molecules of American origin but frequently employed a methodology attributed to British inferential statistics. A situation that is not unique to France resulted from local tinkering and included both randomized controlled trials (RCTs) and alternative designs that also included historical controls. 39 Specificity, on the other hand, was present. Rigal argues that, in contrast to its American counterpart, French "clinical biomedicine" was founded, like Britain's, on an administrative culture of state planning rather than a pharmaceutical culture of industrial standardization.

Individual national patterns, in contrast to what one might expect in the age of biomedicine, have had relatively little influence. The postwar period's moral and political economy encouraged the rapid internationalization of biological research. As a result, when "experimentalizing" clinical or public health research, similar responses were developed to challenges that were similar to those faced by various national scientific communities, if not practices. Our third and final conclusion is that it may be helpful to make the current wave of "biomedicalization" less radical and unexpected than social analysts are tempted to believe by recognizing this complicated history.

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