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THE REVOLUTION OF GEORGES CABANIS

A Forgotten Education Reform in Post-Enlightenment France

Naomar Almeida-Filho

The Revolution of Georges Cabanis

A Forgotten Education Reform in Post-Enlightenment France

An Essay in Neo-Foucauldian Archaeogenealogy From a Southern-Hemisphere Perspective

by

Naomar Almeida-Filho

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In memory of

Jacques Abdelkrim Saïdi Salah

December 12, 1938 (Tarbes, France) –
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Itaparica, Bahia, Brazil
Summer 2021

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Foreword

Why write about Georges Cabanis, a French physician whose contribution to psychiatry and medical education, while receiving attention from such historiographic luminaries as Michel Foucault, had long been forgotten? What rationale could there be for "resurrecting" the historically dead? Professor Almeida-Filho's book gives us solid answers to these questions. It turns out Cabanis is a more pivotal figure in the establishment of the discipline of psychiatry in France, and indeed, in medical education, than Foucault and others have made him out to be. It turns out that Cabanis—who had connections with leading physicians and scholars of his day, such as Mirabeau, Condorcet, and von Humboldt—not only advanced medical education in France, but abroad, and, as Professor Almeida-Filho shows us, in Brazil.

By itself, this would be an achievement. But Professor Almeida-Filho goes further, and in two directions at once. First, he challenges the "genealogical" approach of Foucault and others that seek to downplay or diminish the "archeological" approach to historiography: an approach, incidentally, that Foucault himself used in his discussions of Cabanis in La Naissance de la Clinique. This is to reintroduce a structural component, if not framework, into the historiography of Cabanis that would otherwise overlook the "iconographic" frame of reference. And if this were not enough, Professor Almeida-Filho examines the Brazilian uptake of Cabanis and specifically, his role in the medical education of the nation. This context is filled in with a discussion of the reception of European medicine more generally, and the hegemony built up in this. And it is this hegemony he challenges partly through challenging the historiography of those that undertake the examination of this reception. Thus, the history of Cabanis is the history of his neglect, the history of his influence, the history of his reception in Brazil, together with a historical-political aim; the dissolution of the hegemony that is partly responsible for this neglect.

Professor Almeida-Filho's aims for the book are of particular interest, for they insist on nothing less than a *reconstruction* of historiography. There are philosophical as well as political issues involved in this. The attempt to break the hegemony of a certain reading of the reception of Cabanis in Brazil is emblematic of an overall historiographic standpoint: to consider methods of approaching historical events, archival material, various narratives, as

well as translations and secondary literatures, as susceptible of a framework that is largely scientistic, with its specific aim the “truth” of the matter. This of course, leaves out much of the context, including the personal and political contexts that are part and parcel of the reception. And this is an ethical issue. The hegemony of this approach can be seen in the nexus of international institutions, conferences, journal publications, etc., which have as their mandate a historiography that privileges ‘truth’ at the expense of the personal and political.

All together, then, what we have before us is a sensitive, thoroughly researched, and ambitious attempt to marshal the forces of historiography for an avowedly political aim; the re-introduction of a neglected figure in medical education as a point of departure for the challenge to leading accounts of historiography involved in reception. This book, operating as it does on multiple levels, is not an easy read; but it is well worthwhile, nonetheless. For it is exemplary in the way it handles the multiple, and seemingly incongruent themes of historiography, reception, medical education, and critique. There is no doubt in my mind that the reader will come away richer for the encounter.

James Scott Johnston
Memorial University

Figure 1. Portrait of Pierre-Jean-George Cabanis, by Merry-Joseph Blondel (circa 1800). Provenance: Villa Reale di Marlia, Lucca. (Work in the public domain.) https://commons.wikimedia.org/wiki/File:Pierre-Jean-George_Cabanis_by_Blondel_(19_c.,_priv._coll).jpg

Introduction

At various points in his historiographic work, Michel Foucault expresses great respect and admiration for Pierre Jean Georges Cabanis (1757-1808). A true polymath—poet, physician, scientist, physiologist, philosopher, social activist, revolutionary, politician, legislator—Cabanis is recognized by Foucault as a "genius," the intellectual precursor of technological and scientific modernity, an efficient political operator and creative reformer of the health system, and a thinker who is indispensable for understanding the French philosophical, scientific, and cultural hegemony in the nineteenth century. Cabanis the médecin-philosophe [physician-philosopher] is without a doubt a central character in Foucault's writings on medicine and health.[1]

Michel Foucault (1961, 1963) was mainly looking at the new ways of normalizing health and disease, reorganizing the health care network, and regulating the social health practices that emerged after the French Revolution. These tasks were masterfully accomplished by the mature, practical, successful, and experienced physician that was Cabanis in the post-revolutionary decade. Despite this, Foucault's detailed account of the changes in medical care and their context at the dawn of the classical era, and through the turmoil of revolutionary France, does not give the deserved credit to Cabanis as a reformer of education, as we are going to see ahead in this essay.

Following Foucault's lead, Martin Staum (1980) masterfully introduced Georges Cabanis's life and oeuvre to the Anglo-Saxon scholarly audience, focusing on his leadership role as a science pioneer and philosophical paladin at the crossroads of Enlightenment optimism in post-revolutionary France. Elizabeth Williams (1994) explored the contributions of Cabanis and his partners of the *Idéologie*[2] to the foundations of the *sciences de l'homme* [sciences of mankind], focusing on the relations between "the physical and the moral," and their influence upon the scientific development and progressive medicalization of nineteenth century society, at first in France and then spreading all over Europe.

Serge Bensançon (1997) focused on the contributions of Cabanis—who proposed the brain as *l'organe de la pensée* [the organ of thought]—to the invention of psychiatry as a mental

[1] Cabanis is mentioned 43 times in *Naissance de la Clinique* (Foucault, 1963), once every 10 pages on average. In *Folie et déraison* (Foucault, 1961), he appears 21 times, on 17 of the book's 550 pages.

[2] *L'Idéologie* was a Parisian cultural, philosophical, and political movement organized after the French Revolution of 1789, whose members became known as *les Idéologues*. This movement will be discussed further in chapters 1, 4, and 7.

medicine of modernity, being one of the precursors of Freudian psychoanalysis and of contemporary systemic neurosciences. With reverential admiration, Yves Pouliquen (2013), a proud heir of the *médecin-académicien* [academic-physician] tradition, approached Cabanis's biography, emphasizing his role both as a remarkable physician (friend and personal physician of Mirabeau and Condorcet, two great intellectual heroes of the French Revolution) and as political protector and leader of the *Idéologues*, from the Directory to Thermidor to the Consulate, especially during the hard times of the Terror.

Recently, from a critical perspective, Mariana Saad (2016) explored deeply and carefully Cabanis's contributions for a pioneering approach to social and political sciences, merging physiological theories on health and disease with proto-anthropological analyses of social behavior, inspired by neo-Cartesian materialistic philosophies. Finally, complementary to Staum's and Saad's work, Marie Gaille (2017) proposed an alternative approach for treating Cabanis as a physician-thinker-philosopher-social reformer who made medicine a politicized issue. In this regard, particularly, she defined him as "a bit of an oddity" because of his eclecticism, "deeply engaged in the political discussions of his time, publishing essays on prisons, hospitals, and treatment institutions, as well as epistemological writings" (Gaille, 2017, p. 72).

Foucault may have been the scholar most responsible for restoring interest from the academic world towards this amazing Enlightenment intellectual, who helped France to become one of the major geopolitical, scientific, and cultural centers of the Western world during the entire nineteenth century. And yet, Foucault himself (as well as many other writers interested in Cabanis's multidimensional thought) pays little attention to his role as a reformer of medical education and of education in general. In fact, Cabanis's works regarding education are virtually ignored by Foucault, as his only citation to *Coup d'oeil*—Cabanis's book on medical education, which will be central in the present essay—addresses the refusal of probability as criteria for validity of a diagnostic clinical assessment (Foucault, 1963, p. 117).

Indeed, despite their brilliance and thoroughness, these scholars do not cover, with due depth and effectiveness, Cabanis's contributions to the field of education, as a creative thinker, institutional planner, and a successful reformer, among the most influential of his time and place. Eclipsed by Wolfgang von Humboldt's legacy and legend—the powerful *Mythos Humboldt* (Ash, 2006)—the series of connected educational reforms conceived, proposed, and led by Georges Cabanis eventually fell into oblivion. Cabanis's name and oeuvre have not been even mentioned in the major historical accounts of education in Western countries.

The present essay is an attempt to answer why and how that happened.

Neo-Foucauldian Archeogenealogy

During the first phase of his work—a meticulously critical history of madness, medicine, and the human sciences—Michel Foucault (1961, 1963, 1966) postulated a conceptual and

analytical approach he designated as "*l'archéologie du savoir*" [the archeology of knowledge] (Foucault, 1969). Within this reference, arrays of thought (epistemes or rationalities) organize human knowledge based on normativities through rules of logic and language structures, which either unconsciously or as *habitus* govern individual behavior and social practices as a system of positivities that define boundaries and configure discursive formations within a certain time and place (Foucault, 1969).

This "archeology of discursive formations" soon evolved into a "genealogy" of knowledge and related biopolitics (Foucault, 2004). By promoting dissent within his own original archaeological project, and then proceeding toward a sort of philosophical history of Western cultural and political practices by unveiling hidden lineages of ideas, Foucault to a certain extent disowned himself.[3] To deal with this move so typical of Parisian contemporary intellectuals, I propose in this essay to designate as neo-Foucauldian archeogenealogy any effort or movement toward recovering, or eventually renewing, the archaeological perspective as a relevant methodological tool for critical histories of ideas, mentalities, institutions, sciences, knowledge/power relations, particularly regarding education models and modes of practice.

At the conceptual level, according to Luca Paltrinieri (2012, p. 273), Foucault's archéo-généalogie attempted to connect a social, political, and cultural history of ruptures and absences to a historical epistemology based on discontinuities, following the path blazed by Canguilhem (1966/2009).[4] At the methodological level, in line with Carlo Ginzburg's *paradigma indiziario*,[5] Foucault proposed the concept of "archive" as a textual *corpus*, a set of discourses manifested as historical data, narratives, documents, and other records, to be treated as devices to organize discursive operations for the construction of social representations and production of social practices within a given culture or time. From this frame of reference, let us consider four points as composing an analytical matrix: (a) *ruptures*: critical moments and points in space and time that indicate historical discontinuities; (b) *latencies*: origins, fossils, myths, absences, and especially persistent shortcomings; (c) *details*: prospecting of clues, signs, and traces, including hidden or camouflaged signals; (d) *icons*: characters or events (individual or collective) which represent or are significant for a certain time or historical process, without reducing historical analysis to the study of persons, facts, accomplishments, and dates.

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[3] Sergio Paulo Rouanet, perhaps the most eminent analyst of Foucauldian philosophy in Brazil, pioneeringly proposed to condense this evolving approach under the term "archaeogenealogy" (Rouanet, 1987, p. 220). Spanish social theorist Francisco Vázquez-Garcia, who first pointed out an "*ambivalencia arqueológico-genealógica*" in Foucault's attempt to reconcile the Histoire des Annales with French historical epistemology (Vázquez-Garcia, 1987), recently presented systematically and justified theoretically the notion of archaeogenealogy (Vázquez-Garcia, 2021).

[4] Illustrative of such a perspective is the thorough methodological account of Foucauldian historical sociology taken by Mitchell Dean (1994).

[5] The expression *paradigma indiziario* has been translated into English as "evidential paradigm" (Ginzburg, 1989).

With the proper adjustments (considering the limits and restricted objectives of this text), I propose to use this approach as a framework for a social history of medical education marked and oriented by discontinuities. Focusing on health issues, this perspective allows the identification of three ruptures in the matrices of medical knowledge and care practices in Western culture: Hippocratic naturalism, which was incorporated into Aristotelian thought and reclaimed by Arab medicine in the tenth century; Enlightenment rationalism, which was advocated by modern reformers at the turn of the nineteenth century; and applied technical and scientific pragmatism, in the early twentieth century. Linked to models of education and health care, these ruptures correspond to remarkable historical personalities who could be, in totally different ways, considered as iconic for Western medical education: Avicenna, Cabanis, and Flexner, respectively.

In this essay, I intend to explore Cabanis's key role as one of the forefathers of modern medical education. In another text (Almeida-Filho, 2010), I have analyzed the Flexner rupture, particularly its resonance within the social and political discourse on health in the Brazilian context, with imaginary and nearly mythological outcomes. Analysis of the Avicennian rupture in medieval times is clearly beyond the limits of my expertise;[6] moreover, except as discursiveness and symbology, little of this rupture has been retained in the contemporary context of health care and medical education.

Regarding the critical moment of onset or transition from the Enlightenment into modernity, Cabanis's initiatives to redesign and adjust the medical teaching system to the new social demands went far beyond the health field. In the context of a colloquium on education in the era of the *Lumières* [Enlightenment], medical historian Alain Larcan (2005) in passing suggested naming the renewal of health care institutions and medical teaching that occurred in post-revolutionary France as Cabanis Reform. Elsewhere (Almeida-Filho, 2018), I have proposed to expand this notion of Cabanis Reform to France's general education and university reforms, as its principles were afterwards incorporated into the institutional foundations of the system of *instruction publique* [public education] implemented in different European countries during the nineteenth century.

In the model of higher education eventually established in France after the abolition of universities by the Revolution of 1789, the "empire of the faculties" remained strong for more than a century, particularly regarding the so-called superior faculties (medicine and law) and the polytechnic schools which trained for careers considered as "imperial professions." Within this context, universities were merely nominal, limited to political mediation and representing a group of faculties with their own political power and administrative and academic autonomy to the state. Despite its limitations and problems, this sort of higher-education-without-universities spread across France's area of cultural influence during the entire nineteenth and the first decades of the twentieth century, particularly in the Latinate

[6] The interested reader may consult Zahabi (2019).

European Catholic countries and in their former colonies such as Colombia, Mexico, Argentina, and Brazil.

Along these lines, I formulated a preliminary hypothesis regarding the roots of the higher education system of contemporary Brazil (Almeida-Filho, 2017, p. 13):

> Brazilian higher education displays curious archeological signs, since it hegemonically preserves the institutional arrangements of faculties and cultivates the nominal concept of university, with students directly entering professional degree courses founded on curricular structures that tend to be fixed, organized by blocks of content called disciplines or subjects, which in turn are within the institutional and political-pedagogical model established during the Cabanis reform.

In this essay, I intend to present a more detailed assessment of this hypothesis, analyzing the direct and indirect effects of the Cabanis Reform in configuring the higher education model which became hegemonic in Latin-American countries, as illustrated by the case of Brazil. In the first part, I briefly discuss the social, ideological, and institutional framework that, simultaneously, restructured the national education system, the health care model, and the new imperial higher education program in post-revolutionary France. With this aim, I present a summary of biography and oeuvre of Georges Cabanis, with a focus on his forgotten role as a successful reformer of educational systems. Secondly, I discuss the main points of the new organization of the health system and medical education, led by Cabanis and colleagues, highlighting conceptual dimensions, especially in relation to its potential articulation with the education system in general. Third, I outline curricular and pedagogical aspects of the medical education model based on professionalism, disciplines, and specialization that resulted in a system of higher education without universities. Historical events related to the reorganization of the French education system, in the context of social reforms that began in the Consulate regime, consolidated in the Empire, and were maintained in the Restoration, are described.

In two core chapters, I report, respectively, the encounter (which really happened) of Wilhelm von Humboldt with Cabanis and colleagues, and the first presentation (which also really occurred) of Napoleon Bonaparte's bill for education reform to the *Tribunat*,[7] made by Antoine de Fourcroy (perhaps—we can speculate—under the eyes of Cabanis). In between these chapters, I discuss the history and structures of the model which resulted from such reforms, emphasizing the idea of the Imperial University, promoted by the Emperor Napoleon Bonaparte himself as the management center for the entire education system. In this connection, I refer to the republican higher education reform approved in the 1890s when universities were reincorporated into the French education system as an instance of

[7] The *Tribunat* was established by the Constitution of the 22 Frimaire, An VIII, as part of the *Corps législatif*. It was composed of 100 tribunes nominated by the Sénat for five-year terms, out of a list of 5,000 names, chosen by 50,000 voters, elected by 500,000 citizens. Its main function was to debate, in first instance, the bills (*projets de loi*) proposed by the Consulate (Guillois, 1894, p. 155).

institutional representation and symbolic coordination of faculties, schools, and academies that held political, administrative, and academic autonomy.

These chapters are not intended to be a thorough account of Cabanis's contributions based on primary data, nor a systematic, detailed historiographic assessment of such rich and stormy times. Rather, they are just a brief presentation of the main structural elements and conditions needed to contextualize the Cabanis Reform, setting the stage for the topic of this essay, namely the origin of the current pattern of professional training based on faculties, hospitals, lectures, disciplines, specialties, and diplomas, still residual in some post-colonial Latin-American countries. Subsequently, in the final part of this book, I explore the sequence of events and processes that (throughout the nineteenth and the first half of the twentieth centuries) promoted the "Francization" of the educational systems of Brazil, particularly in higher education and, more specifically, medical training.

The main source for the core argument of the present essay is Cabanis's book titled *Coup d'oeil sur les revolutions et réforme de la médecine* [A glance at revolutions and medical reform],[8] which I propose to consider as the "briefing" of the Cabanis Reform. Published in 1804, this little volume reached broad attention and was immediately translated into English by the Scotish physician Alexander Henderson.[9] Despite flagrant deviations from the original in French, in several instances even changing meanings and the line of reasoning, Henderson's translation is surely representative of that historical ambience. For this reason, I have used it as the primary source for all quotes from *Coup d'oeil* in the present essay, pointing out those that are inaccurate.

From the Trash Can of Official History

At this point, I should add an explanation or, perhaps, a personal justification for a potentially problematic, perhaps perplexing, question. How come a Brazilian scholar, not specialized in history or in education, a physician untrained in the methods of historiography, from a university located in a peripheral country of the southern hemisphere, dares to say something about an important intellectual leader from one of the most influential cultural centers of Europe in his time?

The obvious answer could be that the story I am about to tell, for reasons that hopefully the reading ahead can help to clarify, has been forgotten in the scholarly literature on history of education. So, the personal initiative of writing this essay would merely help solve a trivial puzzle, by filling up some gaps in knowledge about a particular historical issue that is seldom explored. Of course, this is not my motivation, as there are other answers, though they are more political in nature.

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[8] Nuances and controversies regarding the title of that book are discussed in chapter 5.

[9] Digital versions of the first edition of this publication are available in several sites on the internet. I recommend especially the one in https://wellcomecollection.org/works/wwwkj3va/items?canvas=11

Typically, scholars from the politically dominant northern countries are those who are supposed to come down to dig into our past and write (or tell) our history. Let me illustrate this point with two examples related to our topic.

One: historian Nancy Stepan (1991) described a certain "Latin eugenics" in post-colonial Latin American countries, hypothesizing that the attachment of Brazilian intellectuals to French culture and science aligned the eugenics movement in Brazil with the neo-Lamarckian French medical tradition. Fifteen years before the publication of Stepan's work, Jurandir Freire-Costa (1976), a psychoanalyst and psychiatrist based in Rio de Janeiro, had already analyzed this topic in depth, showing how the eugenics movement in Brazil, led by physicians and lawyers, was indeed inspired by European proto-Nazi and Northern supremacist racial degeneration doctrines (Freire-Costa 1976). Nevertheless, the publisher's presentation of Stepan's *The Hour of Eugenics: Race, Gender, and Nation in Latin America* emphasizes the precedence of the Northern historian:

> Examining *for the first time* [emphasis added] how eugenics was taken up by scientists and social reformers in Latin America, Nancy Leys Stepan compares the eugenics movements in Mexico, Brazil, and Argentina with the more familiar cases of Britain, the United States, and Germany.

Two: In late 1990, North American scholars reported that, back in the mid-nineteenth century, there was in Salvador, Bahia—my hometown—a pioneering biomedical research group called *Escola Tropicalista da Bahia*, led by expatriate European medical scientists who operated outside the local traditional faculty of medicine. This "discovery" was duly registered in a 1990 doctoral dissertation in the U.S. that became a book titled *Race, Place, and Medicine: The Idea of the Tropics in Nineteenth-Century Brazilian Medicine* (Peard, 1999). The existence of such an early, unexpected modern scientific enterprise in a peripheral post-colonial society is no discovery at all. There is actually an enormous amount of scholarly work about this pioneering medical research initiative, thanks to the school of social history of health at the Casa de Oswaldo Cruz, in Rio de Janeiro, as well as to other research groups active in São Paulo and in Bahia.[10]

"Discoveries" such as the Latin eugenics or the Escola Tropicalista have less to do with the actual historical existence of obscure sociopolitical movements in distant southern-hemisphere countries, or whether a pioneering enterprise such as the tropicalista research school truly existed or not; rather, they must be analyzed in regard to the set of strategies adopted by the international scientific establishment to validate and legitimate the processes of production of scientific truth. By occupying and controlling spaces of legitimacy (science conferences, peer-reviewed scholarly journals, academic presses, disciplinary networks,

[10] See mainly: Nava (1948), Coni (1952), Santos Filho (1980), Schwartz (1993), Edler (2002), Jacobina (2008), Edler (2009), Moraes (2013), Malaquias (2016).

and the like), researchers and scholars from the North[11] thus build up the hegemony of their institutions and networks.

One fair way to counteract this state of affairs is to perform for ourselves the digging-discovery-analysis-writing of our own history. Thereon, academic communities of hegemonic institutions, based in dominant countries, would be in some way challenged in their monopoly of production of face-value legitimacy for knowledge and accepted narratives.

But why not go beyond defiance, by doing more, taking the opposite way, to reverse this trend? Why, whenever possible, not try to write "their" history? What is there to lose?

This possibility implies overcoming prejudices, boundaries, barriers, and obstacles, to start exploring the explorers, researching the researchers, writing the history of the historians. This is a move towards competing for the locus of speech, to ask our own questions about topics that interest us (which, for several not so obvious reasons, have been neglected in the established research agenda of our supposedly dominant masters). Going farther and deeper, the question may be: what is the meaning of such a reversal and how to do it?

In this context, my initiative of bringing Cabanis-the-educator to the forefront may be understood as an effort to recycle neglected residuals from the garbage (or perhaps, the leftovers) of mainstream academic inquiry in northern-hemisphere institutions (self-appointed as "world-class universities"). This endeavor can be justified by the interpretation that, as an outdated, delayed inheritance of modernity in the shaping of post-colonial societies, Cabanis's legacy and influence have been more fundamental (although not duly acknowledged) to the systems of higher education implanted in the global South—particularly in Latin America—than they were and are for the network of research universities of the global North. As the reader will soon see in this brief, humble account, such an effort has been possible because the trash can of the official social history of education is full, topped with legends and myths, secret histories, lost memories, and forgotten characters, left in quiet oblivion.

[11] There, experts on Brazil have been called *brazilianists*.

Figure 2. Pierre-Jean-Georges Cabanis, stipple engraving by Ambroise Tardieu (c. 1790). Provenance: Wellcome Library Collection. (Work in the public domain). https://catalogue.wellcomelibrary.org/record=b1164347

Chapter 1

P. J. G. Cabanis: Physician, Revolutionary, Idéologue

Pierre-Jean-Georges Cabanis (1757-1808) was born on June 5th, 1757, in Cosnac, currently part of the Nouvelle-Aquitaine region, south central France. He was the fifth child of Marie-Hélene de Souleyrac and Jean Baptiste Cabanis. His father was a lawyer and a magistrate employed by the French Crown, as well as an amateur astronomer and a dilettante biologist. After marrying Marie-Hélene, an heiress of the provincial nobility, Jean Baptiste became a prosperous farmer and an expert in agronomy and rural business. When Marie-Hélene died, the seven-year-old Cabanis child began his instruction at the local parish. At age ten, he was admitted to the *petit collége doctrinaire* at Brive. After four years there, he was expelled due to indiscipline. His father then sent him in 1771 to continue his studies in Paris, carrying a recommendation for Anne-Robert Jacques Turgot (1727-1781), future minister of Louis XVI.

I invite the reader for a thought experiment, to be immersed in the life of Cabanis via the broad glance hopefully provided by this chapter.[12] As though you, the reader, were present, please picture the following: Paris, circa 1770, the political, intellectual, and cultural core of a dying aristocracy. There we find Georges Cabanis, a smart, restless teenager, who had never crossed the limits of his province, now arriving at a feverish metropolis, the world center of the Lumières.

[12] This brief biographical note compiles information from selected texts on Cabanis's life and work, based on documented sources, written by representatives of various historiographical schools (Picavet, 1891; Guillois, 1894/1971; Staum, 1980; Role & Boulet, 1994; Mrozovski, 2013; Pouliquen, 2013; Saad, 2016).

Under the mentorship of poet Jean-Antoine Roucher, the young Cabanis completes his studies of the classics, developing a love of literature and proving to be a dedicated and brilliant student, specially gifted with foreign languages. In 1773, he is hired as a secretary for the visiting Prince Bishop of Vilnius, Ignacy Massalski, who invites him back to Warsaw. In the following years while working for the bishop, Cabanis travels to several Eastern European countries and becomes fluent in German and Polish.

Back to Paris in 1775, he resumes his study of Greek and translates a portion of Homer's Iliad for a contest held by the *Académie Française* (which he unfortunately does not win). Despite the merits of his literary endeavors, the young Cabanis considers himself a failure. Melancholic, restless, and curious, he turns to the study of philosophy and broadens his horizon of interests to include the field of natural sciences. Due to his intelligence, levelheadedness, and good looks, he becomes an esteemed figure in the *salons* of Paris.[13] As an enthusiastic and frequent participant of the famous soirees promoted by the beautiful and rich widow of the philosopher Claude-Adrien Helvétius, he mingles with great names of the French Enlightenment.[14]

When Anne-Catherine Helvétius met Cabanis—who was brought to her salon by Turgot and Roucher—in 1778, she was so impressed with the young student that she invited him to

Figure 3. Portrait of Madame Helvétius (Anne-Catherine de Ligniville), by Louis-Michel van Loo (circa 1770). Provenance: Pictures in the Collection of J. Pierpont Morgan at Princes Gate & Dover House. (Work in the public domain). https://en.wikipedia.org/wiki/Anne-Catherine_de_Ligniville,_Madame_Helv%C3%A9tius#/media/File:AnneCatherineHelvetius2.jpg

[13] Under the leadership of highly educated and brilliant women of the nobility, the *salonnières*, the Parisian *salons* were fundamental for the scientific development and cultural hegemony of France during the eighteenth and nineteenth centuries. See mainly Lilti (2005) and Kale (2006).

[14] For those particularly interested in Cabanis's intellectual education, there is Antoine Guillois's *Le Salon de Madame Helvétius* (1894/1971).

reside in the Auteuil mansion. And so Cabanis befriended personalities who would influence his subsequent life: people such as lawyer and educator Dominique Joseph Garat (1749–1833), who later became one of the foremost political leaders of the French Revolution; brilliant mathematician turned public-administrator-cum-philosopher Nicolas de Caritat, the Marquis de Condorcet (1743-1794); and American writer and politician Benjamin Franklin (1706–1790) who, in 1779, conducted the young Cabanis into the masonic house *La Loge des Neuf Soeurs* (Weisberger, 1993, p. 90).

Pressured by his father to seek a professional career that was safer and more profitable than that of a poet, essayist, or grammarian, Cabanis consults Léon Dubreuil (1743-1785), an old family friend who was a physiologist and clinical physician. Following the advice, Cabanis begins his medical studies in 1778, having Dubreuil as his mentor and sponsor. While in Paris, Cabanis stays in Dubreuil's home and accompanies his house calls and rounds at the *Hôpital de la Charité*. In 1780, Cabanis is finally accepted by the rigorous Paris Faculty of Medicine and attends classes taught by Le Roux, Langlois, Solier, and Bosquillon, among other illustrious teaching physicians. Three years later, he interrupts his studies to follow, though briefly, Franz Anton Mesmer (1734-1815), a Viennese physician who established in Paris an extremely lucrative clinic for nervous disorders based on "animal magnetism," fostered by his charismatic personality and by the support of the highest nobility of France.[15] Following the death of Dubreuil and the discrediting of Mesmer, Cabanis abandons the Paris Faculty of Medicine and decides to continue his studies at the Faculty of Reims. He graduates with honors in 1784 with a doctoral thesis titled *An Quinque Medicinae Partes Medico Necessariae?* [Which Five Medicines are Essential for the Physician's Performance?]

Between 1785 and 1788, upon opening a free clinic for the poor in Auteuil, in the suburbs of Paris where Madame Helvetius had her family property, he dedicates himself to philosophical and scientific studies (mainly in the nascent domain of human physiology). At that time, he studies thouroughly the sensualist philosophy of Ètienne Bonnot, Abbot of Condillac (1714-1780). In 1788, Cabanis writes his first work in the field of clinical semiology, a booklet titled *Du Degré de Certitude de la Médecin* [On the Degree of Certainty of Medicine] (which would only be published ten years later, in 1798), wherein he explores the frontier between medicine and philosophy, and criticizes the undue employment of mathematics and its incipient probabilistic theory for the process of differential diagnosis.

A keen revolutionary, Cabanis warmly embraces the principles of the French Revolution, participating in the conspiracies and movements that brought down the *Ancien Régime*. Soon after the storming of the Bastille, he meets Honoré-Gabriel Riqueti, Comte de

[15] Given the intensifying controversy regarding Mesmerism, King Louis XVI (1754–1793) established a Joint Commission of the Royal Academy of Sciences and the Faculty of Medicine to evaluate Mesmer's methods and results. The Commission's report was devastating, and discarded any scientific support to the idea of animal magnetism. The Faculty of Medicine acted swiftly to repress any professional practice by Mesmer and his followers, even expelling any partisan members. On this topic, see mainly Darnton (1968) and Lanska and Lanska (2007).

Mirabeau (1749-1791), with whom he shared firm republican convictions. On several occasions in 1790, as a member of Mirabeau's *Atelier*—the debate circle and intellectual workshop where talented disciples and political partners came together to advise the count in his activities as tribune and deputy—Cabanis collaborates and even writes many speeches that Mirabeau would present at the National Assembly, helping the latter become one of the greatest orators and political leaders of the French Revolution. Unfortunately, Mirabeau suffered from a severe heart condition, which prematurely took his life in 1791. As his personal doctor and close friend, Cabanis stays by his side until the end. Following Mirabeau's death, Cabanis organizes, revises, and rewrites his friend's notes and speeches on public education, which he collects and publishes as *Travail sur l'Éducation publique, trouvé dans les papier de Mirabeau l'ainé* [Work on Public Education, found in the papers of Mirabeau the elder], giving ambiguous authorship credits to the late great tribune.

Between 1790 and 1792, Georges Cabanis joins the Hospital Comission, presided by Michel-Augustin Thouret (1749-1810), and becomes the chief administrator of the hospitals of Paris, fully supporting the reform proposed and conducted by his friend and social psychiatry precursor Philippe Pinel (1745-1826). Stemming from this experience of working in such important appointments, in collaboration with Pinel, he writes the essay-rapport *Observations sur les hôpitaux* [Observations on the hospitals]. Cabanis then departs from his interest in the themes of hospital reform, regulation of the medical profession, and clinical theory, moving toward health practice models and medical teaching reform. Convinced by Felix Vicq D'Azyr (1748-1794), a prestigious professor of anatomy and veterinarian who was the former royal surgeon, he initially endorses the medical education reform proposed by his fellow free mason Antoine-François, Comte de Fourcroy (1755-1809)—a physician, pharmacist, pioneer of entomology and of chemical nomenclature, *protégé* and intellectual heir of Vicq d'Azyr. However, he is reluctant in doing that, because of his disagreement with the centrality entrusted upon the teaching of pharmaco-chemistry as a basic science in the new curriculum. Cabanis also shows skepticism regarding the creation of the *écoles de santé* [schools of health]. Nevertheless, he accepts the appointment as Adjunct Professor of Hygiene at the first school of health in Paris, alongside Pinel, Fourcroy, Thouret, Desgenettes, and other famous physicians of that milieu.

In 1791, Cabanis is elected municipal officer of the Auteuil commune, which he had embraced as his hometown. At the request of Garat (who was named Minister of Justice at the start of the Convention, the governing body of France right after the Revolution), he writes a series of reports on education (then named "public instruction") and social welfare, which would greatly influence the institutional restructuring put forth in the early stages of the Revolution. Notes for these reports were useful for the writing of Cabanis's political essays *Quelques considérations sur l'organisation sociale* [Some considerations on social organization] (published later in 1799) and *Quelques Principes et quelques vues sur les secours publics* [Some Principles and views on public aid] (published in 1803). In these texts, Cabanis ponders that the unfair distribution of wealth, an inheritance from the Ancien Régime, was one of the major political issues that needed to be addressed by the Revolution. He also proposes strategies to reduce social inequalities, in which the state must

establish comprehensive societal and institutional organizations to implement public policies in favor of the poor.

During that period, Cabanis develops an intense political partnership with both Condorcet—with whom he developed a project for reforming the public education system of France[16]—and military officer, educator, and philosopher Antoine-Louis-Claude Destutt, Comte de Tracy (1754-1836)—with whom he organized and led the intellectual movement known as l'Idéologie. A supporter of the protests against the death penalty, Cabanis takes part in several heated debates in opposition to the guillotine, referring to his own studies on psychic life and the brain's physiological function.

The bonds of friendship and intellectual partnership between Condorcet and Cabanis run deep. In 1793, at the height of the Terror brought on by the Convention, Cabanis assists in hiding the Marquis de Condorcet in the outskirts of Paris, under the fake identity of Pierre Simon, while sheltering his friend's entire family in Auteuil, protected from the ongoing persecutions and contributing to the swift notary registration of a fake divorce to save Condorcet's family properties from confiscation. Condorcet's biographers agree that, after being captured by the popular militia, he committed suicide by ingesting a poison supplied by Cabanis, the infamous *le pain des frères* [the brothers' bread]. Three years later, Cabanis marries Charlotte-Felicité de Grouchy, Condorcet's youngest sister-in-law.

Figure 4. Portrait of Madame Cabanis (Charlotte-Félicité de Grouchy), by Anne-Louis Girodet de Roussy-Trioson (1804). Provenance: Smith College Museum of Art (United States). (Work in the public domain.) https://fr.wahooart.com/@@/AQR2GN-Anne-Louis-Girodet-De-Roussy-Trioson-Madame-Cabanis-(-charlotte-f%C3%A9licit%C3%A9-grouchy-)

Throughout the turbulent Reign of Terror, Cabanis suffers greatly with the imprisonment of many close friends, culminating with the execution of Lavoisier and the poet Roucher (the mentor from his youth), the suicide of Condorcet, and the mysterious death of Vicq d'Azyr. Depressed, sickly, and considered suspicious by the fearsome *Comité de salut publique* [Committee of public safety] Georges Cabanis retreats to Madame Helvétius's manoir,

[16] Summarized in Condorcet's *Cinq Mémoires sur l'Instruction Publique*, a 1791 text endorsed and published by the Comité d'instruction publique. This text is analyzed in more detail ahead, in chapter 2.

where he resumes his philanthropic work as a physician for the poor and the helpless of Auteuil (which shields him from being persecuted by the popular militia).

In mid-1794, after the death of Robespierre, when the Terror finally began to subside during the Thermidor regime, Cabanis returns to intense political activity. His first endeavor is the reopening of Madame Helvétius's salon, now hosting the second incarnation of the *Cercle d'Auteuil*. Their focus has shifted from the *belles-lettres* to the urgent political and philosophical debates that so enthused the Idéologues, who were engaged in the construction of a new society governed by revolutionary principles of liberty, equality, and fraternity. The core members of what Picavet (1891), named the "second generation of ideologues," were extraordinary characters of great presence in the European scene around the turn of the century: Pierre-Simon Laplace (1749-1827), celebrated mathematician, astronomer, and physicist; Jean-Baptiste Say (1767-1832), a pioneer of the economic sciences; Constantin-François de Volney (1757-1820), orientalist historian, who introduced Napoleon Bonaparte to the group; Pierre-Claude François Daunou (1761-1840), educator and precursor of political science; besides Garat, Pinel, Bichat, and others, all under the leadership of Destutt de Tracy and Cabanis himself.

In this intelectual context, Cabanis and Destutt de Tracy are, no doubt, brilliant intellectuals as well as skillful political strategists. Working almost in tandem, they combine lectures, speeches, and public appearances, share publication strategies, and organize institutional interventions, aiming at the thinking of other intellectuals and the action of political movements to influence government policies (Pouliquen, 2013).

In 1795, Cabanis is elected to the *Institut national de France* in the class of Moral and Political Sciences.[17] Once again by request of Garat—who now holds the influential position of Commissioner of Public Instruction, the foremost office tending to education at the time—Cabanis writes up a collection of observations pertaining to the ideal functioning of a medical school, titled *Considérations genérales sur les révolutions de l'art de guérir* [General considerations on revolutions in the art of healing]. In this draft, discussed during two sessions at the Institute in 1796, Cabanis reclaims some of the propositions laid forth by Vic d'Azyr regarding the organization of medical teaching, further enriching them with better-defined methodological and epistemological bases, and with greater political viability.

After the reopening of the faculties in 1797, Georges Cabanis is named adjunct professor of the Paris Faculty of Medicine, where he implements a new model of clinical teaching. As an assistant to Jean-Nicolas Corvisart (1755-1821) and dedicated follower of the precepts of natural semiology, Cabanis defends the thorough examination of the patient, always

[17] The *Institut national de France* (today's Institut de France) was an official organization for the advancement of science and education, created by the Revolution to replace the old "aristocratic academies" that had been extinguished by the National Assembly. Ironically, the academies were gradually restored from within the *Institut* through the recognition of its various classes thanks to the active political effort of Cabanis and his fellows.

following a systematic and methodical approach toward signs and symptoms, while observing the nosological correlation firsthand at the bedside.

In 1798, thanks to his dedicated work as a physician, treating gratis the poor and indigent of Auteuil and its surroundings, Georges Cabanis is elected representative to the people of the Seine Department for the *Conseil des Cinq-cents*.[18] During his tribuneship, he proposes a medical reform that articulates, in both practice and education model, some ideas from the Vicq d'Azyr's plan with curricular elements from Fourcroy's project. He dismembers the proposal in successive *rapports* [reports] that were submitted to the Council throughout 1798 (January 2nd, February 24th, March 15th, and September 26th). The most important of these documents is undoubtedly a Report and Draft Resolution subtitled *Sur un mode provisoire de police médicale* [On a provisional mode of medical police], wherein Cabanis proposes a broad set of policies for the reinstitutionalization of medical practice (that is the meaning of the term *police médicale*) during the post-revolutionary era, in sync with curricular guidelines and rules for the attainment of a higher-level degree in the medical profession. At this moment, as a skillful politician with good contacts, Cabanis is omnipresent and remarkably active as a chamber representative, managing to approve—though not without difficulty—most of his agenda.

Back from Egypt in 1799, young general Napoleon Bonaparte (1769-1821) begins taking part in Paris debate salons, frequently attending the Auteuil salon, the main meeting place of the Idéologues. The future Emperor shows willingness to adopt the ideas defended by the Parisian intellectual elite, with greater sympathy toward the moderate proposals of the group of ideologists. Under this agreement, alongside Lucien Bonaparte, Garat, and Sieyès, Cabanis and Destutt de Tracy become early supporters of the political articulations in the Conseil des Cinq-cents to empower Napoleon. Cabanis is the main writer of the manifesto *L'Adresse au peuple français* [Address to the French people], announcing the Coup of 18 Brumaire, which raised Napoleon to Consul. In December 1799, he publishes an opuscule titled *Quelques considérations sur l'organisation sociale et particulièrement sur la nouvelle constitution* [Some considerations on social organization and particularly on the new constitution], advocating a "*dictature sans dictateur*" [dictatorship without dictator] as an opportunity to bring about and to consolidate deep changes in the newborn *Republique Française*.

Proved as a loyal and enthusiastic Bonapartist, Cabanis is summoned to be a member of the *Sénat conservateur* upon its creation. Already a celebrated figure in the Paris academic scene, he is then named chair of history of medicine at the Paris Faculty of Medicine. Unable to fulfill his teaching duties owing to the burden of his political activity, Cabanis donates his salary to the new medical library and to a scholarship program for poor students.

Like many of his fellow Idéologues, Cabanis hoped that the republican principles of the Revolution would be valued and applied in the reconstruction of French society, but he is

[18] The Council of Five Hundred, a lower legislative house at the time of the Directory, tasked with the political and institutional reconstruction following the turbulent years of the Terror.

increasingly disappointed. As early as 1800, Cabanis moves away from Napoleon amid a strong smear campaign against intellectuals, scientists, and artists, personally commanded by the future emperor. A permanent state of war and an atmosphere of exacerbated patriotism dominate French society at the height of the Bonaparte era. Napoleon is elevated to the title of First Consul for Life under the 1802 constitution, which had a flagrant authoritarian bias. The members of the Circle of Auteil become the main target of Bonaparte's strategy of demoralizing opponents, by disqualifying them before the public opinion as abstract, delusional, and irresponsible thinkers. In protest, Cabanis no longer attends the Senate sessions.

At the turn of the century, Anne-Catherine Helvétius passes away and bequeaths to Cabanis her estate. In deep mourning and bittered by the tyranny of the Bonapartist government, he retires from politics and gradually withdraws to the small Château de La Villette, property of his wife's family. Nevertheless, he goes frequently to the Auteuil library pavilion—which had been set up by Madame Helvétius over decades' worth of intellectual friendships—and takes on the task of putting to paper the philosophical, scientific, and pedagogical legacy of his eventful life.

In 1802, Cabanis publishes the *Rapports du physique et du moral de l'homme* [Reports on the physical and the moral of mankind], without a doubt his most elaborate work, consisting of a revised and expanded compilation of memoirs read before the *Classe des Sciences morales et politiques* [Class of moral and political sciences] of the Institut national de France between January 1796 and September 1797. Printed in two volumes, the book is quickly sold out and then reprinted several times, consolidating his prestige as one of the intellectual leaders of post-revolutionary France. The work elicits great controversy for its defense of a materialist philosophy that explicitly negates the existence of the soul. It is a study of the ideological dimension of the human being, in the meaning conceived by the Idéologie, wherein he elaborates a physiological theory on the origin of ideas.[19]

In 1803, following the reconstitution of the academies as sections of the Institut de France, Cabanis is elected to the class of French Language and Literature, occupying seat number 40 of the entity, which later would be renamed Académie Française. Though publicly critical of the Bonaparte dictatorship, he is personally named by Napoleon a Commander of the Legion of Honor. In the same year, Cabanis organizes his writings on the history of health knowledge, medicine reform, and medical teaching as the *Coup d'oeil sur le Révolutions et sur la réforme de la médicine*, but his own ailing health prevents him from concluding the attempted revision and expansion. Compelled by Garat, Tracy, and other colleagues, he authorizes its publication as a sort of intellectual testament.

[19] The expression "relationships between the physical and the moral," in the lexicon of that time, could be equated to the contemporary social theory notions of "social-biological interface" or of "nature-culture dialectics," where *physical* refers to the physiological organization of humans, and *moral* corresponds to the sociopolitical plan (Williams 1994).

In 1805, Cabanis's already feeble condition takes a turn for the worse, and his mobility is sharply reduced. Depressed and isolated, unable to leave his refuge, he registers his swan song: a letter regarding philosophical topics of stoicism and the physiology of suffering, which would be published only in 1824 as: *Lettre (posthume et inédite) de Cabanis à M. F. sur les causes premières* [Letter (posthumous and unpublished) from Cabanis to M. F. on the primary causes]. The letter is addressed to historian and philologist Claude Charles Fauriel (1772-1844), Sophie Condorcet's lover, a young disciple of Cabanis who became a very close friend and loyal companion in his last days.

Georges Cabanis perishes on May 5th, 1808, victim to a series of cerebrovascular accidents. Eight days after his death, his mortal remains are moved to the Panthéon in Paris, where his lifelong friend Dominique-Joseph Garat—surrounded by delegations from the Senate, the Institut national de France, the Paris Faculty of Medicine, and the community of Auteuil—delivers the funeral eulogy. Among the numerous official posthumous honors, the emperor Napoleon bestows upon Cabanis the title of Count of the Empire on May 23rd, 1808.

Chapter 2

On Education Reform

In the early moments of the French Revolution of 1789, two actions redefined the direction for education in the new regime: the end of religious monopoly over teaching, and the abrupt suppression of universities and academies. In the Ancien Régime, monarchy was an assumption of the divine right, clergy was the first of the estates represented in the *Estates General*,[20] the scholastic institution was fully under the tutelage of the Catholic Church, and religion declared itself the ultimate purpose of education (Verneuil, 2013). Therefore, it came as no surprise that one of the first political aims of the popular rebellion was the expropriation of the enormous possessions and power held by the clergy, with their influence over the educational system as a central target.

Higher education was provided by a few centralized universities, with faculties and academies populated by the intellectual elite, controlled by the clerical states, and directly run by royal powers. The university thus came under heavy criticism owing to its anachronistic scholastic tradition and its indifference (even reaction) to the advancement of modern sciences (Weisz, 1983, p. 18).

Regarding the motivations behind the dissolution of academies and universities in the early moments of the French Revolution, Louis Liard (1894, III) remarked:[21]

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[20] The *Estates General* was the assembly of the legal classes forming the social structure of France under the Bourbons. The first estate was the clergy, the second the nobility, and the third the commoners (Hampson, 1988).

[21] For this and for the other citations of texts from non-English languages, a free translation has been provided, preserving the original in footnotes.

> In place of the universities of the old regime—killed off by their constitution, by their abuses, by their hostility against eighteenth century philosophy—the Revolution, born precisely from this philosophy, wanted to have institutions for the teaching and the culture of sciences that were conceived and organized after the very model of science and the sciences.[22]

Immediately after the Revolution, there was intense debate at the National Assembly over education and associated issues, but little was accomplished to overcome the institutional chaos brought on by the sudden removal of the main pillars of France's education system of the 1700's (Barnard, 1969). Reports were considered, propositions were evaluated, and minor changes were executed, but the social turbulence and the political conflicts hampered agreements and prevented the consensus that would have been necessary in order to pass general plans of reformation for the French education system.

Among its first deliberations—after taking away the clerical prerogative over education governance and shutting down corporations, academies, and universities—the National Assembly made a radical decision based on clear educational policy guidelines. Instead of institutions that promoted doctrinal philosophical thinking, abstract knowledge, and erudite culture, all in the service of a dilettante and alienated aristocracy, the nascent Republic needed an efficient network of public organizations aimed at the political, technical, and professional education of free citizens.

First of all, from a philosophical standpoint, the political movement on the part of the people's representatives incorporated the notion of social progress borrowed from Enlightenment intellectuals—based upon the scientific knowledge as organized in the idea of *mathesis universalis*, a key philosophical category of the *Éncyclopédie*. Edited by philosopher Denis Diderot (1713-1784) and mathematician and physicist Jean Rond D'Alembert (1717-1783), the *Éncyclopédie* was no doubt the most ambitious intellectual enterprise of its time, the mapping of all scientific and technological progress of the *Lumiéres*. Its full title was *Éncyclopédie*, *ou Dictionnaire raisonné des sciences, des arts et des métiers* [Encyclopedia, or a Systematic Dictionary of the Sciences, Arts, and Crafts]. The first edition of the *Encyclopédie* had 35 volumes, issued between 1751 and 1780, engaging around 200 authors, called *éncyclopédistes*.[23]

Secondly, as a conceptual premise, the movement was founded upon the value of education as a natural common good—uniquely capable of effectively promoting equality and freedom, according to the Rousseauist principles as reformulated by philosopher Claude-Adrien Helvétius (1715-1771). Thirdly, from a political and social point of view, the

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[22] Free translation of: *A la place des universités de l'ancien régime, tuées par leur constitution, par leurs abus, par leur hostilité contre la philosophie de XVIIIe siècle, la Révolution, née précisément de cette philosophie, voulut avoir, pour l'enseignement et pour la culture des sciences, des établissements conçus et organisés d'après le type même de la science et des sciences*.

[23] For a detailed account of this monumental endeavor, see mainly Darnton (1979).

Revolution defined education as "public instruction"; that is, a right that should be guaranteed by the state to all citizens of the Republic, equally.

Figure 5. Portrait of Honoré-Gabriel Riqueti, Comte de Mirabeau, by Philippe-Auguste Jeanron (1840). Collection Musées de Paris. (Work in the public domain.) https://en.wikipedia.org/wiki/-onor%C3%A9_Gabriel_Riqueti,_-comte_de_Mirabeau # /media/File:Jeanron_Mirabeau.jpg

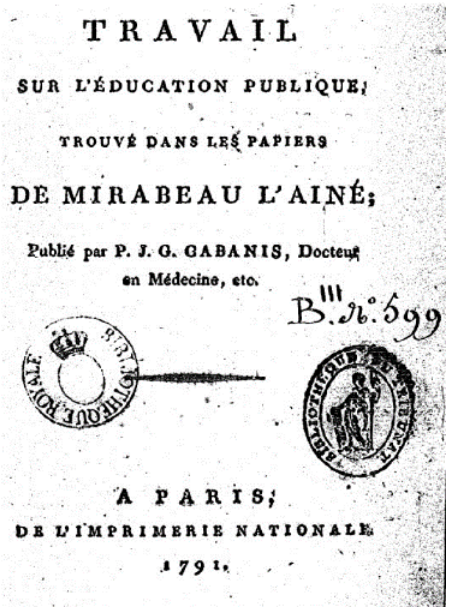
Mirabeau

In 1790, the National Convention named *Comité d'instruction publique*, at first presided by Dominique-Joseph Garat, was tasked with coordinating the restructuring of French education, having the political priority of reducing as much as possible the religious influence on the education of citizens. Garat managed to insert into the French Constitution of 1791 the right for all to have education, with the guarantee of "a public instruction common to all citizens" (*Constitution de la République française, 1791, Title I*). Many aspects of a new configuration for the education system were deserving generalized attention. These included the rights of families, the duties and prerogatives of the state, the economic situation of the nation, the necessities and specificities of higher education, the urgency to form educators, and the conditions of the teaching profession under the new regime.[24]

[24] A remarkable selection of the most relevant proposals, documents and publications related to these reforms has been compiled by Bronislaw Baczko (2000).

The young revolutionary Cabanis was no stranger to these themes, all of which were elementary to the argument in the *Travail sur l'education publique*—a collection of speeches by the Comte de Mirabeau that was organized and published by Cabanis at the height of the Revolution. These four speeches on different aspects of education were found in Mirabeau's home after his death in 1791, according to Cabanis (who in this way hints at his own authorship with subtle ambiguity) (Pouliquen, 2013).

The first speech proposed a total reorganization of the higher education system, featuring colleges and faculties but excluding the universities of the Ancien Régime. The second speech discussed public events, both civil and military, as political pedagogy strategies aimed at the masses. The third speech recommended, though lacking details, the establishment of a public secondary education system as an entirely state-run, nation-wide network with universal access. The fourth speech had an almost allegorical quality, consisting of a speculation over what type of education would be most suited for a hypothetical heir to the crown, one that would allow him to become a wise ruler committed to republican ideals.


TRAVAIL

SUR L'ÉDUCATION PUBLIQUE;

TROUVÉ DANS LES PAPIERS

DE MIRABEAU L'AINÉ;

Publié par P. J. G. CABANIS, Docteur en Médecine, etc.

B.III.n°.599

A PARIS;

DE L'IMPRIMERIE NATIONALE.

1791.

Figure 6. Facsimile front page of Mirabeau-Cabanis's *Travail sur l'éducation publique*. https://gallica.bnf.fr/ark:/12148/bpt6k48974r.image

The basic idea that traverses these texts is that education, as a right of the citizen, must be public and free of charge—therefore it should require the state's full effort in mediating the public nature of education with the demands of the liberal, private initiative. Nevertheless, education must guarantee the maintenance of the new political institutions that were to be

created for the promotion of freedom, explicitly stating that this freedom must be secured even against the monopoly of scientific academies, professional corporations, and teachers' congregations.

For Mariana Saad (2015), there is no doubt that Cabanis himself wrote the texts in *Travail*, taking into consideration his active role as a member of Mirabeau's Atelier. This hypothesis applies especially to the first speech, which proposed a hierarchical model of public instruction and justified a new structure of higher education without universities. The text of this speech includes as an annex a draft for a legislative decree composed of five Titles: *1– Académie; 2 – Collèges et Écoles publiques; 3 – Écoles de médecine; 4 – Théâtre; 5 – Musée, Jardin de botanique, et bibliothèques publiques*. Universities and similar institutions are absent.

In this proposal, thematic academies and scientific societies would be extinguished in favor of a single national institution, the Académie Française. The new institution would feature entirely new official functions, namely the coordination, regulation, and supervision of the scientific, technical, and professional aspects of the fields of knowledge and practice that were listed in the *Éncyclopédie*. Training in all civil and military professions, except for medicine, would be conducted by *collèges* and *écoles spéciales* with full administrative and financial autonomy, though submitted to the epistemological supervision of the Académie. Institutions responsible for the training of military officers and engineers would be folded into the civil engineering schools, forming what was later known as *écoles polytechniques*. Religious study would be restricted to monasteries and convents; there is even suggestion that faculties of theology and of law could be suppressed without damaging the clergy and the magistracy.

In the first speech, proposals related to medical teaching are overrepresented (and somewhat exaggerated), even according to the author himself (Mirabeau, 1791, p. 29): "You shall thus not be surprised, Gentlemen, that medicine occupies a considerable place in my plan for public instruction."[25] In fact, seven of the 35 pages of the written speech are devoted to the art of healing, explicitly mentioning medicine, surgery, and pharmacy. Title III of the draft legislative decree comprises 29 articles on faculties of medicine (four more than Title II, pertaining to all other professions!), culminating with the proposal to open medical schools in every *département* of the French Republic.

Some excerpts from this important document reinforce the hypothesis that it is rather a proposal from the young talented and ambitious doctor than a piece written by the brilliant and charismatic tribune, and allow us, in fairness, to refer to it as the Mirabeau-Cabanis Plan. Cabanis's proposals for the state regulation of medical practice, which will be discussed in more detail in chapter 3, are anticipated in this first fragment (Mirabeau, 1791, p. 29):

[25] Free translation of: *Vous ne serez donc point étonnés, Messieurs, que la médecine occupe une place considérable, dans mon plan d'instruction publique*.

> As for medicine, and all that is pertinent to the art of healing, it is the part of education that is most worthy of the law's supervision, and the part of work whose exercise the magistrate cannot leave to chance.[26]

The second fragment (Mirabeau, 1791, p. 31) is an apt summary of Cabanis's earlier work on the subject-matter of medical practice, published under the title of *Du degré de certitude de la médecine* (with a taste of bitter irony aimed at the shallow-shining doctors of Parisian salons).

> The object of medicine and surgery is the study of the human body, both ill and well. Its objective is to cure disease or to preserve health. All the knowledge required to fulfill this objective can also be obtained through observation, especially at the patient's bedside. There are many natural sciences that seem related to the art of healing, but are not of great utility. Is it reasonable to give them more importance than to those that are essential? We wish to train physicians that are useful, not physicians that shine in the salons or academies.[27]

Finally, the third fragment includes some of the ideas that will be part of Cabanis's several rapports on the reform of medical education, which will be published later in the *Coup d'oeil*, particularly regarding the learning-by-doing method (Mirabeau, 1791, p. 30).

> One learns medicine, surgery, and pharmacy through a series of observations and procedures which one must carry out. On the one hand, the practice—or at least the means through which one obtains the right to practice—must be carefully overseen by the government. On the other, the teaching—for which anyone who shows indifference could be blamed—must be encouraged and facilitated by all means that experience and reason may suggest.[28]

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[26] Free translation of: *Quant à la médecine, et à tout ce qui tient à l'art de guérir, c'est la partie la plus considérable des études que la loi doit surveiller, et des travaux dont le magistrat ne peut abandonner l'exercice au hasard (...). Vous ne serez donc point étonnés, Messieurs, que la médecine occupe une place considérable dans mon plan d'instruction publique*.

[27] Free translation of: *Le sujet de la médecine et de la chirurgie est l'étude du corps humain, sain et malade. Leur but est la guérison de la maladie ou la conservation de la santé. Toutes les connoissances nécessaires pour remplir ce but, s'acquièrent également par l'observation. C'est sur-tout au lit des malades qu'on les puise. Il est plusieurs sciences naturelles qui paroissent liées à l'art de guérir, mais qui n'y sont pas d'une grande utilité. Est-il raisonnable de leur donner plus d'importance qu'à celles qui les constituent essentiellement ? Nous voulons faire des médecins utiles, et non des médecins propres à briller dans les cercles ou sur les bancs*.

[28] Free translation of: *La médecine, la chirurgie, la pharmacie, s'apprennent par une suite d'observations et d'opérations qu'il faut faire soi-même. Si leur pratique, ou du moins les formes par lesquelles on acquiert le droit de s'y livrer, doivent être attentivement surveillées par le pouvoir public ; leur enseignement, pour lequel il seroit coupable de témoigner de l'indifférence, doit être encouragé, facilité par tous les moyens que l 'expérience et la raison suggèrent*.

Figure 7. *Le Marquis de Condorcet.* Engraving by François Bonneville (1796). Provenance: Collection of the Chateau de Versailles. (Work in the public domain.) http://collections.chateauversailles.fr/#e41f2f49-9c51-4903-a1c8-aeca3dc3c3fc

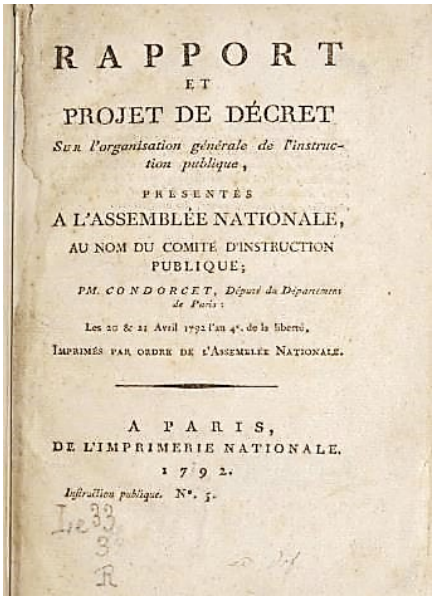
Condorcet

At that point in time, the Marquis de Condorcet, a loyal friend and political partner of Cabanis, was one of the most active members of the Comité d'instruction publique. Making use of his standing as a Deputy elected by the Parisian community, Condorcet presented to the National Assembly a platform of education reform in the Revolution, in three stages. In the first stage, that same year, Condorcet published a series of reports with a political-pedagogical slant, in a volume titled *Cinq mémoires sur l'instruction publique* [Five memoirs about public instruction] (Condorcet, 1791). This text laid much of the groundwork for the public education reforms in post-revolutionary France.

The first memoir had as its theme the very concept of "public instruction," listing philosophical and political reasons for equality in education, firmly defending that all women should receive the same education as men. The second memoir established the common basis of instruction for all children, pertaining to the mastery of the minimum repertoire of knowledge required to continue their education at subsequent levels. The third memoir concerned the kind of education that was needed for political emancipation and for the intellectual development of free citizens, while the fourth memoir discussed education for the professional careers that were essential to the republic. Lastly, the fifth and most philosophical of these memoirs proposed that all scientific knowledge should be interrelated

and that, in order to achieve an egalitarian and liberating public instruction, it would be pertinent to create multidisciplinary institutes for the training of teachers, engineers, and scientists, that took into consideration the advances in applied natural sciences.

In a second move that took place in april 1792, Condorcet presented to the National Assembly a document titled *Rapport et projet de décret sur l'organisation générale de l'instruction publique* [Report and draft decree on the general organization of public education] (Condorcet, 1792). Far more advanced than the education reform plan that had been proposed by Talleyrand[29] in September 1791 and outright rejected, this was an ambitious (and structurally thorough) plan for reorganizing the education system, built on the political principles of the French Revolution. It contemplated levels of education, curricular structure, contents and modalities of instruction, territorial coverage, institutional networks, and the training of the necessary human resources.



RAPPORT
ET
PROJET DE DÉCRET
Sur l'organisation générale de l'instruction publique,
PRÉSENTÉS
A L'ASSEMBLÉE NATIONALE,
AU NOM DU COMITÉ D'INSTRUCTION PUBLIQUE;
PM. CONDORCET, Député du Département de Paris;
Les 20 & 21 Avril 1792 l'an 4e. de la liberté.
IMPRIMÉS PAR ORDRE DE L'ASSEMBLÉE NATIONALE.

A PARIS,
DE L'IMPRIMERIE NATIONALE.
1792.
Instruction publique. N°. 5.

Figure 8. Facsimile front page of Condorcet's *Rapport et projet de décret sur l'organisation générale de l'instruction publique.* https://archive.org/details/rapportetprojetd00cond_0

The proposed model comprised a wide public network, designed to provide free education at all levels, with universal access, under the following hierarchical structure: a) one *école primaire* [elementary school] for every village or neighborhood with up to 1,500 inhabitants; b) one *école sécondaire* [secondary scool] for every village or neighborhood with up to 6,000 inhabitants; c) across the country, 140 *instituts* devoted to basic and applied teaching of mathematical and physical sciences, political and moral sciences, applied sciences, and

[29] Charles Maurice de Talleyrand-Périgord (1754-1838), French clergyman, politician, and diplomat.

literature and the fine arts; d) across the country, nine *lycées* [senior high schools], one for each region, specializing in introductory higher education of the scientific and artistic fields; e) a *société nationale des sciences et arts* [national society of sciences and arts] for the central supervision and coordination of the lycées and instituts.

In the appendix, Condorcet's document included a budget proposal and a feasibility study, in addition to a very meticulous draft of a legislative decree covering the establishment of a common curricular basis all the way up to scholarships and student mobility programs. This impressive degree of detail reveals not an individual proposition but a collective construction, with recognized contributions from Garat, Daunou, and Cabanis, who would figure as members of the future group of the Idéologues. Despite being presented on behalf of the Comité, with wide dissemination sponsored by the Convention and published by the *Imprimerie nationale*, the project was rejected by the Assembly.

The third movement by Condorcet resulted in a short article titled "*Sur la nécessité de l'instruction publique"* [On the need for public education], published in *Les Cahiers patriotiques* in January of 1793. In this last writing dedicated to the issue of public education, Condorcet responds to the attacks of Jean-Paul Marat (1743-1793) and reacts to the rejection of his proposals for educational and constitutional reform. The text defends the urgency of instituting a public instruction that is effectively offered to all children, adolescents, and young adults, regardless of wealth or family origin, to guarantee the legal and political equality proclaimed by the Revolution. It comprises two arguments: the state must guarantee the independence of public education from political power; it is up to scientists and intellectuals to determine the basic knowledge that should be taught. If these conditions are not respected, public education will stray from its liberating mission, and the equality of citizens will become mere rhetoric. It is a vigorous and fearless position paper (Condorcet, 1793, p. 394):

> Complete equality among minds is a chimera; but if public instruction is generalized, extended, if it embraces the universality of knowledge, then this inequality is entirely in favor of the human species, which benefits from the work of men of genius. If, on the contrary, this education is null, weak, misdirected, then inequality only exists in favor of charlatans of all kinds, who seek to deceive men on all their interests.[30]

Persecuted during the Terror, Condorcet wrote his political-philosophical testament for an entire sleepless night during his escape, in an almost feverish impulse, titled *Esquisse d'un tableau historique de progrès de l'esprit humain* [Sketch of a historical picture of the progress of the human mind], leaving the originals in the custody of his faithful friend

[30] Free translation of: *Une égalité entière entre les esprits est une chimère ; mais si l'instruction publique est générale, étendue, si elle embrasse l'universalité des connaissances, alors cette inégalité est toute en faveur de l'espèce humaine qui profite des travaux des hommes de génie. Si au contraire cette instruction est nulle, faible, mal dirigée, alors l'inégalité n'existe plus qu'en faveur des charlatans de tous les genres, qui cherchent à tromper les hommes sur tous leurs intérêts*.

Cabanis. This text ended up as part of an edition of the *Complete Works of Condorcet*, organized by Cabanis with the help of Garat and Barbier and financed by Madame de Condorcet, comprising 21 volumes published in 1804, simultaneously in Paris and Leipzig. Volume IX contained the aforementioned texts on public education.

New Directions

By 1794, with the exhaustion of the Terror's political turmoil, having achieved greater institutional stability, the revolutionary government was finally able to prioritize educational reform. Pierre-Claude François Daunou (1761-1840), an active member of the Comité d'instruction publique, drafted a proposal for an organic law of public education, submitted to the National Convention in October 1795 and subsequently approved.

Partially reclaiming both the Mirabeau-Cabanis proposal and the Condorcet project, this law reinforced the training of schoolteachers as the principal national priority. Therefore, it followed the creation of the *École normal de Paris* in 1794, based on a curriculum that included the "republican moral" and the "public and private virtues," as well as techniques for teaching reading, writing, grammar, arithmetic, practical geometry, and French history.

The first école normal was conceived by Joseph Lakanal and Dominique-Joseph Garat, already intended to be the core of a centralised national education system. The proposal was also a way to reestablish the bonds between the Republic and the bourgeois elites, to some degree overcoming the ruptures provoked by the Reign of Terror. The decree establishing the school, issued on 9 Brumaire, An III (30 October, 1794) states:

> 1st Article: There will be established in Paris an Ecole normale, wherein, from all the parts of the Republic, citizens already educated in the useful sciences shall be called upon to learn, from the best professors in all the disciplines, the art of teaching.[31]

The inaugural lecture was given on 20 January 1795 at the Museum of Natural History. The teachers' training programs covered all the existing sciences and humanities and were taught by prestigious scholars and scientists. With the arrival of the Consulate, the school was closed, but it was refounded by decree by Napoleon Bonaparte in 1808, as part of the *Université imperiale de France*, with a penchant for students from the provinces.

On the other hand, unlike the Condorcet Plan, which had an important contribution of Cabanis, the Committee proposed a centralized model of education that was only partially public. Secondary level *écoles centrales* were to be opened, one for every 300,000 people, and they should include a public library, a botanical garden, and a natural history museum, as well as a set of scientific devices, machines, and models related to arts and trades. The national government established a salary floor for teachers; financing would be the

[31] Free translation of: *Article 1er: Il sera établi à Paris une École normale, où seront appelés, de toutes les parties de la République, des citoyens déjà instruits dans les sciences utiles, pour apprendre, sous les professeurs les plus habiles dans tous les genres, l'art d'enseigner*.

responsibility of the provincial government; schools would be run by a committee formed by teachers that would meet every week.

Despite this reorganization effort, the quality of public education in post-revolutionary France remained precarious and the teaching conditions became increasingly worrisome—the failure of a focal and centralized educational policy was evident. Some of the schools located in major urban centers managed to provide quality education, while in the rest of the country the situation remained chaotic. Elementary schools remained outside the purview of the state, many of them in the hands of religious orders and without teachers trained in the scientific, political, and social guidelines of the Republic (Barnard, 1969).

For a short time, Thermidorian Paris was a sort of cultural and intellectual showcase of the progressive branches of post-Enlightenment arts, science, politics, and philosophy, attracting visitors from neighboring European countries. As far as education is concerned, the most notable example of such political-cultural pilgrimage may have been German philologist, jurist, diplomat, and educator Baron Wilhelm von Humboldt (1767-1835). In his brief first time in Paris in August 1789, a freshman von Humboldt met the famous Mirabeau and, quite likely, some of his assistants at the Atelier, such as Georges Cabanis (Sweet, 1979). During his second visit (1797-1801), Humboldt devoted himself to studying the Condorcet Plan with the assistance of his intellectual friends, including some of the Idéologues, one of which for sure was Cabanis.[32]

Back in Germany, Humboldt would later become chief officer of the division of education and religion of the Ministry of Interior (Sweet, 1979). From this position, he has been celebrated in the history of education as the reformer of the Prussian education system, and the founder of the University of Berlin, paradigm of the modern research university.[33]

Lüth (2007, p. 257) speculates to what extent Humboldt was influenced by his French experience when he later drew up the plan—which he presented in 1809—to introduce a new school model for the kingdom of Prussia. A fascinating question (implying a potentially interesting research line to be explored further) is whether von Humboldt may have appropriated the Mirabeau-Condorcet-Cabanis reform, albeit critically, when he conceived a systemic design for the Prussian education regime, from kindergarten to post-graduate studies.

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[32] According to Christoph Lüth (2007), who analyzed the social networks that Wilhelm von Humboldt established with French intellectuals and politicians during his two stays in Paris.

[33] The key position papers and conceptual documents which are historiographic sources of this process, translated into English, can be found in Part I of the collection *The Rise of the Research University*, edited by Menand, Reitter and Wellmon (2007). A comprehensive and detailed analysis of this process, from a North American perspective, is provided by McClelland (2008). A hypercritical account, considering the notion of the Humboldtian university as a mythical narrative, has been proposed by Sylvia Paletschek (2001) and promoted by contemporary historians (Ash, 2006; Morozov, 2016).

Figure 9. *Portrait of Wilhelm von Humboldt*, by Sir Thomas Lawrence (1828). Provenance: The Royal Collection, Windsor Palace, London, UK. (Work in the public domain.) https://www.rct.uk /collection/404936/charles-william-baron-von-humboldt-1767-1835-0

Chapter 3

A Medical Revolution

As with most European countries in this late phase of the post-Renaissance era, the health care scenario in France exhibited enormous inequality and social segregation (Ramsey, 1988; Brockliss & Jones, 1997). The poor population had access only to health care provided by barber-surgeons and apothecaries, who were usually trained in master-apprentice relationships. These proto-professionals toured countryside fairs performing minor surgeries, reducing fractures, extracting teeth, and dispensing (mostly herbal) medicines.

Health professions were dominated by men, leaving women to act as midwives or to provide clandestine care services to disadvantaged classes, generally to other women, at the risk of being reported for witchcraft (Bromhall, 2004). Meanwhile, large hospitals—managed by religious orders—were places to welcome the dying, lodges for travelers and vagrants, asylums for the insane, and in many cases also served as political prisons, but they barely ever functioned as places of care and healing (Foucault, 1963).[34]

In this context, the nobility was attended by physicians or surgeons, who operated with doubtful effectiveness. As providers of health care to aristocratic families, physicians and surgeons were considered members of the noble courts. Throughout the eighteenth century, their trade underwent a gradual process of expansion, strengthening, and legitimization, becoming a "corporate medical community," which could be defined as "a

[34] In his archaeology of the clinic and the hospital, Michel Foucault seems to have ignored historiographical evidence that clinical practice and hospitals were already changing in many places, even before the French Revolution, especially where teaching and healthcare started to be in some way integrated. The collection of essays *Constructing Paris Medicine*, organized by Hannaway and La Berge (1998) is a good sample of this argument, outlined by Weisz's review *Reconstructing Paris Medicine* (2001). Thus, on this topic, Foucauldian social history goes from construction to reconstruction, and eventually finds some degree of deconstruction (Cooter, 2007).

complex tripartite ensemble of physicians, surgeons, and apothecaries grouped into various legally recognized collectivities" (Brockliss & Jones, 1997, p. 8).

Michel Foucault (1961, 1963) describes in detail the context of medical education in France at the end of the period that he designates as the classical era, i.e. the twilight of the aristocratic order in a country devastated by wars, misgovernment, and famine. According to Weisz (1983, p. 20), medical practitioners of that time were generally trained in one of the 18 schools of medicine or surgery (of which only three were affiliated to universities) that were accredited in the French kingdom. Starting in 1730, military surgeons were accepted into universities and some specialized schools. For this reason, medical historians Temkin (1951) and Gelfand (1981) argue that innovations in surgical education were central for the post-Revolution medical reforms. Chemists, botanists, apothecaries, and veterinary surgeons could complete their studies at *Jardin du Roi*, the leading research institution for applied natural history in Enlightenment-era France.

Foucault (1963) remarks that, in this period, Cabanis prioritized his participation in other political spaces. Rather than the broad debates on the political order or endless discussions on science, religion, and education, he dedicated himself to the successive commissions and agencies involved with the practical affairs of redefinition of health policy, which was first called police médicale, with particular concern to the role of hospitals and the reorganization of the health care system. We can speculate that this happened in parallel with maintaining his interests in the pedagogical and philosophical aspects of medical education, which were evidently articulated with the proposals for education reform at all levels of instruction.

Vicq d'Azyr's Nouveau Plan

In November 1790, Félix Vicq d'Azyr presented to the National Assembly the *Nouveau plan de constitution pour la médecine en France* [New constitution plan for medicine in France] (Vicq d'Azyr, 1790). The plan, a rather moderate set of recommendations for the reorganization of medical practice and teaching, had been approved by the *Société Royale de Médecine*, of which he was founder and secretary for life. The proposal was quickly rejected on the grounds that it originated in an official institution that belonged to the Ancien Régime and was proposed by the private court physician of Queen Marie Antoinette.

In 1776, Félix Vicq d'Azyr had been commissioned by King Louis XVI to control a plague that was decimating herds in the South of France. In his capacity as Chief-Surgeon of the court, Vicq d'Azyr spent two years doing fieldwork—he collected samples, dissected animals, and mapped cases—to methodically study that epizootic phenomenon.[35] Based on this research, he was able to recommend measures that effectively allowed to control

[35] I have, on another occasion (Almeida-Filho, 1986), proposed to consider this episode as a founding event of modern epidemiology and a landmark of its integration with clinical medicine.

the scourge that devastated sheep farming and compromised the already dwindling French textile industry (Vallat, 2007).

Figure 10. *Felix Vicq d'Azyr.* Engraving by Jacques-Germain Souflot (date unknown). (Work in the public domain.) https://pt.wikipedia.org/wiki/F%C3%A9lix_Vicq_d%27Azyr#/media/Ficheiro:Felix_vicq_dazyr.jpg

In one fell swoop, the young and brilliant anatomist, a precursor of epidemiological science, not only demoralized the corporation of physicians who, enclosed in the old medical schools, failed to solve the problem, but also demonstrated that the new scientific knowledge could be very helpful for the economy of a nation that was about to enter the first industrial age. With this accomplishment under his belt, he convinced the authorities to create the *Societé Royale de Médecine*—and with it a nationwide network of data collection and epidemiological surveillance for controlling epidemics and detecting health problems, not just in animals, but also in human beings (Pouliquen, 2013).

As much a capable professional as a shrewd and discreet politician, Vicq d'Azyr was quick to join the revolutionary movement of 1789, and managed to get elected to the National Assembly in the following year (Schmitt, 2009). The new position allowed him to lead a group of militant physicians belonging to the moderate wing of the Revolution, which included up-and-comers such as his own pupil Antoine de Fourcroy, as well as Pinel and Cabanis, who helped him with updating his proposal.

The main feature of Vicq d'Azyr's *Nouveau plan* was the definitive unification of medicine and surgery, formally overcoming a historical separation dating from the Middle Ages. The plan also prized hygiene (and its proto-epidemiology) as a fundamental matter for medical

practice. In addition, his proposal defended the need to combine human medicine with veterinary medicine. Whenever possible, diagnostic confirmation should be conducted through anatomo-pathological correlation of clinical findings; and, in support of the latter, hospitals should have *salles d'autopsie* [autopsy rooms], with accredited anatomists responsible for confirming all deaths.

About medical education, Vicq d'Azyr proposed that not only physiology but any knowledge related to diseases and their treatment should be subordinated to comparative anatomy. In this way, he established, on the one hand, a practical connection between clinic, pathology, and anatomy, while on the other hand, he demonstrated the importance of comparative anatomy within natural history (Schmitt, 2009). In medical courses, a single chair should bring together anatomy and physiology, based on a methodological justification that convincingly distinguished structure, function, and process. In his landmark work, the *Encyclopédie méthodique* [Methodical Encyclopedia], Vicq d'Azyr wrote (as cited in Rey, 1993, p. 38): “On its own, anatomy is, so to speak, only the skeleton of science; it is physiology that gives it movement: one is the study of life, the other is but the study of death.[36]

Unfortunately, Vicq d'Azyr succumbed to the persecution of the Terror and did not survive to complete his contribution to the reform of French health care system. Denounced to the popular courts for his links to the deposed royal family, he was indicted by the Comité de salut publique for publicly protesting the deviation of the spirit of the Revolution in the new republican constitution, which was approved by an assembly that excluded Girondin deputies. Malnourished and delusional, he mysteriously died in 1793, in a hideout where, helped by Cabanis, Fourcroy, and other friends, he attempted to elude the popular militias (Schmitt, 2009).

In 1802, Cabanis was invited to present before the Institut de France a posthumous eulogy of Vicq d'Azyr, contributing to the movement for the latter's political rehabilitation at the beginning of the Bonapartist era. Pouliquen (2013, pp. 225-226) interprets the supposedly cold tone and the informative, almost methodical style of this document as a sign of Cabanis' envy and resentment towards the medical scientist who had the swiftest, brightest career of his time.

Conversely, Thillaud (1986) finds in this discourse a demonstration of intimate friendship and profound respect, going so far as to bring an element of suspicion. Did Cabanis supply the poisoned pain des frères—as he had recently done for Condorcet—that could free his friend and former mentor Vicq d'Azyr from facing torture and the guillotine? As an indication of a contradiction, Thillaud argues that the *éloge* [eulogy] of Vicq d'Azyr, written by Cabanis, is the only document to mention an “acute chest fever” as the cause of death of the

[36] Free translation of: *L'anatomie seule n'est pour ainsi dire que le squelette de la science ; c'est la physiologie qui lui donne du mouvement : l'une est l'étude de la vie, l'autre n'est que l'étude de la mort*.

unfortunate doctor, while relating it to his depressive mood and deep fear of being arrested, humiliated, and executed.

The talented anatomist had a tragic destiny, but his scientific and academic contributions were exceptional. Vicq d'Azyr's conceptions of method and analysis, developed to justify the scientific bases of comparative anatomy, allowed his intellectual successor, the young doctor Marie-François Xavier Bichat (1771–1802), to revolutionize physiology and its relationship with pathology. By introducing the concept of tissue, Bichat transformed modern morphological sciences, making possible the emergence of histology as a new scientific discipline (Staum, 1980). In any case, in practical terms, the *Nouveau plan* of Vicq d'Azyr served as the basis for every subsequent medical reform proposal of the post-revolutionary period, both on administrative-institutional grounds (which is the object of this section) and in regard to medical education (as discussed ahead).

Fourcroy And The Écoles de Santé

In 1792, as part of a proposal to recreate the French higher education system, Antoine-François de Fourcroy presented before the Convention a project of wide-reaching reforms in medical teaching. As a strategy to overcome "*les gothiques Universités et les aristocratiques Académies*" ["gothic universities and aristocratic academies], he calls for "freedom in the teaching of sciences and arts" with a focus on the education of health workers (Fourcroy, 1793, p. 2).

In concrete terms, the Fourcroy Plan proposed a complete restructuring of medical education based on a "medicine in liberty," which sought to replace the prestigious elite medical schools with more effective *écoles de santé* [schools of health] intended to graduate *officiers de santé* [health care workers] that could meet the health demands of the population (Crosland, 2004). In addition to integrating medicine and surgery, Fourcroy proposed to include pharmacy and public administration as fundamental subjects for a more open, versatile, and efficient professional training. As commented by Michel Foucault (1963, p. 76):

> by recruiting young students of good conduct, pure customs, a love for the Republic and a hatred of tyrants, of well-kept culture, and, above all, with knowledge of the sciences that are preliminary to the art of healing . . . the new health school [must teach], instead of the vain physiologies, the true "art of healing," [quite differently] from the ancient faculty, [which was] the place of esoteric and bookish knowledge.

Figure 11. *Antoine-François, Comte de Fourcroy,* lithograph by François-Séraphin Delpech (c. 1800). Provenance: Musée Carnavalet, Collection Histoire de Paris. (Work in the public domain.) https://www.parismuseescollections.paris.fr/fr/muse-carnavalet/oeuvres/fourcroy-0#infos-principales

Lacking curricular and pedagogical explanations and written in a style that was quite different from the dense contributions (*mémoirs*, *rapports*, *projets*) of Condorcet and Cabanis, the Fourcroy Plan was neither a consistent theoretical text nor a systematic technical document. Conceptually, it was more of a political libel, whose somber, dramatic, almost violent tone described the precarious sanitary situation and the chaos of medical practice inherited from the monarchical period. This contrasted with a triumphalist rhetoric employed to recommend practical solutions for overcoming the inherited problems.

In the pedagogical dimension, though brief in form, almost superficial, the text envisaged an integrative perspective of medical training, proposing to replace the old oratorical instruction with didactic solutions based on laboratory practice, in this case reconfigured by the experimental demonstration of chemistry. In this respect, Fourcroy's proposal was a departure from Vicq d'Azyr's *Nouveau plan*, whose foundational premise put anatomy as the dominant discipline of medical instruction. Despite the fundamental differences between him and his pupil, Vicq d'Azyr supported the proposal. He negotiated an intermediate position that brought greater disciplinary integration between the basic subjects of clinical medicine, highlighting comparative anatomy, physiology, and pharmacochemistry as curricular axis.

Fourcroy's proposal defends the closing of faculties and academies, advocated the definitive unification of the teaching of medicine, surgery, and pharmacy leading to a single university diploma, through courses taught at écoles de santé, with anatomical-clinical basic training. It also introduces the concept of mandatory internship practice in health services (which would originate the *internat des hôpitaux* [hospital internship]), a seed for the contemporary medical residency model. With wide-ranging support, and enthusiastically welcomed by the leaders of the Revolution, the Fourcroy Plan was approved by the National Assembly in February 1794, leading to the creation of the *École de santé de Paris*. The Plan was later expanded to two more health schools in the provinces, in Montpellier and Strasbourg, which were traditional medical education centers (Rosen, 1946).

The first École de santé was set up in Paris in the very same building that housed the then deactivated medical-surgical academy—a property described as monumental. Despite the headquarters' satisfactory installations, training would take place in the network of hospitals that had recently been established by the comité chaired by Thouret—who was named the first Dean of the new institution. The following is the list of subjects taught there (Rey, 1993): anatomy and physiology, surgical medicine, chemistry/pharmacy, medical physics and hygiene, external pathology, internal pathology, child delivery, internal clinic, external clinic, improvement clinic, medical matter, botany, instrument demonstration, usual drugs, history of medicine, forensic medicine.[37] There were three classes of regular students (*officiers de santé, chirurgiens* [surgeons], *médecins* [physicians]), in addition to guest students (*auditeurs libres*). The class of a student was defined by public exams, which differed slightly in content: anatomy, operations, and dressings, and medical-surgical matter in the case of aspiring surgeons; anatomy and physiology, medical field, and natural history of internal and external diseases for candidates to a medical degree. The duration of training varied: officier de santé: three years; chirurgien: four years; médecin: five years (Rey, 1993).

Modified by the Convention, with the *décret du 14 Frimaire An III* (December 4, 1794), after a project signed by Fourcroy himself—who had replaced Marat as President of the Comité d'instruction publique—the medical education reform was completed with additional features (Larcan, 2005, p. 83):

> a general training programme establishing access to the professorial functions by competition with the removal of the accumulation of chairs . . . . The professors were full-time, the students were selected and the studies free. Some students at the end

[37] Free translation of: *Anatomie et physiologie, Médecine opératoire, Chimie-pharmacie, Physique médicale et hygiéne, Pathologie externe, Pathologie interne, Accouchments, Clinique interne, Clinique externe, Clinique de perfectionement, Matière médicale, Botanique, Démonstration des instruments, Drogues usuelles, Histoire de la médecine, Médecine légale*.

> of their studies were paid. Faculties maintained educational autonomy and diplomas had a national value.[38]

In addition to passing exams, prospective graduates wanting to pursue a medical career were required to elaborate and defend a *Thèse de Doctorat en Médécine*. A content analysis of the bibliographic corpus of theses defended at the École de Santé de Paris between 1797 and 1799 (at the height of its monopoly as the main training center for health professionals in France) reveals a surprisingly sophisticated degree of epistemological integration. According to Rey (1993, p. 39):

> These concerns [of curricular integration] are reflected in the theses not only by the relatively large presence of anatomy (around 30% of theses), but by the principle of combining anatomy with other disciplines. This was fulfilled in monographs that combined anatomy, physiology, and pathology, in line with the wishes of Cabanis and Pinel. The monograph corresponds to a state of knowledge that necessarily precedes, and undoubtedly so for a long time to come, the synthesis: one must first define a particular object in all its respects, and only then compare it to other objects and correctly classify it in the nosological table. This approach undoubtedly explains why theses rarely relate to a specific discipline and that the most frequent situation is the association of pathology (internal or external) with medical chemistry and to a lesser extent with anatomy, or of anatomy with physiology or with forensic medicine.[39]

Open access of applicants from lower classes to a university education previously reserved for the elites? General professional instruction based upon a citizenly education in politics, arts, philosophy, and sciences? A free, active, and solidary higher education in lieu of "gothic universities and aristocratic academies?" Health professionals trained in health schools, instead of morbidity specialists trained in disease schools, which we still refer to as medical schools? Teaching-learning that is rigorously based upon scientific evidence, reliant on the anatomical-clinical articulation for diagnostic correlations and on the pharmaco-chemical-surgical articulation for the definition of therapeutic strategies? *Avant la lettre* interdisciplinary

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[38] Free translation of: *un programme général d'instruction instituant l'accession aux fonctions d'enseignement par concours avec suppression du cumul des chaires [...]. Les professeurs étaient à temps plein, les élèves sélectionnés et les études gratuites. Certains étudiants en fin d'études étaient rémunérés. les facultés gardaient une autonomie pédagogique et les diplômes avaient une valeur nationale*.

[39] Free translation of: *Ces préoccupations se traduisent dans les thèses non seulement par la présence relativement importante de l'anatomie (environ 30 % des thèses), mais par le principe de sa combinaison avec d'autres disciplines, concrétisée par des monographies, associant, comme le voulaient Cabanis et Pinel, anatomie, physiologie et pathologie. La monographie correspond à un état du savoir qui précède nécessairement, et sans doute pour longtemps encore, la synthèse : il faut d'abord cerner un objet particulier sous tous ses rapports pour pouvoir ensuite le comparer aux autres et le classer correctement dans le tableau nosologique. Cette démarche explique sans doute que les thèses se rapportent rarement à une discipline déterminée et que la situation la plus fréquente soit l'association de la pathologie (interne ou externe) avec la chimie médicale, et dans une moindre mesure avec l'anatomie, ou encore de l'anatomie avec la physiologie, ou avec la médecine légale*.

integration in curricular structures and training processes, with concrete contexts of instruction that conjoined theory and practice?

As I have mentioned in a previous text (Almeida-Filho, 2017), one cannot help but be impressed by the political pertinence and contemporaneity of these relevant issues, which formed the primary agenda for social reform in the 1789 Revolution.

The title of officier de santé, a key element of the Fourcroy Plan, emphasized practical notions of positive health, as incipient as they were. It was very well accepted at first, perhaps because it helped to overcome the traditional distinction between doctors and surgeons. Additionally, the plan seemed convergent with the republican concept of health care as a right for all men and women as established in the Constitution of 1791. Furthermore, the proposed institutional format reproduced military organization (featuring uniforms and a career hierarchy), which at least in theory would facilitate its social acceptance in a war situation (as was the case throughout this entire period, with the constant, widespread conflicts collectively known as the French Revolutionary Wars).[40]

In practice, the Fourcroy Reform suffered strategic setbacks such that it ultimately became unfeasible. This was mainly due to the consolidation of a professional corporation model that had organic ties to the republican political network. Foucault (1963) points to the rapid decline of the institutional model of écoles de santé and warns, rather ironically, that the new political order had other plans. In turn, Crosland (2004) analyzes the semantic corrosion of the term officier de santé as indicative of the model's failure. Both agree that these parallel processes can be explained by three articulated reasons. First, in the early years of the Revolution, the freedom of self-designation and consequent deregulation may have produced abusive social responses, with a huge number of unqualified professionals, even quacks, working in health care without any control. Second, after Thermidor, professional corporations resurfaced strongly and were pushing for a return to their former roles. And third, academies and scientific societies reassumed political initiative and began fighting for the full reopening of faculties.

According to Tabuteau (2010), in the Law of Medical Practice of 1802 (which was implemented by the Consulate and maintained by the restoration movements for the next half-century), the title of Officier de Santé was intended for those who had received a shorter, simplified training and provided health care services in the provinces, with limited attributions. As such, they were discriminated against by physicians and surgeons, who viewed them as second-class health professionals. Cabanis himself was very active against what he called “half-physicians,” even for providing health care in remote rural areas, and manifested his position clearly in a speech to the Conseil de Cinq-cents (as cited in Larcan, 2005, p. 81):

[40] At the turn of the century, France already had 3,309 officiers de santé, trained in various institutions. At that time, after three years of operation, the écoles de santé counted 4,027 students, of which 406 were *thésards*, i.e., candidates for a medical degree (Rey, 1993).

> Will I be objected that the countryside would be unsafe if we require more and better training for the officiers de santé? I reply that it is better that the countryside lacks doctors than to receive fatal ones.[41]

Once the Fourcroy Plan was deemed politically and institutionally unsustainable, the stage was set for the resurgence of faculties, which were now autonomous, free from the central control of universities. They were reinforced by the newly empowered institutes, academies, societies, and corporations. In 1797, according to Williams (1994, p. 72), the *Societé de santé de Paris*, founded by physicians who formed the teaching staff of the schools of health, was renamed *Societé de médecine de Paris*. By the turn of the nineteenth century, already in the Bonapartist context (which I discuss later), all institutions for medical training had abandoned the denomination école de santé in favor of the more traditional *Faculté* (or *école*) *de médecine*.

Consequently, in the dimensions of clinical practice and health training, the vectors of the political recomposing followed the rule of the Directory, which displaced any original revolutionary proposition that was more clearly oriented toward the emancipation of subjects. The notion of clinical practice "as a structure that is essential to the scientific coherence and also to the social utility and political purity of the new medical organization" would not come to pass (Foucault, 1963, p. 70). In its stead, the institutional recovery of old medicine was promoted as a means of putting an end to the dangerous experiment of total liberty, and yet a way of giving it a positive meaning, a way, too, of restoring, as many wished, some of the structures of the Ancien Regime (p.69).

The Reform of Medical Practice

In 1795, noticing that the Daunou Law had been omissive with regard to higher education and (even more concerningly) that it lacked any reference to medicine and medical teaching, Cabanis distanced from the Comité d'Instruction publique and turned to historical and philosophical studies of what he ceremoniously called the art of healing. This effort resulted in essays, reports, and proposals, which he presented at various instances of debate and deliberation, such as the Auteuil Circle (another name for the Idéologie group), the Institut national de France, and the Conseil de Cinq-cents.

In dedicating an entire section of his masterpiece *Naissance de la Clinique* to Cabanis' role as a reformer of the French health care system, Foucault (1963, pp. 85-94) highlights the draft legislation titled *Rapport et Projet de Résolution sur un mode provisoire de police médicale* [Report and Draft Resolution on a provisional mode of medical practice] (Cabanis, 1798), which he assesses as an important contribution to the political reforms that were discussed in the Conseil de Cinq-cents and were implemented in the period of the Directory.

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[41] Free translation of: *M'objectera-t-on que les campagnes manqueront de secours si l'on exige de trop fortes études de la part des officiers de santé ? Je réponds qu'il vaut mieux que les campagnes manquent de médecins que d'en recevoir de funestes*.

This *Rapport et Projet* initially addresses the social, cultural, and institutional nature of medicine and health care, and broadly proposes a political economy theory of the medical profession that can justify profound interventions in the incipient network of health care. Health was indeed a very strategic and sensitive area for the political project of the Revolution. The central question of this conjuncture was then made clear: how do you grant institutional protection to the medical corporation and allot to it a just labor market reserve, without going back to the corrupt and perverse structures of the Ancien Régime, nor relapsing into arbitrary forms of state control over its citizens, in betrayal of republican values?

Anticipating by almost two centuries the concepts of imperfect market and quasi-public goods—which would become central to the post-utilitarian theory of health economics as formulated by Arrow (Savedoff, 2004)—Cabanis postulated a distinction between two categories of economic goods or objects. For some objects or commodities, consumers themselves can be the final appraisers of their usefulness, in the sense that the generalized perception of their usefulness would be sufficient to determine their value. In other cases, the value cannot depend on public perception, for two reasons: either because the objects determine the value of other objects (such as precious metals in the form of currency), or because they involve risks to human lives (when errors or fraud can be fatal). In any situation—whether a true market with pure exchange value of monetary assets, or a quasi-market of risks, potential damages, and volatile goods (such as in health care)—the object, good, product, process, or service acquires an intrinsic, virtual value that is not immediately visible, and thus inevitably susceptible to fraud and deviations.

For Cabanis (1798a), the nascent Republic would have to organize a regulatory structure and allow for devices of state control over the economy, with the purpose of overseeing the production and utilization of services, processes, and products. These measures would foster market control (directly, through supply and demand, within a liberal trade regime) and social control (through both the implicit collective acceptance of use values as well as the surveillance of government agencies—especially in strategic social spaces, such as those where medical practice takes place).

To this end, Cabanis prioritized two measures: the official accreditation of professionals, and the recognition of the officiers de santé (health care workers trained during that time for the provinces where much-needed doctors were scarce). Ingeniously, he proposed a single strategy to solve both problems: a state exam. Foreign health professionals and those trained outside of faculties would be tested in the "fundamental knowledge of the art and its practice," whereas the validation of regular medical studies would require written and oral tests, as well as "exercises in anatomy, surgery, and internal medicine" (Cabanis, 1798a, p. 90). The proper evaluation of these technical skills should guarantee a secure life for citizens, as the state would be responsible for strictly overseeing professional practice (Cabanis, 1798a, p. 91):

> A free state looking to keep its citizens free from error . . . cannot authorize the free exercise of Medicine . . . . Anyone who practices medicine without exams or school

> or without being placed before the special juries will be fined and sentenced to prison in case of recidivism.

This position had already been expressed by Cabanis (1790) in his precocious report-proposal *Observations sur les hôpitaux*, written with some collaboration from Philippe Pinel and presented to the National Assembly. With a touch of nostalgic resentment, Cabanis (1806, pp. 405-406) himself provided a personal account of the circumstances and the fate of this report in the concluding chapter of the *Coup d'oeil*, showing evident disappointment and bitterness:

> In 1792, the Commission appointed to inspect the hospitals of Paris, of which I had the honour to be a member, was desirous to put in execution certain projects which were supported by the suffrages of the most enlightened men, and which were dictated by a desire to promote the public good. We had made choice of the hospital called La Charité, for the establishment of the first clinical school: the plans were prepared, and the means were all calculated and provided. But, in a short time, the whole of France fell into the power of the too celebrated Commune of Paris. The Commissioners of Hospitals, believing their services were no longer useful, gave in their resignation, or were dispersed; and the little good which they had been able to effect, was in a great measure annulled: in particular, the execution of the scheme, which they had projected, was suspended till a happier moment.

Even though the incipient principles of economic liberalism were being put to the test, the historical conjuncture of such a pervasive social reform also called for greater state control over daily life, education, public health, diseases, and the sick. To avoid risks, losses, and damages to citizens in a context of great uncertainty and societal disorder, the regulatory presence of government agencies was essential, particularly in the professional labor market. In practical terms, according to Foucault (1963), a preliminary and fundamental issue was the delimitation of the group of subjects authorized, under the institutional control of government bodies, to form the contingent of this new corporation of professionals.

Without indicating a possible opposition or dispute with Vicq d'Azyr, Foucault (1963, p. 87) reports that Cabanis's proposal was rejected, even though in broad terms it signaled "a solution that would endow medicine with the status of a protected liberal profession, which it would maintain until the twentieth century."

Indeed, the legislation regarding medical practice in France—the laws of 21 Germinal and 19 Ventôse of Year XI—ultimately approved by the Bonaparte Consulate in 1802, was all consistent with Cabanis' proposals. On the one hand, it established a two-level hierarchy in the medical profession: medical doctors and master-surgeons who graduated from one of the six authorized faculties, and active health officers issued from military cadres and the écoles de santé (which were gradually replaced by the new official institutions for medical training). On the other hand, the legislation introduced licensing for professional exercise by means of four exams (anatomy and physiology, pathology and nosology, medical matters, hygiene, and forensic medicine), in addition to a practical test of internal or external

medicine, respectively, for aspiring doctors or surgeons. This was also the pioneering moment that established the concept of illegal exercise of the profession, which meant that any citizen who attempted to practice medicine without a license would incur penalties, ranging from fines to prison (Foucault, 1963).

In all these reform attempts, the active presence of Georges Cabanis as a thinker, proponent, institutional leader, and political operator was fundamental (Saad, 2016). Together with Vicq d'Azyr, Fourcroy, Bichat, Pinel, and many others, Cabanis was a protagonist in the fast, shifting, complex historical process giving rise to an institutional health care system, one that was organic to the new economic, social, and political order established by the bourgeois revolution in France. Along 12 years of back-and-forth, of progress and regress, profound changes were introduced in medicine and in the organization of health services—culminating in the segmentation and isolation (some would say "elitization") of medical practice, with the requirement of professional certification following the obtainment of a diploma from an accredited institution (Clavreuil, 1975).

This new healthcare model not only had to be actualized, but also its transformations consolidated, and its reproduction sustained (Rabier, 2010). At the institutional level, conducive to the reformation of the health care system within a perspective of conservative restoration, in many ways adjusted to the ideological matrix of the nascent bourgeoisie, three measures were crucial: the definition of the social role of hospitals as secular institutions; the reopening of medical academies and societies; and the creation of the Faculties of Medicine, autonomous units for training medical doctors.. For that to happen, the education of scientific, technical, and professional personnel would also need to undergo a profound reform—the ensuing historical process I have previously proposed to designate, for the sake of justice, as the Cabanis Reform (Almeida-Filho, 2017).

The philosophical and scientific foundations of this education reform are indissociable from an intellectual movement promoted by Cabanis and his friends and comrades of the Auteuil Circle, which came to be known as l'Idéologie.

Chapter 4

Contributions to L'Idéologie

Antoine Destutt, Comte de Tracy, was a cavalry colonel who served as deputy representative of the nobility in the Estates General of 1789. Elected to the Constituent Assembly in 1792, he voted to abolish privileges and confiscate properties of the aristocracy, but also promoted the moderate constitutional proposal organized by Condorcet and supported by Cabanis. In 1793, during the Terror, he was arrested in the same denunciation as Condorcet's and served eleven months in prison, where he spent his time studying the philosophers, particularly Locke, Condillac, and Helvétius. Condemned to death in 1794, he escaped the guillotine only by a matter of weeks, following the ousting and immediate execution of Maximilien Robespierre (1758-1794).

Figure 12. *Antoine Destutt, Comte de Tracy*. Engraving by Charles Toussaint Labadye (c. 1790). Provenance: Collection Émile Potin. (Work in the public domain.) https://commons.wikimedia.org/wiki/Category:Antoine_Destutt_de_Tracy#/media/File:Antoine-Louis-Claude_Destutt_de_Tracy.png

With the end of the Terror by the Thermidorian reaction, Cabanis, de Tracy, and Garat invited Parisian intellectuals who were regulars at Madame Helvétius's salon to regroup the Auteuil Circle. Later, already considered as the most important philosophical movement in post-revolutionary France, this group came to be known as *la société des idéologues* or simply *Les Idéologues* (Picavet, 1891).

Les Idéologues

Between 1795 and 1798, expanding their activities beyond the study groups of Condillac's philosophy and the political meetings at Madame Helvétius's salon, members of the group started to occupy the Institut national de France, originally conceived as an initiative to modernize the old-fashioned academies, which had been abolished by the Revolution. The Institut national held its meeting at the Louvre, renamed the *Palais national des sciences et des arts*. As a result of specific actions on the part of the group, various sections or classes were organized and the academies were gradually restored within the Institut. The first of these classes (of which Cabanis was a founding member) was French Language and Literature, later renamed Académie Française in 1816 (Pouliquen, 2013). The lectures and presentation of rapports were published in the *Mémoires de l'Institut national*.

In 1799, returning to France after a series of victorious military campaigns, Napoleon Bonaparte was acclaimed as the savior of the country. A skilled politician in addition to a talented strategist, he led a coup d'état, known as the Coup of 18 Brumaire, which established a system of government named the Consulate. As mentioned above, as an active and influential member of the Conseil des Cinq-cents, Cabanis wrote the manifesto that announced to the nation the Coup of 18 Brumaire. Then, the young general forced out the Directorate and had the *Conseil des Anciens* (the French senate) elect him First Consul, leading a triumvirate that initially comprised Emmanuel Sieyès and Roger Ducos (respectively Second and Third Consuls).[42]

In light of all the political convergence (though conjunctural) and the notorious charm and intelligence of Consul Bonaparte, many Parisian cultural and intellectual leaders were enthusiastic early supporters of the future emperor. At that moment, the Auteuil Circle was recognized and celebrated by Napoleon as an important nucleus of intellectual debate and political elaboration. Under the leadership of Cabanis and Destutt de Tracy, they helped the Consulate government in formulating a series of proposals for across-the-board reforms, ranging from the organization of state bureaucracy to the professionalization of armed forces, from the civil code to the education system (Role & Boulet, 1994).

[42] There is a huge literature on Napoleon Bonaparte's life. In English, see mainly the classical biography Napoleon, by Markham (2010). For a detailed account of Napoleonic politics, see Englund (2010). The website of the *Fondation Napoleon* is an effective official source of references and updated information: https://www.napoleon.org/en/

For a short time, the First Consul still managed to camouflage his tyrannic, nepotistic, and belligerent political project. Soon, Bonaparte's drift towards authoritarianism and the religious restoration provoked an inevitable estrangement regarding the Idéologie movement that eventually turned into open political opposition, then harsh, relentless repression and censorship. Napoleon's rejection of the Idéologie program with regard to education and scientific research, and, in particular, the pact with the Catholic establishment, were more than enough reasons to cause the Idéologues to withdraw their support to the Premier Consul, soon to become Emperor. Then, the Idéologie group was reassembled to oppose, collectively, as a politically oriented group devoted to the criticism of the Bonapartist regime (Pouliquen, 2013). Caroline Warman (2020, p. 68) comments that Napoleon's irritation with the Idéologues,[43] "even when they were trying to please him" became evident. And, in a matter of months, the Idéologie movement fell under the displeasure of the Premier Consul, who, with his dynastic then religious and imperial ambitions was inevitably moving away from those who might have reminded him of how he came to power, and furthermore, might have held him to account.

As an open and immediate retaliation, in 1802, Napoleon closed the *Classe de Sciences Morales et Politiques* of the Institut de France in a despotic measure. In 1803, he sponsored a defamatory campaign to damage the ideologists' reputation, censored their publications, and directly put the infamous truculent political police on the trail of his former partners. Bonaparte's political police accused them of fomenting "political unrest" and put them under permanent surveillance. Acting out this policy of repression, in the early fall of that year, the Minister of Police Joseph Fouché (1759-1820) issued a public warning to the Idéologues, and then prohibited their meetings in the restaurants of Rue du Bac.

In person, Napoleon mocked the philosophical materialism of the Idéologues as "sinister metaphysics," called them "subversives," "sectarians," "anarchists," "dreamers," and even "imorals" (Warman, 2020). In actuality, Napoleon's redefinition of the idéologie as abstract or visionary theorising was contrary to Tracy's proposal of a practical tool for thorough thinking, practical politics, and successful acting. According to Warman (2020), if ideology were mere abstract theorising, then there was nothing for the censors to worry about, and indeed Cabanis's or Destutt de Tracy's publication efforts would not face any obstacle. The active censorship upon the ideologists and the fear of them as a real threat therefore indicate the strong political influence of Cabanis and his fellows at that time.

[43] In fact, the term *idéologues* was conceived by Napoleon himself and used by the press to refer, derisively, to the members of this intellectual movement and to diminish and ridicule their work (Head 1980). For that reason, Cabanis, de Tracy and their comrades preferred to call themselves *idéologistes* (Pouliquen, 2013).

Madame de Staël wrote that Napoleon was convinced that the Idéologues conspired against the Empire, and he felt they were lurking everywhere.[44] In many instances, paranoid, he blamed them for the political failures of his despotic government and for the military defeats of his Army. After his return to Paris from the disastrous campaign in Russia in 1812, Napoleon gave a famous speech that confirmed the Idéologues as a scapegoat for the catastrophic fall of the French Empire (cited in Williams, 1983, p. 154):

> It is to the doctrinaire of the idéologues—to this diffuse metaphysics, which in a contrived manner seeks to find the primary causes and on this foundation would erect the legislation of peoples, instead of adapting the laws to a knowledge of the human heart and of the lessons of history—to which one must attribute all the misfortunes which have befallen our beautiful France.

As we have seen, Georges Cabanis had been one of the most influential members of the Conseil de Cinq-cents, with an active role in the articulations of the Coup of 18 Brumaire, and in co-authoring the manifesto that announced to the nation the seizing of power by the Consulate. In protest to the repression against the ideologists, the censorship of the press, and the dismantling of the Institut—denounced by the Bonapartist militias as a den of subversives—and tired of the intrigues and injuries directed at him and his friends, especially Jacquemont, Daunou, Garat and De Tracy, Cabanis withdrew from public life. In that year 1802, he concluded the manuscript of *Rapports du physique et du moral de l'homme*. In the presentation of that book, reference document for the scientific-methodological axis of the *Idéologie*, Cabanis (1802, p. 3) makes a point of, with elegance and subtlety, passing a political message to the petty tyrant in formation:

> Posterity will retain the memory of the works of these respectable men, united to fight fanaticism, and to weaken at least the effects of all tyrannies; it will bless the efforts of these brave friends of humanity.[45]

From Condillac to Condorcet

Beyond politics, in theoretical grounds, the ideologists were profoundly interested in two complementary questions: the sensualist theory of knowledge elaborated by the abbot Etienne Bonnot de Condillac (1715-1780) and the political theory of human progress of the Marquis de Condorcet.

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[44] Madame de Staël – Anne-Louise Germaine von Holstein (1766-1817) was one of the most active political and intellectual opponents of Napoleon Bonaparte, who banned her from Paris. She lived in exile for a whole decade (1803-1814), in Weimar, Switzerland, Italy, and England. A witty remark attributed to the brave Madame de Staël—that the mighty emperor was an "*idéophobe*"—reproduced by many history books, probably was made up by André Beaunier in 1913 (Jenson, 2001, p. 76).

[45] Free translation of: *La postérité conservera le souvenir des travaux de ces hommes respectables, unis pour combattre le fanatisme, et pour affaiblir du moins les effets de toutes les tyrannies; elle bénira les efforts de ces courageux amis de l'humanité*.

The philosophical contribution of Condillac's *sensualisme* comprises two main topics (Orain, 2012, p. 93). The first relates to a radical departure from the conception, still dominant at the time, that the mind was a reservoir of innate ideas. Condillac thought that, by eliminating the notion of "ideas of reflection," he could overcome the innatism he believed was present in Locke's project. For the Condillacian theory—a comprehensive non-materialist empiricism—the object of understanding is first found in the senses, being therefore developed in human interaction with others. For him, human knowledge is made of sensations but is formed with speech and words, by the language. In turn, language is created by our natural capacity to react instinctively to the expression of emotions and states of mind.

The second—the Condillacian theory of "analysis"—represents an ambitious development and application of Cartesian methodology to explain how human understanding can generate clear, better, and new ideas. Condillac wanted this notion to become a primary scientific principle, a sort of complement to the *Encyclopédie* project, capable of explaining and reconstructing the entire natural science in rational grounds. Condillac's proposal went further to include logic as a general framework and mathematics as a universal language for the "method of analysis." This topic is linked to Condillacian ideas on methods of teaching-learning, with grammar, logic, physics, and mainly mathematics taken as educational assets for the rational understanding of the world (Trenard, 1982).

Condilllac's philosophy was translated as political and pedagogical applications by the Marquis de Condorcet in above mentioned *Esquisse d'un tableau historique*. His most loyal friend Cabanis promoted discussion groups and intellectual meetings around the manuscript, still unpublished. This active homage to Condorcet's legacy, later completed with the organization and publication of his complete works, may be recognized at the root of the Idéologie movement.

The fundamental idea of Condorcet's *Esquisse* is that of a continuous, unavoidable progress of the "human race" towards the ultimate perfection of civilization. Human beings would have come from the most primitive "stages of savagery," as the other biological beings, but, with social organization and political action, they have advanced uninterruptedly in a path of biological enhancement and intellectual enlightenment, pursuing virtue, happiness, and perfectibility. All throughout the 1790s, the ideas of social progress and *perfectibilité*–a term coined by Swiss philosopher Jean-Jacques Rousseau (1712-1778) to designate the supposedly innate human tendency to seek perfection–as well as their implications, were the object of intense debates (Saad, 2016, pp. 235-236).

For Condorcet, progress toward perfectibility is determined both by the biological and historical constitution of humankind, and by the conditions of the natural milieu. These conditions are compatible with endless progress given the capacity of the human genius to develop science and technology effective to submit the environment to the human needs. Taking the then-dominant fashion of decimal coding of everything in nature and in society, Condorcet numbered ten great epochs of history, postulating that the human race had

already gone through nine stages and that the next step was a near future of infinite perfectibility.

The most original and politically engaged part of the *Esquisse* is Condorcet's utopian view of this tenth stage of humankind as a free democratic society. In an open optimistic fashion, for him, all societies, nations, and individuals are tending to freedom and equality not as an absolute condition but rather as rights to be conquered and guaranteed by democratic states and governments. Condorcet believed in the general laws of history, which regulated the past and could be scientifically projected as inferences into the future. He proposed an extrapolation of estimated tendencies of the past that will be characteristic features of the future: the equality between nations, achieved by the suppression of inequality between human groups, and the perfectibility of human nature leading to the improvement of individuals, intellectually, morally, and physically. In sum, for the unfortunate mathematician-philosopher, there are no fixed limits for the prolongation of healthy life or even to human advancement in knowledge and virtue.

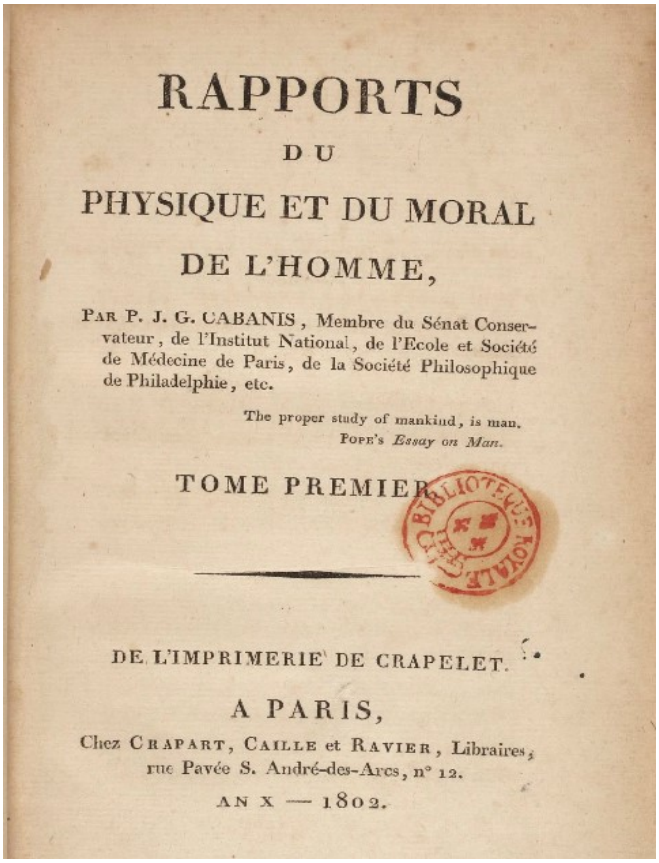
According to Mariana Saad (2016, pp. 246-250), the notion of perfectibility captured two ways of thinking about social progress that were present at the end of the eighteenth century: a convergent one, where human capacities would gradually converge toward an increasing social integration, and a divergent one, where the historical process entailed increasing social differentiation as human capacities gradually diversify. Both perspectives saw equality as a subjacent value and postulated the overcoming of social inequalities as an ethical and political goal (Mrozovski, 2013).

The issues addressed by such an updated version of sensualism, a sort of materialist development of Condillac's moral theory (Orain, 2012), included the relationships between sensations, ideas, judgments, and language—the embryo of what Destutt de Tracy would soon name Idéologie.[46] This prospective metascience would involve a logic of modes of thought, a grammar of the scientific language (based on natural linguistic elements), a physiology of the living and of neuropsychological processes, and a theory of human action (a sort of political science), all dimensions articulated for the paramount analysis of the complexity of nature and society revealed by the great effort of Diderot and D'Alembert in the *Éncyclopédie*.

Destutt de Tracy himself took charge of developing the first topics in a series of treatises titled *Élements d'Idéologie*, which started with a primer or project and, over two decades, was completed with, respectively, a logic, a grammar, a method, and a treatise on the human will. Other comrade idéologues wrote about specific lines of development of this remarkable project, in the fields of economy (Jean-Baptiste Say [1767-1832]), biology (Jean-Baptiste Lamarck [1744-1829]), mathematics (Joseph-Marie de Gérando [1772-1842]),

[46] In a small text that became a classic of Marxist literature, *Ideology and Ideological State Apparatuses*, Louis Althusser (1976, p. 36) attributes the primacy of conceptualizing "idéologie" to Cabanis and, only secondly, to Destutt de Tracy and his idéologue companions. Althusser points out that Karl Marx appropriated the term 50 years later in his early philosophical work, giving it other connotations, which were nonetheless still influenced by the French post-revolutionary thinkers (see my analysis in Chapter 11).

philosophy and logic (Pierre Laromiguière [1756-1837]), history (Pierre-Louis Ginguené [1748-1816]), politics (Abbot Emmanuel Joseph Sieyès [1748-1836]), fine arts (Joachim Le Breton [1760-1819]), education (Dominique Garat), medicine (Philippe Pinel), physiology (Cabanis), and others.[47]



RAPPORTS

DU

PHYSIQUE ET DU MORAL

DE L'HOMME,

PAR P. J. G. CABANIS, Membre du Sénat Conservateur, de l'Institut National, de l'Ecole et Société de Médecine de Paris, de la Société Philosophique de Philadelphie, etc.

The proper study of mankind, is man.
POPE's *Essay on Man.*

TOME PREMIER.

DE L'IMPRIMERIE DE CRAPELET.

A PARIS,

Chez CRAPART, CAILLE et RAVIER, Libraires, rue Pavée S. André-des-Arcs, n° 12.

AN X — 1802.

Figure 13. *Rapports du physique et du moral de l'homme*, facsimile front page of first edition. https://gallica.bnf.fr/ark:/12148/bpt6k1045564g.image

[47] Most of the contributions of these intellectuals were published in *La Décade philosophique, littéraire et politique*, a periodical created by Ginguené, Le Breton, & Say in 1794, which issued 54 volumes until its extinction in 1807.

Anticipating the contemporary notion of "cognitive democracy" by almost two centuries, the Idéologues argued that there would only be social progress if there were intellectual equality for all human beings, through widespread access to knowledge granted by a liberating education (Saad, 2016). The democratic system depended on all citizens having an adequate understanding of their rights and duties, as well as full capacity to participate in deliberative processes, the evaluation of leaders, and the judgment of political representativeness. This new politics, founded on a revolutionary epistemology, a genuine "science of methods," in turn, would require a new science and a new pedagogy.

Cabanis's Physiological Pedagogy

The Idéologues pursued a political pedagogy consistent with the theoretical lineage of Rousseau-Locke-Condillac, updated by Condorcet's historical hope that the state would be the instrument to ensure education as a condition for individual freedom. Such a virtuous, idealized approach, a combination of epistemological, linguistic, political, and pedagogical vectors, organized as a multidimensional rational method, is so analyzed by Lecoutre (1996, p. 897):

> The Idéologues are but developing this educational program, based on the equation between language and the "analytical method" and on the idea that the mastery (practical and thoughtful) of signs is the necessary condition for the progress of the mind. We are therefore far from the popular version of empiricism, reduced to a kind of naïve antiverbalism and desire to find an immediate and natural contact with "things themselves", below the words, which was maintained by a certain Rousseauism. On the contrary, it is a question of learning to speak, to think and to reason, to form just and well-defined ideas, which is for them one and the same thing (hence the key role of a general grammar).[48]

Cabanis contributed decisively to advance and to deepen such a post-Rousseaunian sensualist and naturalistic perspective with numerous reports and communiqués, compiled in the *Rapports du physique et du moral* and in the *Coup d'oeil*.

In the *Rapports*, addressing the complex interactions inherent to human experiences considering the biomedical view, Cabanis offered an original approach to the Cartesian issue of the body-mind relationship. For him, the "physical" and the "moral" are not poles established by an exclusive duality; rather, they are inter-defined precisely by a situation of

[48] Free translation of: *Les Idéologues ne font que développer ce programme pédagogique, reposant sur l'équation posée entre langue et « méthode analytique » et sur l'idée que la maîtrise (pratique et réfléchie) des signes est la condition nécessaire des progrès de l'esprit. On est donc loin de la version populaire de l'empirisme, réduit à une sorte d 'antiverbalisme naïf et de désir de retrouver un contact immédiat et naturel avec « les choses elles-mêmes », en deçà des mots, qui a été entretenue par un certain rousseauisme. Il s'agit au contraire d'apprendre à parler, à penser et à raisonner, à se former des idées justes et bien déterminées, ce qui est pour eux une seule et même chose (d'où le rôle clé de la grammaire générale).*

inextricable rapport, radically interrelated in the demands, dynamics, determinations, and specificities of the historical world, of the political body, and of social life. Likewise, the material dimension of human beings and their ecology cannot be reduced to the physicochemical substrate of human existence, since, for Cabanis, the moral is physical, and the physical is moral. As Canguilhem would later analyze in the classic *Le Normal et le Pathologique* (1966/2009), with this integrative perspective, Cabanis intended not to reduce the *physical* to the organic determination of human living, nor the *moral* to the legal-juridical apparatus and the societal patterns that conforms it to the normativity of a given mode of life.

In the *Coup d'œil*, Cabanis reiterates that human beings are tendentiously submitted to a vector that orients them toward perfectibility, both natural and cultural, in the sense of a constant search for improvement as individuals and as a species (in the lexicon of the time, he uses the term "race"), in two aspects: physical and moral. In this perspective, far from being fundamentally grasped by the physical study of man and by the historical study of his norms and laws, the "moral point of view" requires a broader understanding, away from the common-sense notions of moralism and morality and from the expert notions of ethics and deontology. This is crucial for understanding the scope of the *science de l'homme* proposed by the ideologists, equivalent to "what German philosophy would call anthropology," as per an observation made in passing by Cabanis himself in the *Coup d'œil* (1804, p. 23), perhaps influenced by his friendly contact with the young Baron von Humboldt.

Here, the first aspect refers to the evolution of physical health and of inherited individual capabilities, in a clearly Lamarckian perspective.[49] The inheritability of acquired traits meant that human beings would be able to transform their own natures so that, over several generations, "the same men and the same race would not exist;" social, moral and political developments would introduce a great distance between different men with the same set of "primitive dispositions."

The second aspect refers to the social determination of human perfectioning made possible by universalist educational policies. The importance Cabanis and his fellow Idéologues attached to education being universally available for all, with a priority for the popular classes, was justified by their belief in the perfectibility of humanity and their pursuit of sure progress for all (Lecoutre, 1996). Once again in convergence with his friends and partners Mirabeau and Condorcet, he considered public instruction to be crucial in a modern republic founded on the principles of individual freedom and social equality. In this regard, Cabanis (1804, p. 23) writes:

> The moral education of man has for its object to develop his understanding, to cultivate his affections, and to direct all his natural appetites, in the way that tends most effectually to promote his own happiness, and that of his fellow creatures.

[49]According to Staum (1980, p.187), Cabanis both anticipated some ideas of, and was influenced by, his contemporary Jean-Baptiste Pierre Antoine de Monet, Chevalier de Lamarck (1744-1829), most known for a theory of evolution published in 1809, according to which species could genetically transmit acquired traits.

Cabanis explained further his arguments on the question of perfectibility in a 1799 letter to the editor issued in *La Décade philosophique*, a periodical where the ideologists published the main texts generated by their heated debates. The article replicated some of the central points from the *Coup d'œil* (which had already been partially presented to the Institut) and responded to early criticisms directed at the Idéologues, who were accused of defending a sort of mechanical materialism through an atheistic perspective of perfectibility as a human goal instead of a virtue of the divinity.

In order to mitigate the negative effects of physical diversity and moral differentiation (Cabanis, 1802, p. 360), Cabanis proposed that a direct action of *l'état social* [the social state] was required for promoting what he designated as "equality of means." Such an action should be realized on three grounds of intervention: politics—to guarantee equal rights; medicine—to reduce innate physical and mental inequalities; education—to generate equal social opportunities. In this collective process of inventing a new legal and institutional regime for the nascent republican state, Cabanis established his project at the interface between the clinic, politics, and didactics, implying also a threefold critical change in the use of rhetoric (Gaille, 2012).

In his clinical writings, Cabanis linked the sensualist philosophy of Condillac and Helvétius with the neo-hippocratic vitalist physiology of the Montpellier school. This led him to formulate a semiotic theory that integrated physiology, pathology, and therapeutics, based on the idea that health-disease dynamics could be best understood as a language. From this frame of reference, Cabanis postulated a new approach for the reorganization of diagnostic logic (in this case, the roots of indexical logic, as stated by Ginzburg (1989, p. 177), in the formulation of a naturalistic rationale based on objective signs and symptoms, oriented by valid physiological knowledge in the process of constituting the clinical object. Such a rational, systematic, and integrative structure of reasoning was inherited from the landmark Port-Royal Grammar, mediated by the premises of the *Éncyclopedie*. This effort forms the core of Cabanis best-known work on the logic of clinical medicine, *Du degré de certitude de la Médecine*, mentioned in chapters 1 and 2. In this regard, Pender comments (2012, p. 41):

> In *Du degré*, Cabanis conjures the history of rhetoric as an entrepôt from which physicians might draw methods and models for reasoning about symptoms, for negotiating the relationship between the general (conceptions of illness) and the particular (individual cases).

From the point of view of a social theory of education, the major contribution of Cabanis to the ambitious conceptual scheme of the Idéologie was a political pedagogy founded on the science of human physiology, which Daniel Teysseire (1991) used to title his book *La pédagogie républicaine de Cabanis* [Cabanis's republican pedagogy]. The primary realization of this pedagogy would imply a new use of rhetoric as didactics (Pender, 2012), comprising three aspects, in a direct reference to Descartes' *Discours de la méthode*: Firstly, at various moments in his work, Cabanis rejected a certain instrumentalization of rhetoric within pedagogical strategies of health care training by recognizing no didactic efficacy in

the doctrine advocated by the medical tradition. In this regard, he sought to supplant the discourse of authority in favor of greater emphasis on pedagogical practices based on practice and experimentation. Secondly, the metaphor of thought as physiological secretion, and of knowledge as physical matter—the central argument of his magnum opus *Rapports du physique et du moral de l'homme* (Cabanis, 1802)—justified a naturalistic linear approach to pedagogy, considering that the learning process should be oriented from the simple to the composite. Thirdly, the systematic fragmentation of both the curriculum and the object of the teaching-learning process—an analytical pedagogy—led to an education model based on the assumption of disciplinarity as an effective method of organizing and cataloging human knowledge.

In sum, Georges Cabanis's contributions to the intellectual project of the Idéologie implied an organic articulation between medicine, philosophy, and politics, expressed in the "association of medical knowledge and analysis with a political project" (Saad, 2016, p. 29). Although unsystematic and, in some way, serendipitous, Cabanis's proposals indeed had a disruptive potential. As part of a cultural revolution intended by the post-revolutionary intellectuals, they provoked philosophical and political controversies in the fields of health and education, which eventually heralded a fundamental reform: that of medical teaching, summed up in the *Coup d'oeil sur les revolutions et réforme de la médecine*, which is the topic of next chapter.

Chapter 5

Coup d'oeil: Sketch or Masterpiece?

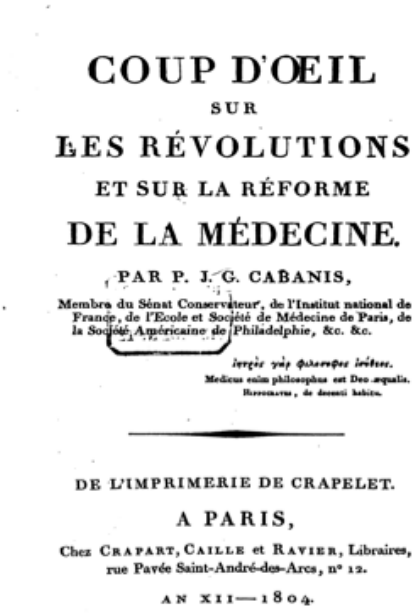
Georges Cabanis's politico-pedagogical thought and the derived set of educational proposals were developed and presented in several texts, documents, and reports. These writings were variously submitted to or read before committees, savant audiences, and legislative bodies. These works, assembled here as an "archive" (in the Foucauldian sense), are: *Observations sur les hôpitaux* (1790); *Travail sur l'éducation publique, trouvé dans les papiers de Mirabeau l'aîné* (1791); *Considérations générales sur les révolutions de l'art de guérir* (1795); *Opinion sur le projet d'organisation des écoles primaires et en general sur l'instruction publique* (1797); *Projet de résolution sur un mode provisoire de police médicale* (1798a); *Rapport fait au Conseil des Cinq-Cents sur le mode d'organisation des écoles de médecine* (1798a); and *Quelques principes et quelques vues sur les secours publics* (1799). Some of these texts were gathered in thematic volumes, edited, and published as books: *Du degré de certitude de la médecine* (1798, pp. 399-531), *Rapports du physique et du moral de l'homme* (1802); *Coup d'oeil sur les révolutions et réforme de la médecine* (1804). This last book[50]—a rich, opinionated, ambitious, and controversial position paper—originally was published in Paris in 1804, and republished in 1823 in the *Complete Works* of Georges Cabanis.

Within the theoretical framework of the Idéologie, *Coup d'oeil* can be read as a narrative study of the history of health care and of medical education. In this respect, unlike Foucault, George Rosen (1946)—perhaps the most representative of the old-school historians of medicine and public health in the Anglo-Saxon tradition—concedes maximum value to

[50] Henceforth, I will abbreviate the reference to the title as *Coup d'oeil.*

Coup d'oeil. Recognizing it as an intellectual landmark of a golden era of cultural invention in scientific medicine, writes Rosen (1946, p. 337):

> This work is both a history of medicine, and a program for the reform of medical education. While the ideas presented in this book did not bring about the restoration of the medical schools, they do reflect the basic philosophy of the instruction given the students at the Paris medical school.



COUP D'ŒIL
SUR
LES RÉVOLUTIONS
ET SUR LA RÉFORME
DE LA MÉDECINE.

PAR P. J. G. CABANIS,

Membre du Sénat Conservateur, de l'Institut national de France, de l'École et Société de Médecine de Paris, de la Société Américaine de Philadelphie, &c. &c.

ἰατρὸς γὰρ φιλόσοφος ἰσόθεος.
Medicus enim philosophus est Deo æqualis.

DE L'IMPRIMERIE DE CRAPELET.

A PARIS,

Chez CRAPART, CAILLE et RAVIER, Libraires, rue Pavée Saint-André-des-Arcs, n° 12.

AN XII — 1804.

Figure 14. Facsimile front page of Cabanis's *Coup d'oeil* first edition (1804). https://gallica.bnf.fr/ark:/12148/bpt6k76544v.textelmage

The first version of *Coup d'oeil* was written during the winter of 1795 (Year III of the Republic). Cabanis added to the text from several occasions: notes from his lectures on the history of medicine at the Paris Faculty of Medicine in 1797 and 1798; seven memoirs presented at the Institut national de France between July 1796 and September 1798; and three proposals for reforms in medicine and medical teaching, which he submitted to the Conseil de Cinq-cents between 1798 and 1801. These writings were revised and organized in a single tome during the spring and early summer of 1803. Owing to his ailing health, however, the author was unable to write the conclusion: a proposal for a general curriculum of medical studies, which was included in the text without further detailing. Considering the work unfinished, Cabanis reluctantly yielded to his friends and disciples' insistence on publishing it.

In the introduction to the *Coup d'oeil*, Cabanis relates that his friend Dominique Garat, who had been designated by the Convention to the position of Commissioner of Public

Instruction, was interested in his ideas on how to apply the analytical method to medical sciences. And so Garat invited Cabanis to participate in a larger project: to make education an indispensable factor in the consolidation of the new democracy (Cabanis 1804). In 1794, in a speech preceding the presentation of the project for the *École normale* of Paris, Garat did in fact argue that given its potential to produce equality and freedom, the analytical approach should be adopted as a universal method for education in all fields of human knowledge. In his own words (as cited in Saad, 2016, p. 27):

> Analysis applied to all kinds of ideas, in all schools, will destroy the inequality of the *lumières*, even more fatal and more humiliating than the inequality of the riches. Analysis is thus essentially an indispensable instrument in a great democracy.[51]

Would it be fair and pertinent to somehow consider the *Coup d'oeil* as the historical-pedagogical manifesto of this radical reform of the French educational system, which I have proposed to designate as the Cabanis Reform? In my opinion, yes, as several aspects do so indicate. Without a doubt, that little volume is the work most representative of the politico-pedagogical thought of our eminent médecin-philosophe. For this reason, I intend to dedicate this entire chapter to the presentation and discussion of the purpose, structure, and main topics of *Coup d'oeil*.

The Coup d'oeil

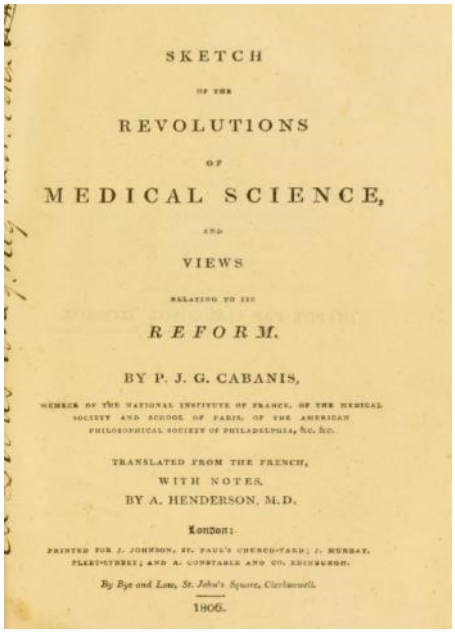
First of all, let us analyze the curious, intriguing title. The expression *coup d'oeil* has two main meanings: a flash of the eyes, the catching of a glimpse, a fleeting look, a glance; but also, the survey of an issue, a panoramic observation, a dominant view over a context, situation, or field.

The first meaning was well captured in the title of the English translation by Scottish physician and writer Alexander Henderson (1780-1863), published in London in 1806. Possibly without the author's consent, Henderson rendered the title as *Sketch of the Revolutions of Medical Science, and Views Relating to Its Reform*. In English, "sketch" can be taken to mean an outline or draft, a drawing without details, the preliminary study for a work of art. The second edition of the work in Spanish, published in Paris in 1831, was titled *Ojeada sobre las revoluciones y reforma de la medicina*. "Ojeada" means quick look, a glance, a glimpse.

The first meaning of the title—*coup d'oeil* as a sketch, draft, or outline—could reflect a fugacious trace of humility (somewhat unexpected, considering Cabanis's striking personality), or even a depressive stressful moment (recall the difficult context in which the text was finalized and its title established), not to speak of the chronic melancholy that, according to some biographers, defined Cabanis's disposition. Such hypotheses are all

[51] Free translation of: *l'analyse appliquée à tous les genres d'idées, dans toutes les écoles, détruira l'inégalité des lumières, plus fatale encore et plus humiliante que l'inégalité des richesses. L'analyse est donc essentiellement un instrument indispensable dans une grande démocratie.*

plausible, since they correspond to the methodical and demanding character of Cabanis, reluctant in the face of pressure to quickly publish the unfinished volume. In any case, these possibilities don't do justice to the importance of that book as legacy and intellectual testament of a remarkable life's work, recognized and valued by Cabanis's own contemporaries.


SKETCH

OF THE

REVOLUTIONS

OF

MEDICAL SCIENCE,

AND

VIEWS

RELATING TO ITS

REFORM.

BY P. J. G. CABANIS,

MEMBER OF THE NATIONAL INSTITUTE OF FRANCE, OF THE MEDICAL SOCIETY AND SCHOOL OF PARIS, OF THE AMERICAN PHILOSOPHICAL SOCIETY OF PHILADELPHIA, &c. &c.

TRANSLATED FROM THE FRENCH,
WITH NOTES,
BY A. HENDERSON, M.D.

London:

PRINTED FOR J. JOHNSON, ST. PAUL'S CHURCH-YARD; J. MURRAY, FLEET-STREET; AND A. CONSTABLE AND CO. EDINBURGH.

By Byt and Law, St. John's Square, Clerkenwell.

1806.

Figure 15. Facsimile front page of the first English edition of the *Coup d'oeil* (1806). https://wellcome collection.org/works/gcmmkvck

The alternative denotation—*coup d'oeil* as panorama, a quick, dominant survey of a field—was commonly employed as a military metaphor at the turn of the nineteenth century. The technological evolution of armaments had given rise to a valorization of tactics and mobility, typical elements of modern military theory, surpassing classical notions of strategy. It is precisely from a tactical point of view that Napoleon Bonaparte is considered a military genius. He personally commanded troops from atop elevations and overlooks, which gave him full view of battlefields and enabled insights that were decisive for his celebrated victories.[52] The nature of the relationship between Cabanis and Bonaparte—turbulent but close, respectful and of intense mutual admiration, which we further discuss in chapter 8—

[52] This aspect even merited a specific study by William Duggan, entitled *Napoleon's Glance: The Secret of Strategy* (2004).

gives strong support to the hypothesis that this acceptation of the title was the one intended by the author.[53]

Still analyzing the title of that work, we find apparent inconsistencies: revolutions or reforms? Pertaining to what? Society, medicine, or medical education? The expression *sur les révolutions* may at first suggest an assessment of the Enlightenment's effort to reform medicine before, during, and after the revolutionary period—victorious in the creation of a model of medical practice that, by 1803, already seemed promising, even functional. Yet, a simple look at the table of contents reveals that *Coup d'oeil* is a much more ambitious and intricate project. As a means: reclaiming the history of medical practice and of the movements to reform medical education—in philosophical, curricular, pedagogical, and pragmatic terms. To an end: providing justification, longevity, validity, and support to the intended *réforme de la médecine*. In contrast to the pompous and elaborate style that was prevalent in academic literature at the time, Cabanis (1806, p. 8) declares his objectives with remarkable precision in the work's prologue, simply entitled *Objet de cet écrit*:[54]

> The direct object, then, of this work is to trace, in a rapid and summary manner, the history of the revolutions of medical science; to distinguish each revolution by the circumstances which have occasioned it, and by the changes which it has effected in the state, or in the progress, of the science; and lastly, to endeavour to discover, if these different views, when subjected to modern philosophical methods, may not suggest some useful hints for the reform of the science, and of its plan of instruction.

To fulfill such pertinent objectives, Cabanis offers us a triple project, as ambitious as it is comprehensive. First, he presents a narrative of the transformations in medicine and their respective historical contexts. Second, from the perspective of Enlightenment-inspired philosophical methods, he analyzes the impact of profound changes (which he terms revolutions) on the development of modern science. And third, he proposes a catalog of the theoretical and practical approaches to medical teaching that undeniably have potential usefulness for reforming the education system of the new political order. The first two topics are introduced and discussed in the following sections of this chapter. The third topic—elements of a Cabanisian political pedagogy—is explored in the next chapter.

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[53] In his first major work, *Du degré de certitude de la médecine* (written in 1788, but only published in 1798), Cabanis employed the expression to define the act of clinical diagnosis as something of a gestalt strategy: when "a physician is enabled to discover the disease at a single glance, and to seize at once all its various and characteristic features" (. . . *qu'il voit la maladie d'un seul* ***coup d'œil****, qu'il en saisit tous les traits à la fois*) (Cabanis, 1798b, p. 75).

[54] Henderson translates this title as "Design of the Work." See my remark in this regard in the Introduction, pg. 15.

A Peculiar History of Medicine

With exceptional consistency and clarity, Georges Cabanis's justification for his proposal to reform the education system is founded upon a mindful historical-philosophical approach. For its thoroughness and precision, I quote the entire paragraph (Cabanis, 1806, p. 8):

> In order to arrive at all the causes of the different changes which medicine has undergone, and to describe them with exactness, it would be necessary to enter into all the details of its history; it would be necessary to join with it the history of many other collateral sciences; it would be necessary even to trace in some degree that of civilized society. Indeed it is only, perhaps, by viewing these different objects together; by examining the reciprocal action of the social state and of political events upon each other, their common influence on the progress of the human mind in general, and that of the different sciences on medicine, in particular, that we can form a precise and perfect idea of the state of the latter, in all its stages of advancement, down to the present time.

Cabanis (1806, p. 63) proposes a curious periodization of the prehistory of medicine, corresponding to the social role of proto-physicians: (i) first there were poets, who recorded languages, sensations, dreams, emotions, and woes; (ii) then came the priests, who used divinations and "adopted the vague language, and mysterious tone of superstition;" (iii) and finally the philosophers, who "usurped the principles of many other sciences, which were themselves but in a crude state."

The favorable view of poets can be attributed to a nostalgic scar left by the aspirations of a young Cabanis. Meanwhile, the less honorable mention of priests' competence for health care may result from the anticlerical sentiment that prevailed among the Idéologues, proud representatives of revolutionary agnosticism. In any case, for Cabanis (1806, pp. 58-59), philosophers were responsible for the first revolution in the art of healing, as highlighted in the title of his work:

> Accustomed, as they had been, to arrange, in a certain order, the different branches of their knowledge, to trace relations between them, and to connect them together, they perceived how requisite it was to class the undigested mass of medical observations, before they could be subjected, with advantage, to the test of reasoning . . . . These philosophers, then, freed medicine from its superstitious and hypocritical character. They transformed an occult and sacerdotal doctrine into a popular science, into a common art. This reform was of infinite service, both to medicine and philosophy.

In dealing with *Coup d'oeil*'s first objective, Cabanis shows a surprisingly respectful attitude toward traditional wisdom.[55] He mentions that, even among the so-called most primitive

[55] This view prefigures the relativistic bases of contemporary anthropological science—let us recall that anthropology was only organized and recognized as a science in the early twentieth century.

peoples (indicating those of New Zealand, Lapland, North America, and inland Africa) of his time (the eighteenth century), "we find traces of the practice of medicine and surgery" (Cabanis, 1806, p. 35). He immediately transposes this analogy to the prehistoric era, postulating that all knowledge pertaining to health was collectively owned. Certainly influenced by Rousseau's ideas, he comments in a respectful tone that "medicine, therefore, existed before there were any regular physicians" (Cabanis, 1806, p. 36). These health practices were carried out by socially legitimized operators of empirical knowledge, that is, anyone endowed with "some intelligence," who took on the role of caring for the health of a tribe or village, who was able to recognize different diseases, and then apply treatments with varying degrees of efficacy.

"*Enfin, parut Hippocrate*!" [At length Hippocrates appeared!]. In this almost dramatic tone, Cabanis (1804, p. 64) introduces the history of medicine's greatest intellectual hero, to whom he dedicates the longest section (24 pages) of *Coup d'oeil*. For the Frenchman, Hippocrates' decisive contribution (which encompassed fundamentals, concepts, methods, techniques, and practices) aimed at the constitution of a medicine that went "back again into its natural channel—that of rational experience." Furthermore, Cabanis (1806, p. 68) credits to Hippocrates the crucial separation between medicine and philosophy. This allowed, dialectically, to recombine "both these sciences into each other, for he [Hippocrates] regarded them as inseparable," and to recreate them from "relations which were altogether new."

Cabanis talks about the life and work of Hippocrates with an extraordinary degree of detail, citing Herodotus, Xenophon, Celsus, Thucydides, and Galen—likely taken from the originals in Greek and Latin.[56] The foundations of Hippocratic medicine are briefly presented, with an emphasis on the theory of health as a dynamic equilibrium between environment and the ailing subject, on the doctrine of humors, and on the medical doctrine of crises. Throughout *Coup d'oeil*, Cabanis zestfully contextualizes the Greek master's relations with various philosophical schools and therapeutic traditions. He narrates episodes and cases with an unremittingly eulogistic tone, never hiding his deep admiration for Hippocrates, the man he thought "the father of the *ars curandi* [the arts of healing]."

Cabanis (1806, p. 87) deemed Hippocrates

> the model of a peculiar style, and even, we may add, of an eloquence, which combines dignity, with artless simplicity; a rapid flow, with accuracy of detail; the colouring of a glowing imagination, with the severity of a strong and exact mind, that sacrifices everything to truth; and, lastly, the most perfect clearness, with the most admirable conciseness. And, even in our time, continuing to be studied by physicians, to be consulted by philosophers, and read by all men of taste, he is, and always will be universally respected, as one of the most distinguished ornaments of

[56] As mentioned in chapter 1, Cabanis was a skilled translator and scholar of the classical languages.

> antiquity; and his works will always be regarded as one of the most valuable monuments of science.

Regarding the expansion of the Roman Republic, Cabanis (1806, p. 96) tells us that "Rome became the mistress of the world," and that sophisticated Greek medicine was long disregarded by the rule of Roman magistrates. As if the Roman Empire were the nascent Napoleonic Empire (which had caused him so much grief), Cabanis (1806, p. 96) completes his indignant denunciation, delivered in harsh, caustic terms:

> Her tyrannical government completed, by oppression, the ruin of the nations, which she had subdued by the resistless force of her arms. She transported, with violence, to her bosom the arts and sciences, or, rather, the masterpieces they had produced; which she snatched from others, without knowing how to appreciate and enjoy them herself. The riches of the whole universe were poured in, to glut her insatiable avarice.

Galen, the most illustrious of the Roman physicians of Greek origin, is portrayed by Cabanis as being a mere eclectic commentator of the Hippocratic Corpus, who repeated fundamentals, made his own observations, and sought its integration with the various medical theories of his time. Galen, according to Cabanis, resurrected Hippocratic medicine in his own way, spreading its influence to the dozens of sects that administered health care in Ancient Rome. Still, Cabanis (1806, p. 103) comments, "what it [medicine] gained in his [Galen's] hands must be confessed to have more the appearance of dress and ornament, than of real solid acquisition." Though Galen's applications bore a more systematic, even entrepreneurial character, thought Cabanis, the principles, concepts, and methods of Hippocrates's own art-science "lost much of their original purity."

In the section pertaining to Arabic medicine, Cabanis comes off as an acid critic, and a largely unfair one, even incomprehensible. Without citing historiographic sources, he praises the Ptolemaic tradition of the School of Alexandria, where purportedly the art of healing was brilliantly taught to students "from all quarters of the globe [who] resorted to it, to receive the instructions of the most celebrated masters of the world" (Cabanis, 1806, p. 106). He blames the destruction of the most famous library in human history to the "barbarous furor of Mussulmen," pointing out that the medical books were somewhat spared, "on account of the interest, which even the most stupid men take in the science that promises them health, or an alleviation of their complaints" (Cabanis, 1806, pp. 106-107). Nevertheless, Cabanis recognizes that Muslim intellectuals sought to translate and disseminate the main philosophical and medical works of the Greek tradition. Be that as it may, he thought Arabic medicine did little to contribute to the historical progress of the art of healing. Cabanis (1806, p. 112) comments:

> The Arabian schools, accordingly, came into vogue, in the same way as Grecian schools had done before them. Arabic soon became the language of the learned, and it was through it that the Europeans first became acquainted with the works of Hippocrates, of Galen, of Aristotle, of Euclid, and of Ptolemy. But the science of medicine, amid this agitation of opinions, made no real progress.

It is difficult to assess what may have determined this clearly prejudiced position in relation to the undeniable contribution of Muslim philosopher-physicians. Such prejudice, perhaps representative of racial or religious intolerance, is evident in the fact that Cabanis does not even mention Avicenna and Averroes,[57] even though Avicenna's *Canon of Medicine* was part of the mandatory bibliography of European medical schools until the mid-seventeenth century (Siraisi, 2014; Zahabi, 2019). Even worse: Cabanis implicitly accuses the famed physician-philosophers of Persia and Al-Andalus of plagiarizing, sacking, usurping, and impoverishing the Greek roots of modern medicine. In his words (Cabanis, 1806, pp. 107-108):

> Their literati, who were as fond of pillage as their warriors, appropriated to themselves the ideas that were to be found in works of little note; and sometimes did not scruple to lay claim to whole books, only taking care to suppress the name of the author. Even their most celebrated writers are not altogether free from this reproach.

Also (Cabanis, 1806, p. 113):

> Their publication [of the works of Dioscórides, Galen, Paulus Egineta, and Hippocrates] tended greatly to lessen the credit of the Arabians, whose numerous plagiarisms were so very striking, and whose inferiority, in every respect, soon began to be perceived.

In contrast, Cabanis (1806, p. 114) highly valued the role of Jewish physicians during the Middle Ages. In an almost mythical tone, he attributes to the Jews the establishment of a commercial and financial network, "forming a close and distinct fraternity in all parts of the world," which allowed them safer means to transfer monetary values. According to Cabanis (1806, pp. 114-116), despite being the unfortunate victims of "cruel and unceasing persecution" in all parts of the known world, "They accordingly became our factors and bankers, before the use of reading was known: and they were also our first physicians." At a time when Hippocrates and the other fathers of medicine were known in the West only through Arabic and Syriac translations, says Cabanis (1806, p. 114), "the Jews were almost the only persons, who, by taking advantage of the labours of antiquity, knew how to treat disease with any sort of method."

Indeed, Cabanis's narrative reveals great sympathy, respect, and admiration toward the Jewish people. Casting aside then-current negative stereotypes of Jews as sly merchants and usurious moneylenders, Cabanis attributes to them a modal personality that imparted predisposition, even a talent, for the efficient practice of medicine—"their temperament and character are precisely those most suitable for a physician" (Cabanis, 1806, p. 116). He comments (1806, p. 115) that such mastery of the art of healing owed to a Jewish network of schools in Toledo, Cordoba, and Granada, where "medicine was an object of particular

[57] Latin names of the two most illustrious intellectual leaders of medieval Islamic culture, respectively Ibn Sina (980-1037), Persian physician, philosopher, and astronomer; and Ibn Rushd (1126-1198), Berber-Andalusian polymath, physician, and jurist who distinguished himself in the Almohad Caliphate. For their impact on medical education, see mainly Leiser (1983).

instruction." In doing so, he omits the fact that all three schools were in territories dominated by Islam, and disregards numerous historical records of the close collaboration of Jewish physicians in the teaching and practice of medicine in different caliphates (Chipman, 2013).

Moving on to a section regarding the transition from the Renaissance to the Enlightenment, Cabanis (1806, p. 121) highlights the evolution of chemistry as a scientific revolution that greatly impacted the subsequent emergence of a science-based medicine: "the general key to all the branches of natural knowledge, the true guide of the arts, and the most formidable barrier against . . . superstitions." At a time when the European schools suffered with the "scientific prejudices of the Galenian and Peripatetic systems of physic," the alchemists sketched "a just conception of the principle of the animal economy" (Cabanis, 1806, p. 122). Though the alchemists contributed with "some sound ideas, or rather, with some happy views with regard to the science of medicine," they were "most infatuated with absurd expectations." Paracelsus, the most famous of alchemists, is defined by Cabanis (1806, p. 122) as "unquestionably the prototype of mountebanks: a perfect pattern of pride, madness, and impudence."

While narrating the transition from alchemy to science, Cabanis introduces Georg-Ernst Stahl (1660-1734),[58] a German physician and metallurgist-chemist, known as the proponent of the phlogiston theory. In his opinion, Stahl's contribution greatly surpassed that of Jan Baptista van Helmont (1580-1644), the Belgian physician and chemist who proposed the concept of gas and studied the digestive process. Cabanis considered Stahl to be "the greatest man of his profession, who has appeared since the time of Hippocrates" as he was "convinced that there is no writer more capable [than Stahl] of teaching the true method of observing nature, and of suggesting happy expedients at the bedside of the patient" (Cabanis, 1806, p. 140). Without indicating specific references from Stahl's work or other sources, Cabanis deemed him a great connoisseur of the Hippocratic Corpus, "one of those extraordinary men, whom nature seems to produce, from time to time, for the purpose of effecting the reform of the sciences" (Cabanis, 1806, p. 132). Finally, Cabanis talks of a "Stahlian system" that was able to integrate the secular art of healing with "the improvements deriving from the observations and philosophical views of the moderns" (Cabanis, 1806, p. 135).

The feeling of intellectual passion that Cabanis demonstrates for this alchemist-physician (who now seems all but forgotten in the history of science) is such that he dedicates almost ten pages of *Coup d'oeil* to Stahl. Let us look at an excerpt from this section (Cabanis, 1806, pp. 135-136):

> [T]he reforms [of Medicine], which have been already effected, and those which may be hereafter accomplished in the same spirit, must be ascribed, in a great measure, to this extraordinary man; both on account of the sound ideas which he directly established, and of the impulse which he communicated to public opinion . . . .

[58] On a curious note: writing *Staalh* in the French original, Cabanis misspelled Stahl's surname. Henderson's translation corrects this spelling.

> notwithstanding the awkwardness in which some of his disciples have defended, explained, and commented upon his works, still his influence has not been less powerful in medicine, than in chemistry, and that to both sciences he has rendered everlasting services. In this place I shall content myself with observing, that even his smallest performances are replete with enlarged views, and, at the same time, abound in valuable minute remarks.

Considered by many authors as the founders of modern clinical medicine, two historical neo-Hippocratics—Thomas Sydenham (1624-1689) in England and Herman Boerhaave (1668-1738) in Holland—are highlighted by Cabanis, in a mixture of respectful admiration and envious criticism, each deserving an entire section in the *Coup d'oeil*.

For Cabanis (1806, p. 146), the medicine that was practiced and taught in England at the turn of the eighteenth century "still retained its scholastic form . . . and the genuine spirit of observation was almost entirely unknown." Our physician-philosopher maliciously comments that Sydenham, purportedly lacking access to then rare and expensive books, did not even study Hippocrates. And Cabanis (1806, pp. 146-147) so concludes: "With the prevailing theories of the time he was but imperfectly acquainted; but this circumstance was, perhaps, more favourable to his labours, as it could never be embarrassing to his self-love." These and other comments by Cabanis (1806, pp. 149-50) fail to hide his profound ambivalence towards Sydenham, made glaring by his own words:

> The theories of Sydenham were, it must be acknowledged, contracted, or even erroneous;[59] . . . his ideas were, in general, very limited; but no physician ever exerted so beneficial an influence on that branch of the art, to which all the others are subservient its practical application: and in this respect, no one was ever more deserving of the title of restorer of true medical science.

Maybe Cabanis was right. Thomas Sydenham was an officer in Cromwell's army, balancing a military, and later political career with a clinical practice, which he initially exercised under precarious licensing from the authorities. The father of the modern clinic, honorably known as "the English Hippocrates," only completed his M.D. degree at Cambridge University at age 52, almost 30 years after graduating from Oxford University with a bachelor's in medicine. He was seen by many of his contemporaries as an arrogant, opportunistic, and pragmatic person, who did not hesitate to use his political influence for self-promotion and was persecuted "partly because some of the Fellows [of the Royal College of Physicians] considered him as an upstart and an imposter" (Stewart, 1953, p. 465). Nevertheless, Cabanis admits that the new concepts of clinical practice (which in the seventeenth century

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[59] We have, in this quotation, a clear example of the translator's bias. Henderson writes this sentence with a tone much softer than the original in French: "*Les théories de Sydenham étaient , , , mesquines, ou mème fausses*." Apparently, the careful and dedicated Scottish doctor was trying to protect the image of the mythical hero founder of British medicine and the Modern Clinic. Despite the caution of the eminent translator, an anonymous reviewer of the *Sketch* soon noted: "Though the author admires Sydenham, he has not done complete justice to the character of that great physician . . . which will justly give offence to Englishmen." (Oxford Review, 1807, p. 143).

revolutionized English medicine and subsequently influenced all Northern Europe) should be credited to Sydenham. For this, the Frenchman declares his sincere admiration for the Englishman.

In the following section, dedicated to Herman Boerhaave, Cabanis provides little information about the life and work of the Dutch physician and professor, who Foucault (1963) regarded as the most illustrious and influential forerunner of modern clinical practice. Cabanis deliberately employs an opinionative, almost sarcastic tone when presenting Boerhaave: on the one hand, a systematic and methodical scholar; on the other, a lackluster, uncreative one, who took on medicine as a last choice after a brief foray into theology, and after making a living for some time as a lecturer of mathematics and natural sciences.

Cabanis (1806, p. 156) acknowledges, almost reluctantly, the erudition of Boerhaave, who "had perused the writers of all sects, and of all ages: he had analysed, illustrated, and commented upon their works." Nevertheless, Cabanis raises suspicion of plagiarism by mentioning that Boerhaave then "appropriated [others' works] to himself; he modified and combined them" (Cabanis, 1806, p. 156). He sees Boerhaave's "habit of rigorous discussion and patient research" almost as an obstacle to success in a belated medical career, since "under these circumstances, his talent of discernment never, perhaps, attained that degree of perfection, which, at the bedside of the patient, can alone render the gifts of knowledge and the powers of reason productive of real utility" (Cabanis, 1806, p. 155). And once again maliciously, Cabanis concludes (1806, p. 158):

> [D]oubtless, a name so deservedly illustrious, will be transmitted to the latest posterity, not, perhaps, as that of a real and transcendent philosophical genius, but as that of a very able and laborious teacher, and as that of a very elegant writer.

To theoretically address the issue of health and disease, from this rich historical-philosophical approach, Cabanis (1806, p. 24) postulates a refined conceptual construction, based on the idea that

> Health is, no doubt, the natural state of man. But disease exists also in nature, since it results from the laws of nature and, even in a great measure, from those which are established for the preservation of health.

Cabanis concludes his fascinating account of the history of medicine with an almost confessional reflection on the relationship between the history of clinical practice and the evolution of medical education. Preliminarily, he somberly assesses that in the sixteenth and seventeenth centuries "the advancement of science was great and rapid; while the system of instruction made little or no progress" (Cabanis, 1806, p. 166) and proceeds to consider this disparity between science and teaching to result from

> a wide difference between the doctrines contained in the best books, and those of the schools; between the prudent advances, the more steady and exact proceedings, and the more independent tone, of the authors of the time, and the blind routine, the scholastic jargon, and the mean and servile prejudices, of by far the greater part of the teachers.

In a footnote (Cabanis 1806, p. 166), he acknowledges the Jesuits "for great services" and celebrates the "Society of Port Royal" for having resumed "a philosophical method of instruction."

In contrast, Cabanis celebrates the "real progress" of the Enlightenment in the field of education during the eighteenth century. The scholastic jargon was then replaced by "a language more pure and more precise," which allowed the teaching of natural sciences in public institutions, outside of monasteries, guilds, and fraternities, and far from the initiatory environment of the old alchemy.

Conceived in an intellectual context still strongly impacted by the *Encyclopédie*, *Coup d'oeil* is part of the Idéologues' grand project of creating an epistemology for a new paradigm of science, wherein the latter is politically committed to human progress. This scienza nuova may have begun to take shape in Cabanis's proposal for a moral science that was based on medicine (a medical proto-anthropology named *science de l'homme*), and in Destutt de Tracy's (1803) development of an applied epistemology, systematized in his ambitious although inconsistent compendium *Élements d'Idéologie* (which synthesized philosophy, grammar, and logic). In this framework, *Coup d'oeil* reads as a study of the history of health care and education.

The Natural History of Understanding

In the intermediate chapters of *Coup d'oeil*, Georges Cabanis commits to detailing epistemological and methodological themes that can help to articulate his thematic triad: science (or natural philosophy), clinical practice, and medical education. To that end, he begins with a brief review of the main arguments of the theory of sensations,[60] exploring in greater depth its philosophical elements (namely the anti-metaphysical aspects), always treated as part of a historical narrative.

His assessment is that from Ancient Greece (Aristotle's, not Plato's) until the Renaissance "no real improvement took place in philosophical methods" (Cabanis, 1806, p. 176). He then identifies Francis Bacon (1561-1626) as the precursor of a reform plan encompassing "all the branches of science," which would lead to the legitimation of science as a source of valid knowledge. In his opinion, Bacon "endeavoured to remould the instrument by which we acquire our knowledge: with him the restoration of true philosophy may be justly said to commence" (Cabanis 1806, p. 176). He also highlights Hobbes, Locke, Bonnet, and Condillac as those who "have successively improved upon the views of Bacon, and have rendered the processes of philosophical analysis more simple and more sure." Above all, he recognizes the value of the philosophers who, "upon a more accurate knowledge of the

[60] A summary of the main developments of *Rapports du physique et du moral de l'homme*, Cabanis's masterpiece in terms of a scientific and philosophical contribution, was discussed in the previous chapter.

faculties and operations of the human mind," established the rules for "a model of the true method of research" (Cabanis, 1806, pp. 176-177).

Cabanis (1806, p. 177) proposes that this integrative perspective of human knowledge, crucial for the understanding of the then-incipient scientific thought, should be named "the natural history of the understanding." In this sense, his synthesis of the historical process of the emergence of modern science is certainly remarkable (Cabanis, 1806, pp. 150-151):

> The genius of Bacon and Descartes had powerfully aided the progress of the human mind. Descartes, in particular, attracted the attention of Europe, by the novelty of his ideas; for Bacon was not thoroughly understood till a much later period . . . . The application of algebra to the geometry of curves, and a system of astronomy, which explained all the phenomena, by the laws of motion, might be expected to operate the same revolution in physical science . . . . The experimental path, which had been so highly extolled by Bacon, became generally introduced by Galilei, his contemporary, and the disciples of the Florentine Academy, whose researches were guided by the most regular and accurate methods. Finally, the geometry of fluxions, which had been hinted at, and even pointed out, by Fermat, Descartes, Pascal, and some others, was soon after invented by Leibnitz and Newton.

In this and other numerous passages of *Coup d'oeil*, Cabanis expresses his deep admiration and respect for René Descartes (1596-1650) and his work. In section IX of chapter III—*General Views on the Subject of Medical Education*— entitled "Of the False Application of Other Sciences to Medicine, and of the Doctrines of the Mechanical and Ancient Chemical Sects," there is an even more eloquent example of this reverence for Descartes, pointed out as the virtual creator of a new science. Comments Cabanis (1806, pp. 223-224):

> About this time, as we have already seen, the philosophy of Descartes had become very generally prevalent. By the application of a new instrument of research to the most difficult and important parts of the Science of Extension, Descartes had, in some measure, made a new science of it. A novel species of calculation, that was bolder in its views, and more powerful in its operation, seemed still more effectually to place geometry at the head of the sciences.

Critically, he describes the process by which Descartes's philosophy, after being censored and persecuted by ecclesial powers, gradually came into vogue (Cabanis 1806, p. 224):

> It was not to be expected, that physicians could have remained quiet spectators of this general enthusiasm. They saw many of the most remarkable phenomena of nature subjected to calculation. To become susceptible of this species of proof it is sufficient, that the phenomena observe a regular order in their succession; that their appearances, revolutions, and changes, afford certain fixed points of view, in which they may be leisurely considered.

Cabanis intends to attribute to the Cartesian legacy the responsibility for the serious deviation that supposedly occurred in the early mathematization of clinical medicine—the subject of his debut book, *Du degré de certitude de la Médecine*. With usual irony, he notes

that, "When the philosophy of Descartes . . . was transformed even into a species of superstition: medicine was carried along by the general current of opinion, and became Cartesian" (Cabanis, 1806, p. 153). As always, revealing shrewdness and argumentative precision, he values methodological advances provided by the numerical analysis provided by the Cartesian approach to morbid phenomena. However, he highlights its application limits, "when the methods of investigation are perfectly sure," noting that frequently we cannot repeat their application to the same objects (Cabanis, 1806, p. 245).

> In medicine, as in other sciences, by repeating the examination of facts and opinions, we not only do not risk the loss of any known truths, but we necessarily discover many more that are involved in the observations already made, and the existence of which we, perhaps, did not even suspect. The real treasures of science consist in permanent and universally acknowledged truths, and not in the pomp and parade of systems; and are to be estimated by the accuracy, and not by the number or apparent extensiveness of our ideas . . . . It is in this way that our acquirements gradually become more correct: - and nothing, certainly, would be more useful than the occasional revisal of those particulars of our knowledge even, which leave no traces of uncertainty in the mind.

By defining the scope of Cartesian analysis in this way, Cabanis provides a central key to understanding the historical-philosophical approach as the only means capable of articulating scientific knowledge, clinical practice, and medical teaching, in their respective epistemological, semiological, and pedagogical dimensions. Advancing from this perspective, Cabanis demonstrates an impressive anticipatory vision, as he already called attention to two categories that, two centuries later, would become central in contemporary epistemology: singularity and causality.

For him, in "*la réalité des choses*"—which Henderson simplistically translates as "in nature"—humans actually perceive only singular cases, concrete individuals, or specimens. When commenting that supposed identities of diseases only exist "in the brains of unreflecting or inattentive observers" (Cabanis, 1806, p. 191), he anticipates logical restrictions to ontological models of health-illness, which would only encounter consistent epistemological objections by the third decade of the twentieth century. To conclude such an impeccable argument, Cabanis (1806, p. 191) turns to one of the geniuses of his time: "Hence, Leibnitz was led to affirm, that there are not two leaves which resemble each other in every particular."

Regarding cause, causality, causalism, and related concepts, Cabanis elaborates a perspective of his own, though oriented by the English empiricist philosophers John Locke and David Hume, with whom he shows great affinity. His conception of the question of causality (a crucial problematic of epistemology, even today) is so consistent and precise, his style of presentation so clear and concise, that I can only recognize its currency (Cabanis, 1806, pp. 136-137):

> The phenomena of life depend upon a cause; or, to speak more correctly, are the result or natural consequence of some preceding event, which we know only by the subsequent events connected with it, that is, by the phenomena themselves. To this cause different names have been applied, at different periods of medical and philosophical history. Hippocrates called it the impulsive principle, **ενορμον**. Since his time, it has received successively the appellations of *soul* or *anima, nervous power, sensibility, vital principle, solidum vivum* &c. (italics in original).

Taking the clinical process of diagnosis as a general example, Cabanis demonstrates that causality is defined within the scope of conjectures and that the processes of determination are established after trajectories, instances, and stages of attributing validity and representativeness. Accordingly (Cabanis, 1806, p. 195):

> A man, for example, experiences pain, after a variety of circumstances, which may be all equally capable of occasioning it. If this pain ceases of its own accord, amidst a number of other circumstances, which are complicated and connected together, nothing but ignorance and want of reflection could lead us to regard the real cause of the disease and of the cure as easy of discovery. If the favourable change takes place after the use of certain remedies, which, from analogy, were presumed to be beneficial, the conjecture, that they have really been so, becomes more uncertain in proportion as the instances of a similar success, in similar cases, are less numerous: and it is only in the course of time, and by repeated observations in different circumstances, that it comes to attain a very high degree of probability.

As such, Cabanis indicates that the idea of causality manifests itself in the statistical plane of probabilities and in the methodological plane of therapeutic experiments. Starting from a logical-philosophical critique of causalism, Cabanis's approach to causality reveals a strong influence from Humean anti-inductivist skepticism (Cabanis, 1806, p. 194):

> The term cause should not lead us to regard the phenomena of nature as involved in one another, or as engendered and generative by turns: for our knowledge is entirely confined to facts and all that systematic observation can effect, is to establish their analogies or differences, their mutual independence, or their subordination and connection. Two facts may either resemble, or differ from each other: they may appear always together, or may happen sometimes separately. If we observe one event constantly succeed another, we call the first the cause, and the latter we style the effect. But these terms impart no new qualities to the objects they denote; but merely express the order of their succession.

Postulating an answer to Hume's problem, by way of an expectation to overcome inductivism, Cabanis (1806, p. 197) defends a practical version of deductive logic, as follows:

> The too general rules, drawn from the resemblances of objects, are corrected by other rules, deduced from their differences. We recur to particular facts: the distinctions and exceptions themselves are arranged, and formed into other more

> partial systems; and from all these successive operations, the effects of which serve mutually to correct or balance each other, are deduced results which become every day more accurate and perfect.

As a guiding strategy for scientific research, he proposes a new order of expounding facts, through reliable methods of observation, experience, and reasoning—the components of a renewed pedagogical agenda. The value of precision and rigor in scientific methodology (what we now call the data collection or evidence production stage, within the research process) is presented by Cabanis (1806, p. 15) with clarity and detail:

> The skillful observer may, even on these points, ascertain, by sure methods, the nature of all the objects of his researches. He may estimate, with precision, the effects of different remedies, and trace to himself rules, which will reduce the probability of their success to a high degree of certainty; by classing methodically both the cases in which they have been given, with all their minute distinctions, and the remedies themselves, according to their different combinations.

Cabanis then introduces the question of the instrumental value of theory, or of theoretical systems, in the production of scientific knowledge and in the demarcation of its pragmatic validity. To that end, he offers a twofold path. On the one hand, he elaborates an argument on the contradiction between singularity and universality in dialectical terms. On the other hand, he seeks to establish the causal nexus not as an intrinsic attribute of illnesses, but as a property of theoretical models capable of referencing health-disease phenomena. His conclusion is once again simple and precise (Cabanis, 1806, pp. 190-191):

> Then, it is no longer question of abstract terms, which ought always to retain the meaning in which they were first employed. It is no longer the circle or the triangle of geometry; it is no longer the relations of fixed and invariable numbers. Nor is it that pleurisy defined by a phrase which calls to mind the cough, the pain of the fide, the sanguinolent expectoration: but we have to consider various combinations of phenomena, always differing from one another, always particular and specific, that present themselves to view: and the more we are capable of just observation, the less we perceive of those supposed similarities of diseases, which have no existence but in the brains of unreflecting or inattentive observers. In short, we conclude by discovering nothing but individuals to exist in nature.

Purely rational objects—as well as certain elementary properties that can be examined in relation to the objects of science—are exhausted at the level of conceptual construction. However, the situation inevitably changes “when we attempt to apply our knowledge to practical purposes” (Cabanis, 1806, p. 190). He illustrates the argument with a detailed exposition on the diagnosis of the symptom set known by the abstract word *pleurisy*—from the sensations that become symptoms, to the clinical evolution, prognoses, therapeutic indications, spatial distribution (Cabanis, 1806, pp. 184-185). This no longer pertains to categories, or abstract values, or formal geometric objects such as a circle or a triangle, or to algebraic relationships between numbers and symbols, or theoretical concepts.

According to Cabanis, only the rigorous scientific, philosophical, and historical analysis can enable the definition, description, recognition, and distinction of the pathognomonic signs and symptoms that "remained for a long time confounded together under the deceitful disguise of a common name" (Cabanis, 1806, p. 186).

Recreating *la méthode*

For Cabanis, the main epistemological challenge of the historical moment in which he lived, and on which he reflected, was clear: to recreate the Cartesian perspective while overcoming its theological and metaphysical bias. To this end, resorting implicitly to the Idéologues and remotely to the Encyclopédistes, he identifies three families of methods that could accomplish the desired integration of scientific knowledge and clinical expertise: (i) methods of observation; (ii) experimental methods; (iii) methods of reasoning. After confirming that he had previously dealt with the first two methods, Cabanis proposes to break down the methods of reasoning, which he calls "processes of philosophical analysis," into four modes: (1) description; (2) decomposition-recomposition; (3) historical analysis; (4) deduction or "analysis of the analyses."[61]

Given the clarity with which Cabanis elaborates each definition, I include this long but necessary passage (1804, pp. 252-253; italics in the original):

> Thus, for example, we may consider a body merely with respect to its magnitude, to its form, to the reciprocal relations of its different parts, to its situation with regard to one or several other bodies, and to the natural analogies or differences between them. The object of the analytical method, in such a case, is merely to describe this body with exactness, and to assign to it the place it should occupy, in relation to the objects which we view in conjunction with it. This, therefore, may be called *the descriptive method of investigation*.
>
> If our inquiries be not confined to these external qualities, to these relations of place; if we be desirous to become acquainted with the elements of which any body is composed; that is, with those particles of matter, by the intimate union of which it its formed; and if we separate its constituents in order to examine the nature of each, or, at least, the characters by which they are distinguished; the result of the investigation is no longer a simple description of the body. In order to study it in this point of view, we must decompose it; and, if we succeed in recomposing it, or in combining anew the different constituent parts which we had at first separated, the investigation is complete . . . . It may be termed the *method of investigation by analysis and recomposition*.

[61] The term "analysis of the analyses" is not part of Cabanisian glossary; it is my interpretation of the metanalytical intent of the deduction component of Cabanis's four types of analysis.

It is pertinent to verify what the dyad decomposition-recomposition directly evokes in Descartes's thought—it condenses the second and third rules from *Discourse on the Method* into a single motion for producing valid scientific knowledge (Descartes, 2001). Cabanis continues (1804, pp. 253-254; italics in the original):

> But the objects of our researches do not always present themselves to view at one and the same time . . . . There are also certain subjects of investigation that can be studied only by the changes which they undergo before the eyes of the observer; from which we try to discover the preceding alterations they have experienced. In the study of these phenomena, our chief object is to determine whether or not any relations really subsist between them. In reviewing these changes, we endeavour to recognise the properties, with which the subjects of them have been endowed by nature: and when we have actually collected all the observations and experiments necessary for effecting either of these purposes, the result is a systematic history, in which the series of facts relative to the different subjects of inquiry unfolds itself in a natural order. This we shall term the *historical method of investigation*.

Cabanis clearly prioritizes deduction as the focus and goal of the entire analytical process, incorporating and subsuming the other modes of analysis. This is because deductive analysis also comprises description of objects, decomposition and recomposition of ideas, as well as results that can only be provided by historical analysis. From a logical standpoint, we can then justify interpreting the deductive approach as an "analysis of the analyses." Here is what Cabanis wrote in this regard (1804, p. 255; italics in the original):

> [In the case that] it is no longer the direct and material objects of our sensations that form the subject of investigation [. . . we] operate upon the products of our own minds, or, rather, upon the signs of these products, the only means by which we can represent them and submit them to examination, When these signs are well imagined, when they express accurately, and limit with precision, their corresponding ideas, we may always ascertain whether each of them really involve but a single idea, or comprehend several; we trace with ease the order of their connection; we proceed from one conclusion, to another with, perfect confidence; and as we advance, we may prove all the results by demonstration. These operations of the mind may be included under the name: of the *deductive method of investigation*.

By presenting, in a detailed and systematic manner, applications of each of these concepts in medical practice, especially in the field of therapeutics, Cabanis expresses his reverence and desire to contribute to Condillac's sensualist philosophy. In this regard, Cabanis raises certain points that strike me as fundamental for appreciating *Coup d'oeil*'s rigorous philosophical construction. In at least four aspects, he anticipates general epistemological issues that we could consider as being highly contemporary: an approximative or gradual understanding of complexity; a historicist perspective of knowledge; the ability to integrate physical sciences and symbolic sciences; and a holistic and dialectical conception of reality.

First, the integrative structure of the Cabanisian reading of Condillac's methodological proposal implies a gradual approach to complexity: from the simpler description to the more complex and comprehensive deduction. However, this inter-analysis articulation does not operate in a linear and gradualist way. For him (Cabanis 1806, p. 257), historical analysis implies simultaneously description and deduction, because it is "continually analysing and recomposing the objects, or the phenomena and changes, which it endeavours to connect in a natural order, or of which it furnishes correct representations" or empirical reference.

The Cartesian mind-body divide was a central question for Enlightenment materialism. The formulation of this question as a philosophical problem, carried out by Cabanis himself (1806, p. 137), is an exemplary illustration of how to apply the deductive method of analysis:

> When the distinction between mind and matter was established in a formal and dogmatic manner, what had formerly been the soul now became the mind, and philosophers, in league with the theologists, regarded it as immaterial. The body, therefore, was distinguished from it, by the circumstance of its being body,and in order to explain the functions of the different organs, they adopted, according to the opinions of the age or country, various causes or powers, which they believed to be material as well as the body, but subjected by unknown relations to the mind, their common regulator. Certain notions of a still more dogmatical nature having led to the opinion that thought is exclusively a function of the mind, essential even to its existence, and of which the exercise continues without interruption during the whole course of life, and terminates only at the dissolution of the body. The word soul, consequently, could no longer be restricted to the designation of the first cause, or abstract idea of the phenomena of life, but was used to express the principle of thought, or thought itself, and, in ordinary language, was employed to denote the moral being, or the whole assemblage of our ideas and sentiments.

Secondly, Cabanis asserts the relevance of a historicist perspective (which he calls the historical-philosophical approach) capable of guiding the construction of a given scientific field, in permanent change. In the opening paragraphs of *Coup d'oeil*, he comments (1806, p. 3) that "the new facts which are observed, or the new ideas which are acquired" end up destabilizing the foundations of a given science, only to then renew them entirely. He also notes that "the gradually increasing number of those facts and ideas obliges us," in a methodic, disciplinary fashion, "to revise and simplify the classifications, which comprise them, and the methods, which have been resorted to in order to facilitate their study." The metaphor of science as a trip, which Cabanis (1806, p. 3) employs to explain the historical, constructivist character of the research process, is interesting, pertinent, and, surprisingly, extremely current:

> [S]cience may be compared to an inquisitive traveller, who, collecting every thing which interests him on his journey, sees his baggage increase in bulk every moment, and feels himself frequently obliged to stop and examine it, in order to free himself from the useless and redundant articles, or to arrange, in a more suitable order, those

> which he cannot dispense with, that they may occupy less room, and that the carriage or the employment of them may become more easy and convenient.

In this manner, Cabanis seems to anticipate, by more than a century, Gaston Bachelard's concepts of epistemological obstacle and epistemological rupture, which were later appropriated (without due credit) by Thomas Kuhn's approach to scientific revolutions. Moreover, in his conception of science as the historical product of a culturally referenced rational materialism, Bachelard (1963) appears to be a true heir (undeclared, perhaps reluctant) of Cabanis's and the Idéologues's lineage.

Third, (resuming a key argument from his pioneering contribution to the physiological theory of emotions, in *Rapports*) Cabanis argues that, to become scientific, the art of healing must seize the best of the relationship between natural sciences and moral philosophy—the latter is equivalent to what today we call humanities and social sciences. On the one hand, for him, medicine must use the precise language of science to produce relevant knowledge; on the other hand, borrowing the communicative and popular tone of moral discourse should increase the effectiveness of health care practice. In his words (Cabanis, 1806, p. 6):

> Situated between physics and moral philosophy, it is of peculiar importance to discover, and to point out, with clearness and exactness, the true relations which it [medicine] bears to each of these sciences. It must borrow the strict and precise language of the former, and the liberal, and as it were familiar, tone of the latter. It must take advantage of all that the intellectual philosophy has most rigorously established in its theories, and of all the delicate illustrations which its daily application to the sensitive frame suggests.

As a crucial condition to support a scientifically based clinical practice, diagnostic and therapeutic theories must be legitimized through constant evaluation of their results—employing precise methodological control, as well as careful, constant epistemological surveillance. It is therefore necessary to rigorously determine the meaning of the words used in science, "to banish intirely [*sic*] from its language, that vagueness and that obscurity, which so very much disfigure it" (Cabanis, 1806, p. 7).

Fourth, Cabanisian epistemology is based on a holistic and dialectical conception of reality—directly referred to Heraclitus and Francis Bacon. (This view resonates with the theories of complexity that have become increasingly influential in contemporary science.) Indeed, for Cabanis (1806, p. 19), the researcher that studies nature scientifically can "neither separate those objects which are united by fixed relations, nor divide those which form a simple whole." These ideas are very clearly presented right at the beginning of *Coup d'oeil* (Cabanis, 1806, p. 31):

> According to the nature of things, the whole system of truths forms a chain, the links of which are indissolubly bound together. In the present state of our knowledge, we can lay hold of and follow only insulated parts of this chain, the links of which are indissolubly bound together.

And so Cabanis proceeds (1806, p. 32):

> Every thing leads us to believe, that, if we were able to reduce to order, and to comprise all the branches of human knowledge in their real elements, we should no longer discover any breaks or divisions among them . . . . Finally, by this systematic and perfect arrangement, as all the particular truths would resolve themselves into a small number of general principles, which form, as it were, a basis or common support for the former; the mind would be able to follow easily their different connections, and their numerous subdivisions, and the power of seizing them in their combinations would no longer constitute the exclusive attribute of genius.

Finally, the authorial, comprehensive, and panoramic narrative of *Coup d'oeil* reveals—beyond its recognizably descriptive and historiographical character—an evaluative and foundational work (inasmuch as it establishes the philosophical bases for a profound reform of medicine and medical education). Cabanis's endeavor is to grant the millenary Ars curandi the status of scientific medicine and to reinvent education as part of an emancipatory political mission. In this sense, *Coup d'oeil* comprises a meticulous prospective essay, one that is organic to the Enlightenment's efforts for a recomposition of values, guided by the new contributions of the Idéologie, and aligned with the Faustian cultural matrix of the rising bourgeoisie.

Further Comments

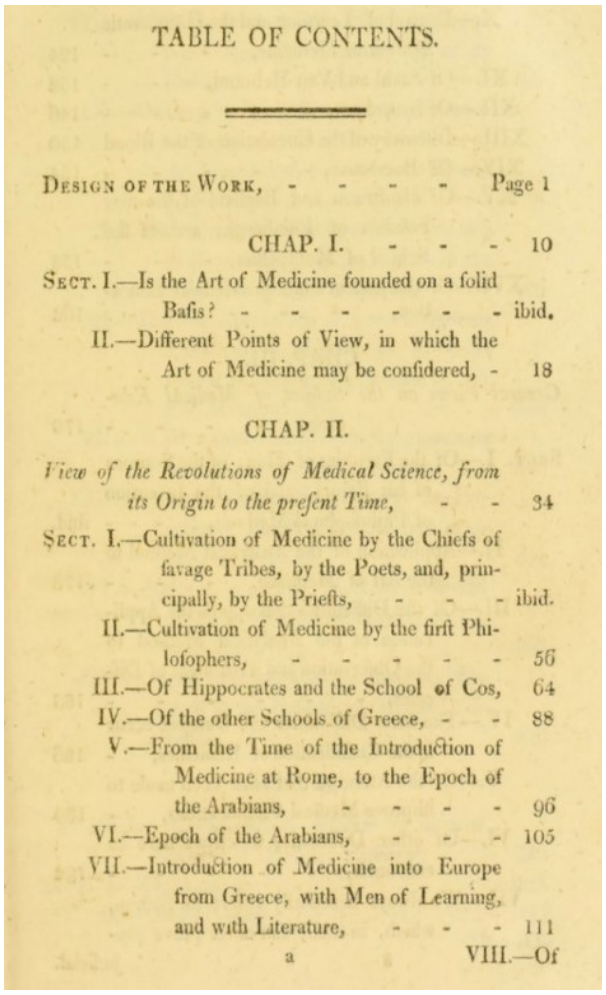
Cabanis has always revealed a notable interest in contributing to the realization of the major life-long project of his late friends and political partners Mirabeau and Condorcet: the reorganization of the French education system in all its sectors and levels. Once elected to the Institut de France, he embarked on a self-imposed process of intellectual preparation for a political-ideological crusade, looking to apply the rules of analysis formulated by Locke and Condillac, in line with Cartesian logic of reasoning, to the entire body of human knowledge, with a focus on medicine and education. Garat's demand upon Cabanis to write, revise, and publicize this small masterpiece (definitively not a sketch) simply encouraged him to move forward with an ambitious and eminently political project: nothing less than the liberation of humankind through education. *Coup d'oeil* was the result of that intellectual and political enterprise.

As the swan song of the short but dense Cabanisian oeuvre, *Coup d'oeil* all but apologizes for resembling a draft. Nevertheless, its author in no way abdicates from a panoramic view, integrating science, politics, medicine, and education. This work in fact constitutes a kind of intellectual testament, in the form of a pilot study for a specific part (higher education in the field of health) of a broad educational reform, which in turn was part of an agenda of social reform determined by the reflux of a political revolution. Furthermore, the text implied an effort to restore and reinforce the political and ideological values that, for Cabanis and his allies, had been threatened by the radical proposals of the Jacobins, politically to the left of the National Assembly (Quinlan, 2007).

For Cabanis, the revolution of health care and the reform of medical education were a necessary step toward modernizing medicine from a scientific point of view. But this could only be accomplished by first developing a pedagogy that was as creative as it was rigorous, capable of training subjects to operate the philosophical concepts, scientific methods, and political strategies of a new social order, as devised by the Idéologues. The desirable harmony between rigorous science and efficient pedagogy would be a "Happy combination, perhaps even indispensable, for preventing the practice of a science, of which the objects are so various and so delicate, from becoming a mere scourge of humanity!" (Cabanis, 1806, p. 6). To this end, our médecin-philosophe insists (1806, p. 6):

> [I]t will be necessary, that the improvements in its [medical reform's] plan of instruction should form for practice a set of minds, at once profound, comprehensive, firm, and pliant, who join to the light of a superior understanding that knowledge of life and manners, and that facility of action, without which all the gifts of nature and of art are almost wholly useless.

As discussed in the beginning of this chapter, the ambiguity of the title *Coup d'oeil* and the apparent inconsistencies in the book's objectives are ultimately misleading, as the work comprises a thoughtful historical, philosophical, and political analysis of medical education and its methods of teaching-learning. Cabanis's formulations for building effective pedagogical solutions, grounded on philosophical, ethical, political, and scientific bases, were innovative and daring for their time. These formulations and solutions make up the concluding part of *Coup d'oeil*, and are the subject of the following chapter.



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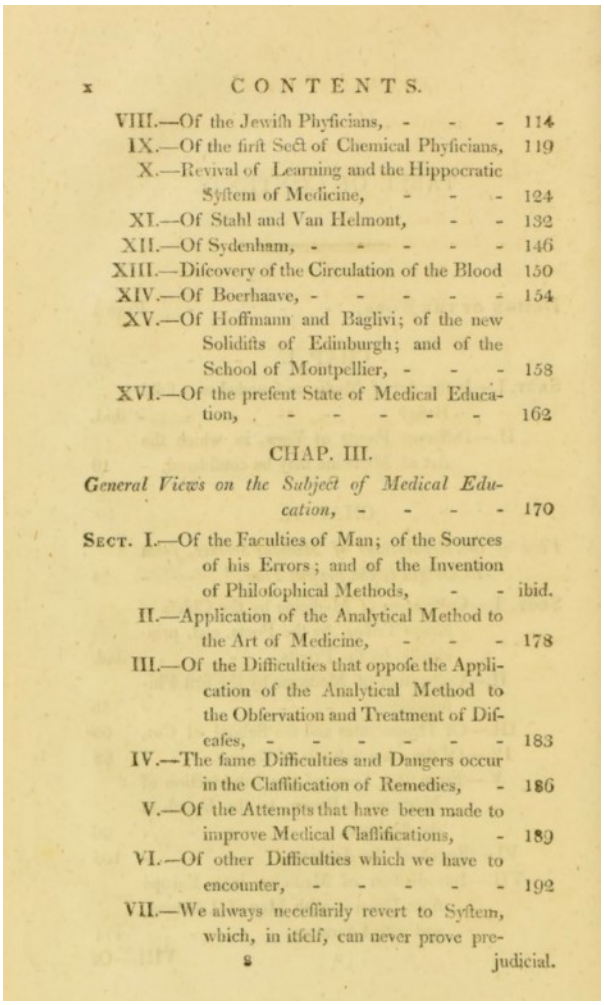

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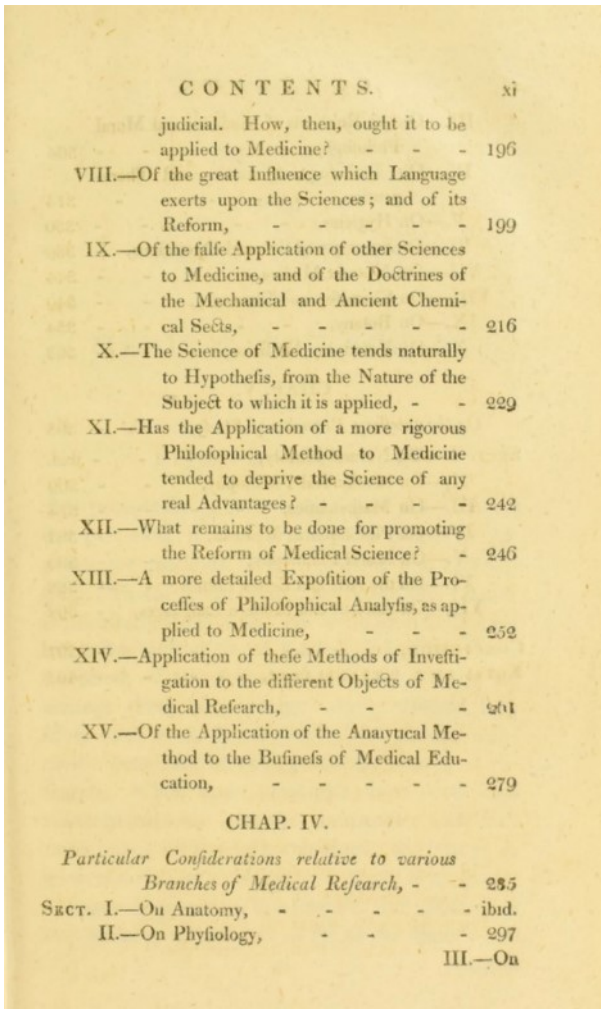

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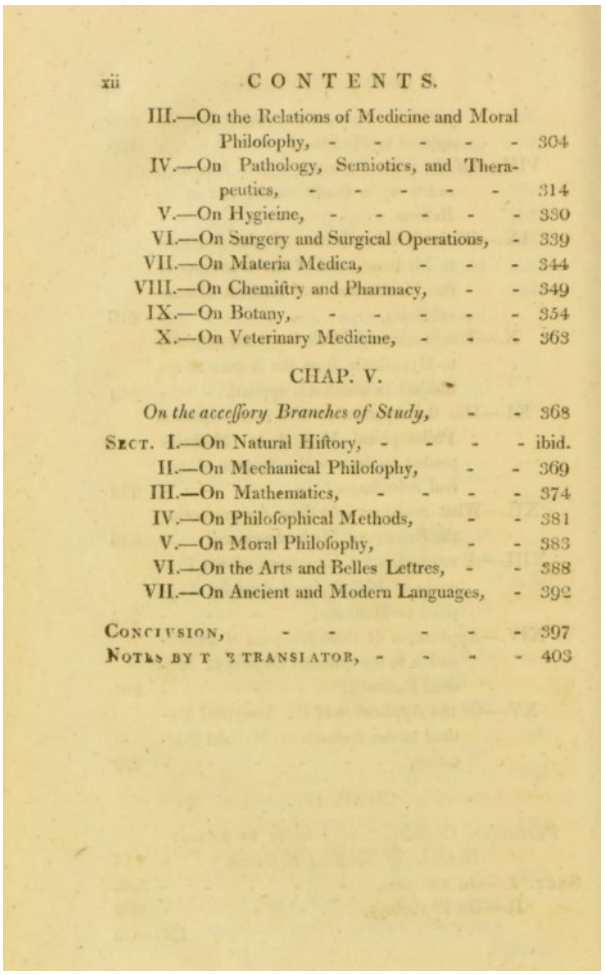

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Chapter 6

The Cabanis Reform

Across the entire eighteenth century, that long and painful era of declining aristocracy, medicine was taught as a rhetorical affair, represented by doctrines reluctant to accept the new scientific discoveries and philosophical criticism of the Enlightenment. On pedagogical grounds, medical education was structured around sober keynote speeches, pompous lectures, and memorized recitations. In France, the medical education system consisted of low-quality schools where a decadent nobility competed for professorial chairs as a safe source of income, since only full professors were authorized to teach paid courses. As described by Foucault (1963, p. 48), "the canonical teaching given at the Faculty no longer [responded] to the practical demands." Practical training took place outside of formal academic settings. Medical apprentices had to follow the house calls of "a renowned physician, who required [monetary] compensation." The preparation of qualification exams was similarly expensive. All of this inflated the costs of medical education.[62]

Laurence Brockliss (1998, p. 71), the most prominent of the British historians specializing in the French Revolution, also makes a harsh critical comment on the conditions of professional training at the medical faculties of French universities prior to the Revolution of 1789. He highlights two aspects:

> On the one hand, the system was marred by corruption in that professors were lazy and degrees were awarded without a proper examination of the candidate's

[62] This critical description of the poor state of medical teaching in late eighteenth-century France is strikingly similar to the context of the United States at the time of Abraham Flexner's studies. The famous Flexner Report helped to deconstruct that reality during the 1910s (Almeida-Filho, 2010). Even more incredibly, a comparable scenario is still current in many parts of the world, as in the case of Brazil, more than one hundred years later (Almeida-Filho, 2011).

> knowledge. On the other, and the two were not unconnected, the curriculum of the medical faculties was completely inadequate as a training for medical practice.

The Ancien Régime left the legacy of politics as the monopoly of an aristocratic caste, and higher education as one of the few privileges enjoyed by the seventeenth-century upward new bourgeoisie. In trying to overcome this state of affairs, the agenda of the political leaders of the French Revolution initially included radical measures such as the extinction of scientific societies, corporations, and guilds, the closing of academies, universities, and faculties, and the passing of institutional reformation plans (Foucault, 1963, p. 75). Such measures were complemented by two medium- and long-term strategies: one was the aforementioned strictness of norms and regulation, which conditioned the right to exercise the medical profession to state-accredited professional training; the other, a profound reorganization of the structure of teaching and of the teaching system itself—which is the subject of this chapter.

In just six years, between 1794 and 1800, the ideas, solutions, and actions that would make up a major education reform in France were synthesized in various rapports, proposals, documents, projects, and approved laws. They first materialized in the reorganization of the faculties and of scientific and literary academies, such as the several classes of the Institut national de France, with the active participation of Georges Cabanis, his fellow Idéologues, and other contemporaries.

Availing himself of professorships at the École de Santé de Paris and later at the Faculté de Médecine (as well as being a collaborator in the Comité d'instruction publique, with a seat on the influential Conseil des Cinq-cents), Georges Cabanis proved himself an important political and intellectual figure of his time. As Alain Larcan (2006, p. 88) notes, "medical and educational reforms resulting from the revolution and the Consulate . . . owe a lot to Cabanis." His guidance and individual contribution notwithstanding, the deconstruction and recreation of French medicine in the transition from the Revolution of 1789 to the Restoration, through the short and intense Napoleonic era, was a collective and multifaceted work, in philosophical, scientific, and pragmatic terms. Still, given Georges Cabanis's active leadership in the elaboration, proposition, discussion, approval, and implementation of a series of legislative acts and policy initiatives regarding education, historical hindsight allows us to analyze these efforts as the Cabanis Reform.

A Critique of Medical Education

As we saw in the previous chapter, *Coup d'oeil* shapes and summarizes an ambitious and intricate project to reclaim the history of medical practice and to philosophically define the sciences and the knowledge that substantiate it. Only after careful historical, philosophical, political, and practical considerations does the physician-philosopher feel qualified to expound his pedagogical conception, which he names the "analytical methods to the study of medicine" Cabanis (1806, p. 178). This in turn serves as the basis for further proposals of curricular organization.

Cabanis concludes chapter II of *Coup d'oeil* with a section on the history of medical education, titled "Of the Present State of Medical Education." He begins this section by critically analyzing the system of medical education that emerged from the Renaissance. For him, that model of education, based on a rhetorical pedagogy, should have been buried by the Revolution together with the Ancien Régime. In his evaluation, Cabanis (1806, p. 162) describes, almost with indignation, an inert and deeply conservative status quo, attached to traditions and pomp, resistant to change of any nature:

> In every age the schools have allowed themselves to be more or less guided by the prevailing systems . . . . by a singular fatality, they have, almost without exception, participated in all their errors, without deriving much advantage from the new truths which had commonly furnished the first hints of these systems, or from the useful views, which the most absurd of them might still suggest to intelligent minds . . . . The education of youth, which, from the revival of learning, had been entrusted to bodies of men, now in their proceedings, and obstinate in their tenets, and who, besides, either from vanity or policy, felt themselves interested in opposing the introduction of all new ideas, consequently seldom kept pace with the progress of public opinion.

According to Cabanis (1806, p. 169), one could see in the medical establishment and in the training institutions "the progress of rapine, of folly, and of madness," which were "reappearing in such a variety of shapes." In his own vivid words (Cabanis 1806, p. 169):

> But in the present state of affairs, when . . . quackery, ever ready to take advantage of the wavering state of opinion, should be checked with more vigilance than ever, by the laws, at the same time that it is exposed in all its deformity by science; and when the place of ancient errors is as yet but imperfectly filled by well ascertained truths.

The centers of this conservative inertia were the universities, where the pedagogical power of the authorities remained strong and untouched, producing uncontested truths in their doctrines. In these environments, the postulates of discourses were worth more than the phenomena of nature (Cabanis, 1806, p. 325):

> . . . for the lectures, which they presumed to call by this name, were commonly delivered within the halls of universities. There nothing could confirm the assertions of the teacher, when they were founded, and nothing could confuse them when they were contradicted by observation and experience: words were heard, but nature remained unseen.

With elegant sarcasm, he criticizes the arrogant teachers who (Cabanis, 1806, p. 280) "deliver, often in vain, the most interesting truths, in the best language." Then, he highlights the passivity of students: "the minds of his hearers, absorbed in passive attention, retain but a faint recollection of his precepts." And later he concludes, mercilessly caricaturing the negative effects of this rhetorical model of teaching (Cabanis, 1806, p. 282):

> [I]t also frequently happens, that the lessons of the master assume an uninteresting, and perhaps, repulsive character, from the uniformity, and we may even add, from the very facility of the process. The attention of the pupil, which no striking object, no difficulty animates, languishes and soon becomes extinguished, by the very means that should facilitate its exercise and operations.

For Cabanis, the egregious faculty chair and the solemn professors allegorically represented institutions and actors who, in the recent past, had forsaken a classical golden era, when a highly self-regarded moral philosophy was still conformed to the greater principles of the Ars curandi. Reiterating his great admiration for Hippocrates, Cabanis (1806, p. 164) states that, in the school of Cos, "medicine was taught according to the best principles." There, "a true philosophical spirit, and not a blind adherence to system, directed its plan of instruction," based on "observation, experience, the due culture of the senses, and the method of induction." By idealizing medical education in classical Greece, he rescues an ideal profile of professor-physician-philosopher, capable of overcoming "such vain and subtle classifications" and "so many useless divisions" of Medicine. Taken by this nostalgic spirit of an unlived past, Cabanis (1806, p. 322) comments that Hippocratic masters

> . . . were far from imagining that the history of diseases, the doctrine of symptoms, and the science of indications, could be separately treated and distinguished. Still less did they suspect that practical medicine, of which they form, as it were the indivisible members, could ever be taught from a professorial chair, at a distance from the objects of its application.

In *Coup d'oeil*, Cabanis believes that representatives of the pompous didactics of classical university, troubled by the advances of new science, were about to be overcome by a new kind of teacher, one who was more committed to a broad, socially useful training of his students than to the affirmation of his masterful knowledge. In beautiful, refined style, he so describes the ideal master (Cabanis, 1806, p. 282):

> [T]he professor, who sometimes presents on a sudden ideas that are unexpected, and remarkable for their grandeur or their novelty; who, from time to time, neglects a few intermediate observations, in order to excite the interest and stimulate the curiosity of his pupils; and who, according to the nature of his subject, passes from analysis to synthesis, and from synthesis to analysis, taking care to correct, if there be any room for doubt, the more bold deductions of the former by the more sure and regular proceedings of the latter.

Optimistic, perhaps deluded by the spirit of the Lumiéres, Cabanis envisages the success of this Voltairesque master, idealized as a respectful advisor, but at the same time an inducer of the creativity in talented students (Cabanis, 1806, pp. 282-283):

> [S]uch a professor will preserve the minds of his pupils in a state of more real and permanent activity; he will impart a more powerful impulse to their thoughts, without running the risk of communicating to them a vicious direction; and his method,

> perhaps, will prove also the best adapted to the nature and operations of the human understanding.

Without indicating historical references, Cabanis (1806, p. 324) mentions hospitals created and maintained by "emperors of the East . . . not only for the relief of the diseased poor, but also for the improvement of the art, and the instruction of students." He highlights Arabic medicine, "whose colleges in the East and in Spain had always a hospital in their neighbourhood," as an example to be followed in the organization of spaces for health care, research, and professional training. Cabanis (1806, pp. 324-325) also observes on the delay in the adoption of this model of medical education by European universities:

> But it is only lately, that true clinical schools have been introduced into our universities, and have been formed on a plan worthy of the information and philosophy of the age. Not that physicians have not been always aware of the necessity of observing diseases, in order to become acquainted with them; of following the different plans of cure, in order to compare and appreciate them, to repeat or correct them: but it was solely in consequence of the zeal of a few enlightened professors, that instructions in the true practice of physic were sometimes given in hospitals.

At this point, it is worth exploring the proposal of a Cabanisian pedagogy as an observational method analogous to the clinical method, perhaps understood as a judicious and creative application of the scientific method to singular events or cases. Undoubtedly, the perspectives that would advocate the reform of medicine should be the ones to direct its teaching. In his words (Cabanis, 1806, p. 279):

> It is sufficiently evident, that the views which should direct the reform of medical science are the same with those which must govern and regulate its instruction. They alone can supply a good plan of education, and a good system of lectures in every branch of it.

Here, Cabanis evidently intends to delimit, within common pragmatics, a secondary equivalence between practical methods of care and of teaching-learning—equalizing the therapeutic practice of the clinic and the pedagogical practice of medical education. He writes (Cabanis, 1806, p. 280):

> Since young physicians receive their proper education, not by reading, but at the bedside of patients; not from the dull rules of a school, but in the presence of nature herself . . . the influence of the master is chiefly evinced in the method of observation which he recommends to them; in the manner in which he himself considers the subjects along with them; in which he teaches them to investigate nature, and in which he directs their attention and first practical efforts.

While the application of the rules of the clinic allows accurate diagnosis, correct therapy, and effective care, rational knowledge and moral wisdom develop based on the rules of didactics. The application of these rules of didactics (another formula for the notion, still very current, of appropriation of knowledge in action) must be confirmed in the master-

apprentice interaction in the same way that the rules of the clinic should be applied at the bedside of patients. In this sense, Cabanis accurately maps the scope of teaching (1806, p. 321):

> The office of the teacher may be confined to the task of indicating and determining, with accuracy, the objects which should be attended to and examined; of demonstrating them to the pupil under a proper point of view; and of teaching him a good method of observation and inquiry.

Cabanis also draws attention to pedagogical consequences of the distinction, epistemologically pertinent, between phenomena (what today would be called evidence) and concepts (doctrines, interpretations, or points of view). With this point, he seeks to emphasize and reinforce a scientific methodology, to build an equally scientific pedagogy capable of sharing common epistemological principles with clinical research. For Cabanis (1806, pp. 254-255):

> We may consider not so much the objects themselves, as the conceptions which we have derived from them. These conceptions may be contemplated in the same way as direct sensations; that is; if they be- sufficiently distinct, we may compare them, ascertain their relations, determine what new ideas each of them comprises, and thus deduce a long series of truths that naturally flow from them, and are intimately connected together.

Enriched by disciplined observations and meticulous records and refined through cycles of reassessment with relevant concepts and thoughts, “this practical method is, in time, enabled to rectify whatever is too absolute or rigorous in other systems too exclusively confined to theory” (Cabanis, 1806, p. 198). Later, regarding the knowledge that medical learners develop by themselves, under the guidance of a wise teacher, Cabanis (1806, p. 280) rounds out his argument on the pedagogical efficacy of the method of observation:

> [That] which they [the students] have discovered and recognised by a series of active associations, will remain for ever impressed on their memory. By these means their acquisitions become not only more durable and substantial, but they have also some degree of originality, and are more analogous to the turn of mind peculiar to each individual; and the practice of deducing them always from the objects themselves, excites an aversion to every other mode of obtaining them.

For Cabanis (1806, p. 197), “a happy instinct, more than science,” allows the rehearsal of provisional rules to this teaching method. However, in the case of actual rules, the method of observation “becomes, in some measure, associated with the idea of talents,” which happens when “philosophical genius connects and arranges them, and, above all, improves their application” (Cabanis, 1806, p. 197). This dual appreciation of instinct and intelligence, as a source of talent and as a condition of resolution, introduces a non-analytical element in a proposal of analytical pedagogy. This makes it justifiable and even advisable to put an emphasis on doing (under due supervision of understanding, experienced masters), as a teaching-learning project.

In this pedagogical model, the training of future physicians should take place in a consistent and balanced way, through the presentation and discussion of a sequence of examples. This learning process should exhaust all possible combinations by repeatedly exposing elementary aspects. In this didactic process, it is necessary, above all, that the examples and observations of concrete problems leave in the student's memory indelible images, through "a series of active associations" (p. 198). The learner should then be able to recognize, in a *coup d'oeil,* the distinct character of each disease, amid all the complications that may masquerade it (Cabanis, 1806, pp. 198-199):

> It is in this way that skillful practitioners are formed, under the guidance of able teachers. Yet these teachers, it must be confessed, will often find, that it is impossible to communicate to their hearers certain delicate and fugitive perceptions and that there are some sorts of reasoning, which cannot be expressed in precise terms, and certain operations of judgment, which are apt to be mistaken for direct sensations.

Just as diseases assume a wide diversity of morbid forms, medical education is also composed of subject matters of different types, distinct in the way in which they can be taught and learned. Some subjects may be "communicated very well in the form of written lectures, or in the learned conversations of a skillful professor;" other important subjects can be reproduced in books, many times and in new forms. For some topics, it is up to the teacher to carry out oral presentations and conceptual explanations, which should be detailed, but "without becoming fatiguing by their prolixity," and always "adapted to the different capacities of the pupils." However, matters of this kind "are few in number, and in all others, the professor can be well understood only in presence of the objects themselves" (Cabanis, 1806, pp. 322-323). The conclusion to this argument is almost poetic (Cabanis 1806, p. 323):

> To attempt to describe a muscle, a disease, or a chemical operation to a person who has never seen this operation, disease, or muscle, is like attempting to convey the idea of the flavour of a particular fruit to one who is unacquainted with it, or of the odour of a perfume to one who has never inhaled it.

At the end of that chapter, crucial to the objective of *Coup d'oeil,* Cabanis reaffirms the pertinence of a pedagogical plan that is essentially based on practice, necessary for an permanently active learning process, aimed at a philosophical and scientific (i.e. physiological) understanding of the various modes of illness. In a precise and clear tone, with due firmness, Cabanis (1806, p. 321) argues that to reform medical education is, at that historical moment, necessary and urgent:

> In the study of practice, in which the phenomena, or the points of view in which they are to be regarded, are so numerous and various, the adoption of this plan is still more indispensably necessary.

To the extent that the formulation of theories and conceptual frameworks is a responsibility of the researcher (the physician-philosopher), and that the professor is called upon for the creation of instruments, techniques, and methods for a transformative education, it is the

responsibility of the state to regulate and coordinate the policies and institutions in charge of training health professionals. Concerning such an important issue, writes Cabanis (1806, p. 169):

> It is doubtless incumbent upon government to point out the proper objects of study, and to give the first impulse to public opinion. It is incumbent upon it to establish the course of instruction on a plan conformable to the legislative system of the country, in order that they may mutually fecund each other, while they are gradually corrected and improved. And it is, moreover, incumbent upon it, to lend every possible assistance to physicians of genius and skill, in order to enable them to effect the complete reform of their art, which, from its nature, requires both more vigilant superintendence, and more powerful encouragement.

Finally, it boils down to a question of designing and implementing a profound and extensive reform of medical education, which implies an institutional reengineering of the care system, a reform of public education (through *un bon plan d'écoles),* and virtually a revolution in the teaching-learning model (as the basis for *un bon système de leçons*).

On the Object of Medical Education

The reform or revolution of medical education advocated by Georges Cabanis would be based on the organizing axes of the philosophical and political agenda of the Idéologie: a consistent materialistic ontology, a robust physiological theory of thought, a republican political economy, and a scientific approach to pedagogy. The application of this procedure for building a peculiar pedagogical theory is presented in chapter III, titled "General Views on the Subject of Medical Education." The chapter is composed of fifteen sections, of which the first twelve discuss epistemological issues of medical knowledge and practice.

At the opening of that chapter, the core of *Coup d'oeil,* Cabanis (1806, p. 174) explicitly defines education as "the art of regulating the human mind," in a way interpreting it in the light of his physiological theory, as presented in *Rapports du physique et du moral de l'homme*. As such, education becomes "necessarily the subject of a laborious study: it is an art, the theory of which demands all the powers of attention, and the practice of which requires all the cautions of experience" (Cabanis 1806, p. 174). This definition indicates a parallel with the conception that medicine is a technical art, which, illuminated by science, has the mission and the ability to regulate and perfect the historical human body. Thus, Cabanis considers among the objectives of medical education to promote the learning not only of science's rational processes, but, above all, of the other lessons necessary for clinical practice: learning to act, learning to observe, and learning to feel. In his words: "We must learn, not only to combine, to reflect, and to conclude; but we must also learn to see, to hear, to touch, or in a word, to feel" (Cabanis, 1806, p. 175).

The topic of learning by feeling is expanded in a section titled "On the Relations of Medicine and Moral Philosophy." According to Cabanis (1806, p. 304), these two branches of the same science de l'homme rest upon shared knowledge of the human constitution:

> . . . and it is to physiology, that they must look for the solution of all their problems, and for the confirmation of all their speculative and practical truths. Upon the physical sensibility of the system, or of the organization that determines and modifies it, depend, in reality, our ideas, our sentiments and passions, our virtues and our vices.

Overcoming his philosophical roots, Cabanis goes beyond Condillacian sensualism, as he develops, mainly in *Rapports*, an original conception of the integrative model-object of the sciences de l'homme. In the formulation of this hypothesis, Cabanis (1806, p. 170) states that the human being

> is endowed not only with the faculty of sensation, and the power of transforming his sensations into conceptions, and of deducing from the latter a series of judgments and moral perceptions; but also with the faculty of participating in the ideas and sentiments of others, of appropriating to himself those which are communicated to him, and of imitating and repeating the actions which he witnesses, or which he learns from testimony.

In the current jargon of neurosciences applied to education, this "faculty of participating" and the capacity to appropriate "ideas and sentiments of others" loosely correspond to the current notion of socioemotional intelligence. Cabanis's theoretical account of the processes of perception and understanding comprises an extraordinarily consistent set of hypotheses about the neurophysiology of learning. For its thoroughness, here is the entire section (Cabanis, 1806, p. 171):

> It is by means of the senses with which nature has furnished him, or, rather, that sensibility, which renders all his organs subservient to the energy of his brain, that man becomes acquainted with external objects. His sensations are the immediate sources of his knowledge, and the organs of his body, in as far as they are endowed with sensibility, the direct instruments of his instruction. But urged, as he is, by his wants, and by that eager curiosity, which continually incites him to exertion, man, at least in a social state, soon begins to form to himself other instruments, the artificial products of repeated trials and studies, which tend to augment considerably the energy or activity of his organs. These new instruments of power are sometimes directly applied to the organs of sense; at other times, they serve to enlarge and facilitate the operations of the understanding; and they even appear, at times, to unfold faculties equally new with themselves. All these different instruments are capable of being improved by culture, experience, and reflection, and, upon their gradual amelioration, the progressive improvement of the whole human race depends.

In this perspective, education appears as a political art. Crossed by culture, education is based on moral philosophy and animal physiology, capable of effectively fostering human progress. Within culture, having language as a tool for interpersonal communication, through social interaction processes, the human subject "is enabled to take advantage of the labours of his predecessors, as well as of those of his contemporaries" (Cabanis, 1806,

p. 170). Therefore, by means of learning by imitation, repetition, and understanding, both in the family and in small social groups, and receiving systematic instruction in state-run institutions, education allows the human being "to command the experience of ages" (Cabanis, 1806, p. 170). Concluding this crucial paragraph, Cabanis (1806, p. 170) comments that:

> if the means of communication with his fellow-creatures were sufficiently perfect, he [the individual] might be said to live in past, present, and future time, and to coexist, as it were, with the whole human race.

In one of the most interesting sections of that chapter—Section VIII, "Of the Great Influence Which Language Exerts Upon the Sciences, And of Its Reform"—Cabanis takes us on a rich and dense detour through the role of language in the nomenclature of modern sciences, reaffirming one of the main contributions of the Idéologues, with the clear intention of overcoming the anachronism of teaching medicine and sciences by means of a dead language with strong clerical ties. For Cabanis (1806, p. 201):

> In almost all the branches of medical research, the language employed is very ill formed. It has become gradually more and more vitiated, by the false application of words borrowed from the other sciences, and by a certain unmeaning and ridiculous jargon, which a culpable respect for prevailing prejudices has too often led practitioners to adopt.

In passing, he takes the opportunity to refer the reader back to his critique of "the barbarism of the schools" that were camouflaged by arrogant pedantry (Cabanis, 1806, p. 202):

> [I]n them it was the fashion to speak in a manner both formal and burlesque, and to write in a style that was obscure and trivial, pompous and unpolished. In this state of things, it was scarcely to be expected, that a medical language could be framed, which would be acknowledged by reason and by taste.

Let us remember that, as a young aspiring doctor, Cabanis had been obliged to defend his exams and present his theses in Latin. Remember also that, in his clinic dedicated to the poor on the outskirts of Paris, he certainly faced the challenge of communicating with his patients while relying only on a glossary of technical terms created to ratify and reinforce the elitism of the nascent medical power. *In suma*, the reform of medicine implies a reform of scientific language and medical nomenclature, as much as the revolution of medical teaching presupposes the abandonment of hermetic jargon and linguistic mannerism, represented by the Latin lingua franca. In both cases, the adoption of the national language is necessary for achieving more rigor, clarity, and precision.

The remaining three sections of chapter III summarize Cabanis's ideas on the "analytical method of understanding" as applied to medical education, and they are: XIII: "Exposition of the Processes of Philosophical Analysis, as Applied to Medicine;" XIV: "Application of These Methods of Investigation to The Different Objects of Medical Research;" XV: "Of The Application of The Analytical Method to The Business of Medical Education."

One of the most important points of Cabanisian pedagogy refers directly to Cartesian analytical strategy to produce knowledge. It is the orientation of always presenting to students the problems in order of familiarity, that is, starting with the objects that are better known or the easiest to be known, and "slowly and gradually to proceed to those which require more profound attention, more skillful examination, or, perhaps, even new methods of research" (Cabanis, 1806, p. 279). Guided by the teacher, the students will establish their conclusions in the order of their generation, organizing them in the form of simple problems, to move on to those more complex problems, which successively require more pointed senses or the help of instruments of observation. In Cabanis's words (1806, p. 279):

> It ought to be the study of the teacher, to develop the ideas of his scholar, in the order of their formation, or in the same order in which the objects conjunctly, and their parts in detail, are presented to our view. And the pupil, in particular, after having seized the chain that unites them, must review it from the first to the last link, taking care not to pass over any of the intermediate ideas which the mind does not directly, and, as it were, necessarily suggest.

Despite his admiration and self-reported affiliation to Descartes's thought, our médecin-philosophe doesn't pass up the opportunity to criticize the proposals for directly applying the original notion of analysis to the field of education, which would lead to an atomizing fragmentation of knowledge. In his words (Cabanis, 1806, p. 314):

> The great variety of the subjects, perhaps also the idea, that, by continually dividing and distinguishing them, we should be able to simplify and illustrate them, and facilitate their study, often induced the scholastic philosophers to separate that which should have remained connected, while other equally inconsiderate motives led them still more frequently to confound objects which had no connection whatever . . . . However, the custom alluded to has prevailed in almost all systematic works: the division I have described, is still pretty strictly observed: and no one thinks of inquiring, whether it exist in nature, or whether any advantages result from its use.

Further explorations on pedagogy and didactics can be found in the sketchy chapter IV "Particular Considerations Relative to Various Branches of Medical Research," where the different disciplines of medical knowledge are listed and described. Cabanis presents a proposal for the organization of the medical curriculum, which, in general terms of structure, remained in force for at least two centuries, and which still prevails in some contexts of training.

The main basic science chairs listed in *Coup d'oeil* are anatomy, physiology, pharmacochemistry, pathology, semiotics, botany, and zoology. Clinical chairs included nosology, therapeutics, surgery, *materia medica* [clinical diagnosis], pharmacy, hygiene, veterinary medicine. Additionally—mostly for the purpose of incorporating experimental surgical practice—the teaching of human medicine had to be linked to that of veterinary medicine. Ancillary subjects, classified as "Accessory Branches of Study," were natural

history (biology), physics, mathematics, philosophical methods, moral philosophy (including ethics), languages, letters, and arts.

Four of these insertions require contextualization: (1) Materia Medica, which apparently refers to the set of resources and tools applied to treatment and cure; (2) Veterinary Medicine, highlighted as an area of experimental development of surgical methods that could be listed among medical disciplines for its potential to provide analogies with treatments applied to animals; (3) Moral Sciences, which includes psychological and sociological themes (ideas, feelings, passions, virtues, and vices) of medical interest; (4) Moral Philosophy would correspond to the field of medical ethics and deontology.

The discipline of anatomy is made prominent in this propositional part of *Coup d'oeil,* recovering several structuring elements from Vicq d'Azyr's rejected proposal for the reform of medical education. According to Cabanis (1806, p. 290):

> This science, in so far as it is connected with the business of medical education, presents different points of view in which it deserves to be considered. First, it forms part of the physical description of the system, and, as such, is comprehended in natural history properly so called; second, as the basis and groundwork of all physiological illustrations, it forms a necessary branch of the science of the animal economy; third, while it serves as a guide to the art of physic, and in particular to the surgical department, it seems to be now quite inseparable from practice, the success of which it frequently ensures.

The Cabanisian analysis of the interconnection of anatomy in a curricular model based on disciplines reveals an intention to integrate subject matters, essential for a competent practice-based clinical training. According to Cabanis (1806, p. 290):

> If we consider it in the first point of view, anatomy must be referred to the descriptive method: it forms a sort of curious, but inanimate, topography. Viewed in the second light, it assumes a more interesting character, and approaches nearer to medicine and surgery. While in the latter, it is connected with the various objects of their studies; and is associated with the greater part of their labours, although it certainly does not always perform the important office that is commonly ascribed to it.

Disciplines that are axial for the knowledge of medical science and capable of organizing the medical field are presented in an articulated way, forming "when combined, the practical part of medicine." Pathology is defined as "the doctrine of morbid affections"; semiotics as "the doctrine of symptoms"; and therapeutics as "the art of deducing from the first two the proper methods of treatment" (Cabanis 1806, p. 314). "To give a systematic view of the different functions of the body, is the principal object of physiology" (Cabanis, 1806, p. 302). Evidently, the rapid and intense evolution of scientific knowledge in this period determined changes in content and even adjustments in curriculum structure, mainly due to the dismemberment of subject matters and the emergence of new disciplines.

Demonstrating openness to alternative modes of understanding and practices of the medical art, in addition to a healthy attitude of epistemological precaution, Cabanis (1806,

p. 281) makes a pragmatic warning about the risks of being dominated by method. For him, we should avoid running into the opposite extreme, i.e., of considering the analytical method as a dogmatic and exclusive truth-building strategy, "for though it is, no doubt, the best and surest way of forming our ideas, yet it is not the only one."

Finally, the time had come to complete crucial steps in the transition from a reform of medicine to a revolution in medical education, determined by the progress of the physical and moral sciences. As the re-creation of France's institutional system of public education had been the subject of a specific political struggle, the conception and implementation of a revolutionary pedagogical project needed to be a process in and of itself.

A Revolutionary Pedagogy

In actuality, Cabanis intended *Coup d'oeil* as a contribution to the new political pedagogy that was necessary for the reform of medical education—which in turn was crucial for the sustainability of the revolution that was being carried out in the health care systems of France during the transition from the Enlightenment to Modernity. In a frankly utopian tone, Cabanis reaffirms his hope that education will be established as a fundamental human right, capable of guaranteeing the other political rights of citizenship that were necessary for a freer, more equal, and fraternal society. To achieve such a state, in a political project synthesized by the motto "liberté, égalité, fraternité," a true revolutionary political pedagogy was called for.

The first point of such a utopian political project concerns the necessary philosophical (or ideological, in more precise terms) convergence between the reform of medicine and the revolution of medical education, as strategies for promotion of political freedoms and social equality. Decidedly, to liberate science in general (and medical science in particular), our médecin-philosophe intended "to free it, both from its false jargon, and from its scientific pomp," to engage it in the political "endeavour to adapt it, as far as possible, to the intellectual capacity of all" (Cabanis, 1806, p. 320).

The second point is the nature of this revolution regarding the teaching-learning model. The project of a political pedagogy implies both analytical didactics and a consistent curricular structure, with an epistemological basis integrating physics and morals, following the same system of rational methods, with a triple amplitude of common application: in research, in the clinic, and in education. It was with this objective in mind that Cabanis proposed to resort to the "operations of human understanding," "operations of memory," and "operations of judgement" to create an experimental and practical method, the result of continuous observation of the objects of medical practice and the repetitive use of research instruments and teaching strategies for the "operations of the sciences" (Cabanis, 1806, p. 228).

The third point implies the question of pedagogical methodology. For Cabanis, what could indeed be called revolutionary pedagogy basically comprised a sort of naturalistic didactics guided by a sensorial materialism, performed by a method of supervised observation in real environments of clinical practice. The praise of nature's pedagogical power appears in

multiple and diverse references throughout *Coup d'oeil*. Justifying Fourcroy's aphorism "*peu lire, beaucoup voir et beaucoup faire*" [little reading, seeing more and doing a lot], Cabanis (1806, p. 280) prescribes:

> Since young physicians receive their proper education not by reading, but at the bedside of patients; not from the dull rules of a school, but in the presence of nature herself—in other words, from the inspection of the various subjects of their future labours—the influence of the master is chiefly evinced in the method of observation.

Insisting on the consideration of nature as a learning factor, Cabanis (1806, pp. 328-329) comments that a good medical education

> is given at the expense, if we may say so, of nature herself, and as it is, to a certain degree, independent of the talents of the professor. By this continual exercise of their penetration and judgment, from the view of scenes composed entirely of facts, the pupils contract the habit of observing them better, and feel an aversion to all reasoning that is not conformable to them: they acquire, in some measure involuntarily, that true philosophical spirit, which in medical research is founded upon this habit and taste.

This learning process should take place unconsciously or spontaneously, unintentionally, in situations of permanent observation of concrete facts. In such a collaborative environment, a systematic scientific production would become more feasible through exchanges and open communication. In his words (Cabanis, 1806, pp. 329-330):

> by numerous trials, we ascertain the power and utility of all the known remedies, and we venture to make such experiments as are pointed out by analogy; a quick communication and interchange of ideas is established between the different observers, who are bound by one common interest not to conceal the fruits of their researches: and from all these materials, there must necessarily result more comprehensive, regular, and exact systems of science, which will daily approach nearer and nearer to the truth, and which, from their susceptibility of being applied and accommodated to all manner of circumstances, will unite the advantages of prudent dogmatism, with all the benefits of genuine rational empiricism.

This naturalistic pedagogy would certainly be revolutionary, but Cabanis (1806, p. 323) admits that it is not necessarily innovative, since

> The Greeks . . . taught the practice of physic, at the bedside of the patient: and for this reason they applied to it the term *clinical*. Nature supplied the text of the lectures, and the doctrines delivered were confirmed or corrected by facts . . . . At Rome, where the art of medicine was generally practiced by Greeks, the same method was constantly employed. The physicians in greatest repute carried their pupils along with them to visit their patients; and, in this way, accustomed them to observe nature in its different aspects.

The fourth point refers to the ideal space for performing this learning. As we saw, shortly after the Revolution of 1789, Georges Cabanis had been an active member of the commission in charge of the reform of Paris hospitals and was the author of the final report.[63] New ideas regarding changes in medical education were already in that report, as shown in this account by Cabanis (1804, pp. 325-326) himself:

> In a small work on hospitals, published around the commencement of the Revolution, I proposed the establishment of clinical schools in France, pointing out their advantages and demonstrating their necessity. I was seconded in this with by all those who had the improvement of medicine at heart.

The new "clinical school" would be distinguished from a school full of rules or a traditional academic environment, configured as spaces of practices where medical care would actually take place in a network of small hospitals affiliated with large central hospitals, all properly prepared as centers of clinical and surgical training. The functioning of this clinical training network is described in the concluding chapter of *Coup d'oeil* (Cabanis, 1806, pp. 327-328):

> By particular regulations, indeed, all hospitals might be easily converted into so many small schools of practice. Nothing could be more advantageous: for the young student would then find, in every quarter, that genuine practical instruction, which is the most necessary of all. When they came to be introduced into the large schools, they would carry along with them the habit of observation which they had acquired: and the other branches of medical science would arrange themselves with the greater clearness and distinctness in their minds, as they would have collected the materials of it, with senses that were improved by this same habit of observation, and with a judgment that was accustomed to exercise itself upon impressions immediately derived from the objects of research.

The fifth point concerns the very concept of education as politics. As analyzed in the previous section of this chapter, Cabanis defined education as an art based on the new sciences of nature that were being founded or systematized at that time. For him, equal education for all citizens, regardless of race, gender, and social origin, is the antidote against all kinds of injustice and the totalitarian organization of society. The corollary of this concept allows us to consider education fundamentally as a political art based on moral philosophy, aimed at promoting perfectibilité. In this connection, education is the preparation of the human spirit for the exercise of equality, liberty, virtue, and happiness, closely united as common values for humankind. In his words (Cabanis, 1806, p. 304):

[63] Unfortunately, the creative conception and careful planning offered by the reformers (mainly Georges Cabanis and Phillippe Pinel) faced opposition and were soon discarded by the authorities, leading to the dismissal of the committee.

> . . . oppression, tyranny, vice, and misfortune, equally inseparably allied, as it were in a destructive and invincible system, proceed always from direct and evident injuries done to our original nature, and from the subversion of the relations that are established between man and his fellow-creatures, by their common organization.

At the political level, in an optimistic anticipatory view, Cabanis (1806, p. 168) postulates that the value of education will inevitably be recognized, at a time when knowledge is considered as necessary for a full human existence.

> Knowledge will, in all probability, become so indispensably necessary to the existence and happiness of mankind, that they will be induced to search for it everywhere with eagerness. From that moment, it will become a branch of industry, equally honourable and profitable to those who are capable of exercising it. From that moment, governments may rely upon this reciprocity of interests, as tending to secure both the advancement of science and the progressive improvement of public opinion.

To make this social utopia a transformative project, there remained a task that was undoubtedly herculean, in no way trivial: a careful work of political sewing on many fronts, especially in the parliamentary level in its legislative function, in that rich moment of reconstruction of a new civil society and republican state, after the fall of the Ancien Régime.

Finally, it is quite moving to see how Georges Cabanis, in the twilight of his life, fully aware of his legacy, reaffirms great optimism, certainly of Rousseaunian inspiration. Then, he shows much confidence in the values of human progress, so characteristic of that historical conjuncture, in which he was a protagonist of decisive importance. In his hopeful words (Cabanis, 1806, pp. 283-284):

> These reflections are not, perhaps, misplaced at a time when all the friends of learning celebrate, with one accord, and with so much reason, the excellence and superior utility of the analytical method; when all those who interest themselves in the improvement of the sciences and the advancement of their study, regard it as the only light which can ensure and accelerate the progress of the human mind, and rescue it forever from the chaos of hypothetical opinions; as the only means of cultivating or employing our intellectual faculties, which is capable of introducing habits of just reflection, not only in all the studies of the enlightened and thinking class of mankind, but in all the labours of the artisan and manufacturer—in short, in all the ideas, propensities, and actions of man, considered as a social being. I entirely coincide in this opinion, and participate in these bright hopes.

Cabanis Reform

The reform of medical education in the post-revolutionary years can be understood as the initial stage for a politically feasible restructuring of higher education in France. This was made possible by the political action of health professionals during and after the

revolutionary struggle and the subsequent reengineering of French society, profiting from the centrality of science and medicine in the vision of the emerging social order. In the final report of a rare colloquium on education in the French Enlightenment, Laurent Versini (2006, p. 130) calls the reforms of the systems of health care and health education approved during the Directory and the Consulate regimes as the Cabanis-Fourcroy Reform. As mentioned, I have proposed to name it simply as the Cabanis Reform (Almeida-Filho, 2018).

The Cabanis Reform, presented in proposals, reports, and documents, comprises five structural components: (1) professional licensing through academic certification; (2) a peculiar mode of institutional organization; (3) the reorganization of health care environments for teaching-learning purposes; (4) a novel curricular structure; (5) an innovative pedagogical philosophy. Let us examine each of these elements, recovering and synthesizing some of the points analyzed so far:

Professional Licensing Through Academic Certification. Initially focused on medical practice, the Cabanis Reform introduced the idea of having a university diploma certified as a "licensure" (license) valid on national scale, which upon formal recognition became a legal device that authorized professional practice. The licensing of medical-surgical practice, through certification granted by an accredited higher education institution, would allow for greater state control—either directly or through mediatory mechanisms, such as periodic exams or reviews of competence—over a central aspect of civil life that was necessary for modernizing labor relations and protecting people's health. Under this model, which articulated education and society, higher education institutions have the responsibility of issuing diplomas or certificates, which are formally and tacitly recognized as valid and thus have power to authorize professional practice. The notion of the medical diploma as a regulatory instrument quickly spread to other professions. This entailed, on the one hand, social relevance with civil liability, and on the other, access to labor markets of priority economic impact and accretion of political capital.

Institutional Organization. Medical teaching should be carried out in independent faculties, with the maximum level of autonomy vis-à-vis state regulation and the central university body. This autonomy should extend to the pedagogical aspects of academic practice as well as the conduct of teaching activities. In the Cabanisian model of higher education, students who fit the ideal profile (established by academic councils formed by chair-professors) would directly enter medical faculties or schools. As to their internal structure, faculties would be organized under a regime of academic chairs, defined as the productive units of instruction. Chairs would be managed academically and administratively by a single intellectual leader, capable of mastering the entire knowledge on a subject—the chair-professor. The competency profile of professionals trained in this model would be based on a semiology-minded diagnostic practice, guided by naturalistic scientific knowledge, and confirmed by therapeutic responses and anatomical-clinical correlations.

Reorganization of Health care Environments for Teaching-Learning Purposes. In order to modernize the model of training health professionals, it would be necessary to create new teaching-learning environments and to redefine existing ones. This implied the appropriation

of external spaces—the hospitals—then brought under governmental institutional control and adjusted for didactic activities. These restored and renewed spaces should contemplate a new clinical practice based on systematic nosological knowledge. Furthermore, hospitals (which, before the Revolution, were under religious rule), would need to be secularized and transformed into health care institutions. The teaching of basic and clinical disciplines would continue to be carried out in amphitheaters and classrooms, organized according to the respective chairs.

With the unification of medicine and surgery, Cabanis and Fourcroy recommended the implementation of operating theaters, in addition to the salles d'autopsie advocated by Vicq d'Azyr (1790). In lieu of the master-apprentice relationship (i.e., the almost artisanal clinical training that consisted in accompanying family physicians on house calls), with the invention of the medical internship (*internat des hôpitaux*), which later evolved into the modern concept of medical residency, the Cabanis Reform was intended to make professional instruction in hospitals mandatory. However, in practice, the access to the best internats was not for all, but rather meant for a small group of students who could afford it for economic reasons or for family background, who became the nucleus of an elite, the medical mandarins (Weisz, 1995).

Novel Curricular Structure. A new curricular structure should be built around the concept that knowledge can be broken down into its constituent parts. In the cognitive dimension, this meant the division of disciplines, whereas in the institutional dimension, this implied the organization of professorial chairs. In this sense, a discipline comprised a body of knowledge and expertise that was restricted to the discipuli of a magister—the chair-professor. In the case of the practical knowledge of medicine (the original focus of the Cabanis Reform), disciplines should be precisely differentiated. For purposes of curricular structure, they would be grouped into natural history (basic sciences), clinical and therapeutic sciences, and moral sciences (Cabanis 1804).

Consistently, while intending to be analytical, Cabanisian revolutionary pedagogy produced a curricular architecture that was broken down into subjects, in a gradual and linear trajectory, congruent with the analysis of decomposition-recomposition justified by a Cartesian epistemology of disciplinary basis. For health care approaches, the main consequence of this disciplinary model of curricular organization was the fragmentation of practice (initially surgical, and later clinical) into medical specialties, which we will discuss below.

Innovative Pedagogical Philosophy. The Cabanis Reform entailed an innovative pedagogical strategy, which he named (inspired by Garat, as we saw above) the "analytical method of teaching," equivalent to the rational analysis of the ideologues. Scientific knowledge could only be validated if decomposed and recomposed in linear Cartesian order, from the simplest matter to the most complex content, in a systematic and exhaustive operation typical of encyclopedism. Thus, a sort of analytical pedagogy (which was never really implemented) based on disciplinarity would involve the fragmentation, analysis, and subsequent ordering of blocks of content, modes of practice, and, most of all, knowledge—

to be memorized, stored, coded, and classified according to current scientific doctrines. Nevertheless, Cabanis (1806, p. 280) warns us not to reach the "opposite extreme, and carry the practice of this method" to the *pédanterie*.

As indicated in several of his previous writings—going as far back as his first work, *Du degré de certitude de la Médecine*—Cabanis envisioned the training of a new type of physician, one who could relate to patients in a less hierarchical and distant manner. As advocated in the speeches of the *Travail* (which, as we have seen, was attributed to Mirabeau, but written by Cabanis), this would require surpassing rhetoric as a pedagogical model—with the consequent abandonment of Latin as a technical crypto-language, codified as an element of differentiation and elitism by the professional corporation.

In this manner, the Cabanis Reform sought an integration of partial proposals, each having a conjunctural nature and carrying both a practical sense and a strong political inclination. It articulated, in a precise, objective, and even creative way, various movements for the reform of public education and the organization of health care that had been proposed in the post-revolutionary period, and which took inspiration from Cartesian rationalism and its developments. In such a way, it attempted to harmonize measures and solutions that were at times contradictory, or were, at least, formal components of conceptually antagonistic or complementary models.

From the first Mirabeau-Cabanis speech—in addition to the emblematic rejection of Latin as a scientific lingua franca—the Cabanis Reform proposed to transcend the university as a concept and a coordinating organism, by delineating a decentralized institutional structure based on isolated colleges and schools. From the Condorcet Plan came the defense of a public network that would offer free education at all levels, with universal access. In the sphere of higher education, this would involve a multitude of isolated and specialized institutions for professional training. From the Thouret-Pinel Plan that would redefine the role of hospitals, Cabanis adopted the organization of wards by nosological classification, which would serve as an adequate instructional environment for the comparative illustration of cases. From the Vicq D'Azyr Plan favoring medicine-surgery unification, he acceded to the preeminence of comparative anatomy as a methodological axis of the basic sciences,[64] and subscribed to the rescue of academies and scientific societies, which had been banned by the Revolution. From the Fourcroy Plan, Cabanis incorporated without exception the therapeutic orientation of pharmacochemistry, resulting in a triple condensation of medicine-surgery-pharmacy.

On both philosophical-conceptual and political-pedagogical levels, the Cabanis Reform clearly reveals its intellectual lineage, manifested in the form of concrete proposals in the various dimensions and stages of the expected medical revolution and corresponding reform of medical education. From a conceptual point of view, and right from the start, the Reform was delimited by the naturalistic philosophies of the Enlightenment, and by the

[64] It should be noted here that Cabanis did not propose pathological anatomy that, only after the improvement of microscope techniques, would become central to Paris medicine from the 1820s on.

emerging biosciences—which were instituted under the label of natural history in the early modern period. In this reform, elements of moral philosophy were necessary for a politically engaged, citizenly education of the new physician, with a view to consolidating (and perhaps outgrowing) the liberal agenda of the bourgeois revolution. On this, George Rosen (1946, p. 332) comments:

> It is in the light of these teachings that one must consider the program of reform and reconstruction in medical education which was initiated and carried out in France during the years between the Thermidorian reaction and the rise of Napoleon.

In principle, the Cabanis Reform was restricted to medical education. According to Versini (2006, p. 128), it comprised "a general methodology bringing together doctors, surgeons, midwives, veterinarians without separating body and mind or medicine and morality." As such, it was quite unique in its intellectual aspirations towards research as well as professional training. Nevertheless, its basic principles and structuring elements remained valid for more than a century and were reaffirmed (and, in many ways distorted) in subsequent reforms. In consequence, it was effectively inspiring and perhaps catalyzing of a general reform of the French educational system, given the enormous political capital accumulated by the physician-politicians after the fall of the Ancien Régime.

The centrality of medicine and medical doctors in the vision of the emerging bourgeois society was such that it undoubtedly influenced the recreation of higher education in the period between the Convention and the Directory. Under this transitional regime, this precise historical conjuncture—a liberal post-aristocratic society resulting from a new mode of production—saw the consolidation of a linear and exclusive curricular architecture for training in professional careers, via an increasingly specialized higher education. This was particularly true in the sphere of medical education, for centuries dominated by faculties with a high degree of political and institutional independence.

Disciplines and Specialization

Following the French Revolution and its aftermath, the struggle for a libertarian education, led by the Jacobins between 1790 and 1792, was ultimately overcome on the political dimension, with the creation of specialized *Grandes écoles* and the reactivation of scientific societies and academies—which resurfaced in the dawn of the Napoleonic era with even greater power (Barnard, 1969). At that time, a complex simultaneous process was under way: the institutional regeneration of the state, the legal regime, proto-models of health care, and the education system.

Indeed, as we have seen, the reform of medical education served as a paradigm for the entire French higher education system. Thanks to the Cabanis Reform, the new regime could rest assured that higher education would be dominated by the new professions that were legitimized and controlled by the bourgeois state. This also had the upside of favoring academic tradition, which had been to some extent proscribed in the early days of the Revolution but was soon restored by the Consulate and the Empire that ensued.

The Cabanis Reform fostered the emergence and consolidation of what I call a linear tertiary education regime, which affected every officially recognized course and professional career in the young République. In this regime, instruction centered around isolated schools and institutes. Students did not graduate from a university, but rather from a faculty, which operated under the hegemony and control of a particular state-sanctioned profession. Therefore, the Cabanisian model of higher education had no place for the idea of the University—that is, the ancient format of a general education institution, typically with the mission to initiate subjects into learned culture.[65] Pertinence, usefulness, quality, and validity of the knowledge or subject matter pertaining to the instruction would be judged by academies and professional corporations. Knowledge production and technological development could be better conducted and coordinated by scientific societies or state organs—which, as we discuss below, did eventually happen.

Cabanis himself demonstrated several times that he was against the division of medicine in what is today called "specialties." Regarding this issue, he remarks with disgust that, in Ancient Egypt, the profession of medicine was "divided into as many different branches, as there were diseases, or organs affected" (Cabanis, 1806, p. 48). As commented by Larcan (2006, p. 80):

> Cabanis makes a strong plea for the overall nature of the teaching of medicine for doctors, surgeons, pharmacists, and likely to be considered for veterinarians (he emphasizes kinship) and of course midwives . . . . [He] does not even accept the often recognized de facto separation of eye or dental conditions at that time.

In spite of that, as a sort of historical irony, the main consequence of the Cabanis Reform, at least in the sphere of influence of the French model of education, was the hegemony of a fragmented disciplinary education within universities. Previously the home of sciences, arts, and culture with a broad and integrating perspective, universities began to foster specialized technical and professional training—in other words, a vocational institution with a reductionist perspective, which was organic to the new mode of production tending to massive industrialization.

The origin of specialization in university-level professional training, particularly in the field of health, is still a matter of much discussion. An older hypothesis, suggested by Max Weber (1864-1920) in his short classic *Science as a Vocation* (1919/2004), attributes the emergence of professional specialization to academic specialization, with differentiation and the appearance of subdivisions between scientific disciplines—a consequence of the Humboldt Reform in the Prussian university system. In this perspective, following the international dissemination of the model of research universities, the disciplinary specification of sciences may have extended to the curricular structure of medical

[65] Incidentally, in *Coup d'oeil*, the term "university" has only five occurrences, all of which refer to remote times in the history of medicine.

education, and later to the organization of professional practices in health care (Habinek, 2010).

George Weisz (2006) proposes an inverse trajectory: specialization started in Paris between 1830 and 1850, particularly in the professional field of health care. Only a complex and diversified health system with medical faculties and hospitals, large enough to evolve into specialized institutions, could receive a population of patients large and varied, in terms of nosology, therefore useful for quality research needed to support specialized scientific disciplines (Weisz, 2006). In the process of internal differentiation between surgery, clinical medicine, pharmacy, and veterinary medicine, the organization of professional training environments was determined by an already competitive job market, hence the consolidation of specialized curricular trajectories.

In this second hypothesis, the triple reform (institutional, practical, and pedagogical) carried out by Cabanis and his fellows can be highlighted as a crucial movement of articulation between an epistemological structure (or ideological, in the sense employed by the Idéologues) founded upon the basic scientific disciplines of medical training, and a context where professional practices were specialized and exclusive. In other words, we can consider that the Cabanis Reform may have also induced the tendency to divide and differentiate medical specialties, which would become a prevalent feature of health care in the twentieth century.

Several historians (Dhombres, 1989; Faure, 1994; Brockliss, 1998) have shown that, under the Ancien Régime, long before the Revolution of 1789, the most prestigious faculties of medicine had considerable power with respect to universities in France. Social scientist Patrice Pinell (2009) analyzes what he calls "*le sous-espace universitaire du champ médical*" [the university subspace of the medical field] and points out "the singularity that constitutes the faculty of medicine in the French university: to be a state institution dominated de facto by a local institution."[66] Therefore, the Cabanis Reform resulted in medical schools endowed with political autonomy and legal authority to decide upon rules, courses, and disciplines.

After Bonaparte's reforms, the political and social consensus attained by the conservative solution thus induced models of higher education that featured a strong vocational bias, and so could respond to the immediate demands of the state and, later, of the new economy. Such professional training models were also organic to the conservative mentality of the Bourbon Restoration, and at the same time congruent with the nascent bourgeois ideology: objective, patrimonial, individualistic, and secular (at least regarding to material productivism). The university was thus displaced as a political pole, no longer the institutional axis of higher education under the burgeoning capitalist social order at the onset of modernity.

[66] Free translation of: *la singularité que constitue la faculté de médecine dans l'université française : être une institution d'État dominée de facto par une institution locale*.

In time, the French tertiary education system ended up structured as a network of autonomous institutions, such as Collège de France, École Polytechnique, and École Normale Supérieure. Unaffiliated to universities, they mainly served the purpose of meeting the demands of the industrial revolution, as well as training so-called "liberal professionals" and personnel to run the state bureaucracy. To consolidate this situation, all that was left to do was reorganize the legal framework and the institutional structure of the education system in general.

Figure 17. École de Médecine de Paris, lithograph by author unknown (1808). Provenance: Université de Paris Descartes: Collection BIU Santé Médecine. (Work in the public domain.) https://www.biusante.parisdescartes.fr/histoire/images/index.php?refphot=CISB1042

Chapter 7

Cabanis Meets Humboldt[67]

Paris, Day 8 of Floréal, Year V; May 27, 1798. It is a rainy and windy Sunday. Since the Revolution, Sundays were no longer religious holidays.[68]

Doctor Georges Cabanis is heading to an important meeting at the headquarters of the Ministry of the Interior, convened by Venceslas Jacquemont de Moreau, General Director of Public Instruction and member of the Institut national de France. At the request of the Comte de Tracy, the host has organized a colloquium so that some of France's most active and distinguished intellectuals at that time could debate with the Prussian aristocrat Baron Wilhelm von Humboldt. The stated objective of the meeting is to confront the main (and rival) strands of the Enlightenment, the French Lumiéres of Diderot, Helvétius and Condillac and the *Germanic Aufklärung* of Gottfried Wilhelm Leibniz, Immanuel Kant, and Johann Wolfgang von Goethe. Together with Cabanis and Desttut de Tracy, other Idéologues were invited: the artist Joachim Le Breton, founder and editor of the *Décade Philosophique,* the philosopher and logic teacher Pierre Laromiguière, and Abbot Emmanuel Sieyès, a Parisian priest, representative of the people in the Estates General, jurist and self-taught philosopher who had become a fervent militant of the constitutionalist cause at the *Assemblée nationale.*

[67] The meeting described in this chapter in fact occurred in the place and time registered. I have used information on Georges Cabanis based on documented primary sources, from various biographical studies (Guillois, 1971; Staum, 1980; Pouliquen, 2013; Saad, 2016). Wilhelm von Humbolt's personal features depicted herewith are based on the monumental biography written by Paul Sweet (1979).

[68] Everyday life during the French Revolution and the following decades has been studied by Jean Robiquet (1964). In a broad perspective, covering the entire eighteenth century, this context is efficiently described in Wikipedia (https://en.wikipedia.org/wiki/Paris_in_the_18th_century). I also used a detailed account on the topography of the Parisian landscape at that time, found in the Historical Map of Paris (http://paris-atlas-historique.fr/10.html).

This remarkable event is narrated herewith in a literary tone, with the intention of recreating the contextual richness of a clash between the two most important philosophical frameworks of modernity, competing for the cultural hegemony in Europe around 1800. Going back to our immersion thought experiment, I now invite the reader to step into the shoes not of Cabanis, but rather those of the young von Humboldt.

Humboldt in Paris

In November 1797, Friedrich Wilhelm Christian Karl Ferdinand, firstborn Baron von Humboldt, moved to Paris with his wife Karoline von Dacheröden and two young children. For more than three years, Humboldt would participate in the intense Parisian cultural, intellectual, and political life, fulfilling rich and methodical programs of study, contacts, soirées, and debates, visiting museums and libraries, and regularly attending the sessions of the Institut national de France, the debates at the Conseil de Cinq-cents and the performances of the *Comédie Française* and the *Théatre de la République*. Before returning to Germany in the summer of 1801, his French season was only interrupted by research trips to Spain, to conduct field studies on the Basque language that laid the foundations of modern linguistics. During his second stay in France, von Humboldt maintained an intellectual and personal diary that deserves to be better evaluated by historians. It is a detailed, stylish, and sincere record of virtually all his steps in this Parisian season, an impressive historical ethnography of the cultural epicenter of one of the periods in which the history of the world has accelerated—the political turn of Western countries in the passage from the eighteenth to the nineteenth century.[69]

Wilhelm von Humboldt had been introduced to the circles of Parisian intellectuality by means of a letter of recommendation addressed to Madame Vandeul, daughter of Diderot, the celebrated leader of the *Encyclopédie,* brokered by his friend Goethe. Guided initially by Angélique de Vandeul, the friendly, cultured, and affable German has access to the salons of Madame de Staël, Marquise de Condorcet, Madame Helvétius, and other patronesses of France's most prestigious soirees at the end of the 1700. About one of these hostesses, with subtle irony, so von Humboldt writes in his diary:

> Madame . . . is of gentle and refined treatment, but it is seen that she is quite firm and determined, able to quickly become harsh and rude. Sometimes she shows a certain disdain for foreigners and the other. Overall, therefore, very French.[70]

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[69] This diary is part of the Complete Works (*Gesammelte Schriften*) by von Humboldt, published by the Real Prussian Academy of Sciences from 1903, in a volume organized by Albert Leitzmann and published in 1916. There is an edition in French, organized and translated by Elisabeth Beyer (2013), which served as a bibliographic source for this text.

[70] Free translation of: *M^me^ Condorcet est d'un commerce aimable et raffiné, mais l'on voit qu'elle est suffisamment ferme et décidée pour vite devenir dure et grossière. On note parfois chez elle un certain dédain pour l'étranger et pour autrui. Dans l'ensemble, donc, fort française*.

His constant and interested presence in the soirees soon make him recognized and celebrated, even before completing two months in Paris. In Madame de Condorcet's salon, Humboldt is introduced to Dominique Garat, influential political leader, founder and first director of the Public Education Committee in the Directory period. Upon learning that Garat is of Basque origin and has Euskara as his native language, he conducts with him a series of interviews that, in the end, feed his formidable interest in languages and their impact on the matrices of culture, the structure of thought, and the nature of knowledge. From Garat, who would become his lifelong friend, Wilhelm has heard of recent proposals to organize the French public education system. Curious and insightful, he discovers that, in all these initiatives, there is the strong and always discreet presence of the physician, poet, and politician Pierre-Jean Georges Cabanis.

Carrying a charming message of recommendation from Garat, von Humboldt seeks Madame Helvétius who, in the interval of one of the soirees in his Mansion of Auteuil, finally introduces him to Cabanis. Always open to debate, his intention is to discuss Condillac's work on the objective nature of knowledge, which he intends to study in parallel with Locke's work. He is particularly interested in the processes of generation and transmission of true knowledge. On that date, in his diary, he enthusiastically narrates his first contact with Cabanis, described as a *personnage intéressant* [interesting character], celebrated as le *parfait matérialiste* [the perfect materialist]. More than anything, he is surprised that Cabanis met Diderot, Voltaire, d'Alembert, Franklin, Turgot, and Condillac, and even more surprised for him having been a political partner and close friend of Mirabeau and Condorcet. The tone of this annotation confirms that Humboldt's first meeting with Cabanis was pleasant, friendly, and, to some extent, intimate.

The appreciation of the "perfect materialism" that von Humboldt conveys to us is certainly the result of his direct dialogue with Cabanis. Despite having attended most of the sessions of the Institut national de France at the Louvre—renamed the *Palais national des sciences et des arts*—at that time he still does not know about the physiological theory of the Idéologues. The series of conferences given by Cabanis in the Institut's class of moral and political sciences happened between January 1796 and September 1797, thus before Humboldt's arrival in Paris. However, from this initial contact, the young intellectual from Berlin and Weimar would certainly have had access to the manuscripts of these conferences and, perhaps, to the drafts of the new Rapports*,* which would only be presented to the Institut national after August 1798.[71]

A Metaphysical Meeting

In fact, that meeting had been planned as a continuation and expansion of a clumsy discussion that Humboldt and Destutt de Tracy had at the Auteuil-sur-Seine mansion. This

[71] As we know, together with other texts, these reports would later compose Cabani's *Rapports du physique et du moral de l'homme,* published only after Humboldt's departure from France.

clash occurred on May 17, recorded in Humboldt's journal as "*une longue conversation métaphysique*" and, in Tracy's diary, as a "*longue discussion philosophique*." It seems that the only thing they would have agreed on was the excessive length of the conversation. The young Wilhelm undoubtedly struggled trying to "revise German philosophy to address all the points on which the two philosophies diverged and on which we must begin to understand ourselves if we want to make possible their encounter."[72] On that date, in his diary, Baron von Humboldt does not hide his bad impression of the count, when he writes:

> Destutt de Tracy is not exactly an admirable head, perhaps not even a metaphysical head . . . . he gives the impression of being a benevolent and sensitive man, without much energy, however. His face announces nothing, asymmetric, worn, even unpleasant, and he wears a long mat *à la prussiene*.[73]

To help him represent the point of view of German philosophy, von Humboldt invited two friends with whom he had lived in Jena, and who were in Paris in those days: Carl Gustav von Brinkman (1764-1847), a Swedish diplomat of Teutonic origin, poet and philosopher, disciple of Schleiermacher; and Claude-Camille Perret (1769-1834), professor of philosophy at Dijon, who had Fichte as advisor for his doctorate, and at the time one of the few connoisseurs of Kantian work in the French capital.

At the time of the colloquium, von Humboldt was only 30 years old. At that moment of political spring, the Baron is just another face in the horde of wealthy heirs, dilettante scholars, aspiring writers and young philosophers who came to Paris with the advent of the Directory, as soon as the Terror receded. Illustrious, although unknown in post-revolutionary France, he was already celebrated in Germany as a young prodigy, creative essayist, and close friend of Schiller and Goethe, prominent founders of German romanticism.

The day before the meeting, revealing a positive expectation, Humboldt wrote In his diary that he was preparing himself for *une rencontre métaphysique* [a metaphysical encounter]. The long night, almost sleepless, had allowed the impatient Berliner to review his agenda of interests and assess why that opportunity was so fundamental to him. In addition to metaphysics and political philosophy, so mistreated in his recent discussions with the Comte de Tracy himself and later with Madame de Staël, Humboldt cultivates a special predilection for two issues that seem to him key to the Enlightenment project of a natural anthropology: the phenomena of language and the processes of cultural formation of the human subjects.

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[72] Free translation of: *je cherchai simplement à faire le tour de la philosophie allemande pour aborder tous les points sur lesquels les deux philosophies se séparent et sur lesquels il faut commencer par s'entendre si l'on souhaite rendre possible leur rencontre*.

[73] Free translation of: *n'est pas exactement une tête des plus admirables, peut-être point même une tête métaphysique . . . . il donne l ímpression d'être un homme bienveillant et sensible, sans grande énergie toutefois. Son visage n'annonce rien, assymétrique, usé, voire désagréable, et il porte un longue natte à la prussiene.*

The challenge of creating a general science of language fascinates the young intellectual. However, as the manuals of the Idéologie on the role of grammar in les sciences de l'homme had not yet been published—nor did von Humboldt himself imagine that he would become the author of numerous pioneering essays and treatises of modern linguistics—there is no mention of this topic on the agenda of the colloquium. His distrust is due to the mere ignorance of the agenda of the Idéologues, considering the reduced exchange between the group of intellectuals who participated in the French Revolution and the new generation of German thinkers who were represented, already with brilliance and talent, in the Humboldian writings on political philosophy, still unheard of at that time. In fact, between 1792 and 1795, the talented young fellow, a freshman in the university, had written three brilliant essays that would only be disseminated and recognized long after his death: *Über Denken und Sprechen* [On Thought and Language], anticipating his original structural conception of language, *Ideen zu einem Versuch, die Grenzen der Wirksamkeit des Staates zu bestimmen* [Ideas for an Attempt to Determine the Limits of State Action], foreshadowing a contribution to the political theory of liberalism, and *Theorie der Bildung des Menschen* [Theory of the Formation of Human Beings], the basis for his neo-humanist philosophy of education.

In this almost encyclopedic line, during the beginning of his stay in Paris, von Humboldt works on the outline of an even more ambitious work titled *Plan einer vergleichenden Anthropologie* [Plan of a Comparative Anthropology], where language would be the central axis of a science of human behavior (perhaps a new science that would be called psychology, he hesitated) or, who knows, the foundation of an original theory of knowledge and hence a new pedagogy. The grand project was not effectively completed, but the argumentative structure of the original sketch ended up being useful for his fruitful work on philosophy of language, recognized today as one of the main theoretical matrices of contemporary linguistics.[74]

On the other hand, the possibility of a general science of education interests him, especially as part of one of the most important political consignments of the Enlightenment, the liberal conception that education is a factor of individual freedom and the matrix of the fundamental rights of the human person, both in the Rousseaunian perspective of perfectibility, recovered by the first generation of revolutionary French intellectuals, and in the German idea of intellectual formation (*Bildung*) as an emancipatory condition for the political man. In this regard, an avid von Humboldt studies systematically Mirabeau and Condorcet, noting with particular interest aspects of political construction, legal regulation, and organizational viability of their proposals. In fact, *Travail sur l'éducation publique*, attributed to the Comte de Mirabeau, had been one of the main sources of his pioneering essay on the state, contributing with several quotations and even an epigraph on the political responsibility of the Republic for the education of its future citizens on egalitarian bases.

[74] The historical roots of von Humboldt's contribution for modern science of linguistics have been masterfully analyzed by Hans Aarsleff (2016).

At that moment, about to enter in a colloquium with some of the most brilliant intellectuals who contributed to the fall of the French monarchy, Humboldt still does not know that Mirabeau's speeches on education actually had been written by Georges Cabanis, who not only had taken care of him as a doctor, but was also one of the leaders of l'Atelier, that group of young volunteer intellectuals in charge of organizing the notes and writing the speeches of the grand tribune of the French Revolution.

The Baron, the Doctor, and Idéologie

Von Humboldt does not hide his displeasure at seeing that the leaders of the Idéologues are late for the meeting (typical French, he must have thought). The Comte de Tracy and Doctor Cabanis would come together because they were neighbors in Auteuil, since Cabanis lived in Madame Helvétius's mansion. The tedious wait is filled by the trivialities, protocols, and *mésures* of a bourgeoisie that recently learned to behave as a political and cultural elite.

Destutt de Tracy finally appears alone at the hall door, charmingly careless (therefore, so French, the young Wilhelm would have thought, already almost angry); tall, thin, light eyes, long hair fastened by a black velvet ribbon, exhibiting a military elegance, no doubt confirming his rank of Field-Marshal.[75] The large and thin nose, along with the habit of looking at the interlocutor from top to bottom, give him an air of studied arrogance, only attenuated by the grave and enveloping voice. Seeming insincere on purpose, he apologizes for the delay: with the rains, the roads that pass through the Bois d'Auteil quickly become almost impassable.

Seeing him at the door threshold, von Humboldt worries about Cabanis's absence, soon to discover that the doctor had been intercepted at the end of the stairs by a group of former patients. He controls his impatience, quickly changes his strategy, and greets the count in the stripped-down way that had become the new citizen etiquette, making a point of thanking him for that opportunity to get to know more in depth the new post-revolutionary French philosophy. In a disconcerting and almost gross action, he dispenses with the count and stands at the door waiting for Cabanis.

Doctor Cabanis slowly climbs the last steps of the staircase, walking a little bent. His short curly hair, bright eyes, carefully shaved pale face that retains traces of youth, completes a slender body—revealing weakness and helplessness, with an almost unhealthy air. He dresses with the elegance and studied simplicity of the new citizens, bourgeois before revolutionary; dark gray coat, impeccably white high-collared shirt, with a tie also white.

[75] For describing the personal features (physical appearance, clothes, gestures) of those who participated in the colloquium, I have taken the vast portraiture and lithography printings, which were produced for practically every public figure of Parisian society. This issue has been systematically studied by Amy Freund (2014). According to her: "Portraiture was central to French culture between 1789 and 1804 because it grappled with the fundamental problem of revolutionary political ideology—how to make new people for the new France" (Freund, 2014, p. 9).

Vain, but discreet and sober, he displays a thin scarf woven in fluffy cotton, imported from Portugal, dyed in the dark scarlet tone of a wood extracted from the forests of Brazil that, so explored, had become rare.[76] One of his first biographers so describes him at this stage of life (Guillois 1894, pp. 189-190):

> Cabanis had entered his 40s; he was very tall, his waist remained thin, his hair was still black, and his blue eyes, which had kept all their vivacity, did not show his mature age, which was only indicated and emphasized, so to speak, by the elevation of his shoulders and the anguish of his gait. On the other hand, his heart and spirit maintained this freshness of impressions, that flower of goodness, sweetness, and affection that made him called, by Manzoni, 'Cabanis the Angelic.'[77]

Upon arriving at the top of the wide sworn marble staircase, dirty with stompy boots, Cabanis sees Humboldt and greets him with a discreet nod, still distant. The illustrious doctor-philosopher cannot avoid a feeling of nostalgia, provoked by the strong sympathy he feels for the young baron, a newcomer to Paris but already recognized for his talent, intelligence, and resourcefulness—pretty much like himself two decades ago. He sees himself again in his early twenties, celebrated as a *sensation* in the salons of Paris, welcomed by the beautiful Anne-Cathérine Helvétius in Auteuil, where he had met with Voltaire, Benjamin Franklin, his mentor Mirabeau, and his friend-brother Condorcet. Like Baron von Humboldt, young Cabanis had studied Greek classics and dreamed of becoming a poet. Effusively, but with evident respect, Cabanis addresses Humboldt, saluting him in perfect German, pronouncing all the syllables as they do in East Prussia.

With a quick greeting, on behalf of the Republic, the Comte de Tracy announces the beginning of the colloquium. Abbot Sieyès, the eldest among those present, first to speak, recalls that the select audience is made up of intellectuals eager to get to know Kant's work better, taking the opportunity to compare his equivalent in France, Etienne de Condillac, also an abbot, his late mentor in his youth. Then Cabanis speaks and makes an almost affectionate greeting to the young scholar, thanking him for his willingness to introduce them to the great German philosopher, even more so after the newly published French translation *of Zum ewigen Frieden* [For Perpetual Peace], in which the eminent Herr Professor Kant courageously praises the principles of the Revolution of 1789. Then, in a confusing order of precedence by age, title of lapsed nobility, and position in the bureaucratic hierarchy of the

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[76] This overtly subjective description of Georges Cabanis is based on the portrait painted by Merry-Joseph Blondel, oil on canvas, circa 1800. The detail is obviously fictional, an allegory in reference to the future Brazilian connection with Cabanisian thought, key hypothesis of this essay.

[77] Free translation of: *Cabanis avait dépassé la quarantaine; il était trés grand, ses cheveux noirs encore, sa taille restée mince, ses yeux bleus, qui avaient gardé loute leur vivacité, n'accusaient pas l'âge mûr qu'indiquaient seulement et que soulignaient, pour ainsi dire, l'élévation de ses épaules et l'alanguissement de sa démarche. Son cœur, en rematch, et son esprit avaient gardé cette fraîcheur d'impressions, cette fleur de bonté, de douceur et d'affection qui le faisaient appeler, par Manzoni, « l'angélique Cabanis ».*

République, de Tracy and the other ideologues present their greetings, trying to be kind and witty.[78]

When it comes his turn, already in the middle of the afternoon, Humboldt begins his lecture speaking slowly and firmly, in a grammatically impeccable French, despite the slight but undisguised North German accent. Based on Kant's *Critique of Pure Reason*, in order to organize the discussion, he proposes that the debate be held in three fields: metaphysics, political philosophy, and theory of knowledge. In each of them, he lists the points considered crucial: in metaphysics, the sources of truth and the ontology of the spirit; in political philosophy, the role of the state, the political limits of égalité, and the Kantian idea of autonomy as a condition for liberté; and in epistemology, the relationship between language and thought, the nature of human knowledge and the freedoms of thinking, speaking, researching, teaching. He concludes his speech in an eloquent tone, proposing to bring abstract and general philosophical questions to the particular dimension of language and to the practical plan of education. He reciprocates Cabanis's kind words, thanks him for his guidance regarding the works of Mirabeau and Condorcet and, in a humble attitude (certainly well calculated), asks the interlocutors to help him understand the differences between *instruction* and *éducation* in the French language so that he can compare them with the German idea of Bildung.

The Comte de Tracy strongly challenges the interpretation proposed by the young intellectual to master Condillac's theory of knowledge as unavoidably empiricist. Unable to hide his dislike of the arrogant military man, almost losing his temper, the Baron von Humboldt declares that French philosophical thought, by promoting a vision dominated by political, legal, scientific, and ideological utilitarianism—without considering the spontaneity of the transcendental subject recognized by Kant—is "shamefully inferior" to German philosophy. The retort comes harsh, in a dense and lively barrage: first Le Breton, then the other Idéologues. They all agree that Kantian criticism shakes old thought, but puts nothing in its place, unfortunately. Of course, after the revolution, society must be rebuilt, but first we have to do the revolution; and the poor-minded German reformers remain subjected to an abashed history of submission to the sovereigns.

The young Baron notes that some of those present in the room do not reinforce the brisk chorus of the Idéologues. In vain, he tries to direct the discussions to some one-off conclusion, even if provisional. Cabanis remains silent. Only Sieyès sometimes seems to understand him, but he does so in fleeting moments, on issues coincident with his own conception of *l'analyse métaphysique*, markedly Cartesian. Desolate, von Humboldt gives up and declares that, philosophically, they speak different languages. Taking advantage of a pause, he reiterates his concerns about education and, in doing so, intends to engage the physician-philosopher, whom he had recently listened to in the Council presenting his *Rapport sur le mode d'organisation des écoles de médecine* [Report on the Organization of

[78] This fictional reconstruction of the ritualized colloquium is based on several historiographical accounts of *savants*' meetings in early Post-Revolutionary France. See note 68.

Medical Schools]. However, at that moment, Cabanis still seems distant, perhaps absorbed in the conspiracies that will soon result in the coup of 18 Brumaire, or just melancholy on a rainy and cold dusk. So unfortunately, the old abbot must leave early and therefore he does not participate in the debates that followed Perret's suggestion to depart from the synthetic and analytical propositions.

And the debate continues: replicas and rejoinders follow each other; sometimes the tone of voice rises, hands and bodies warmly move. Disagreements are amplified by alcohol, red wine among the Frenchmen and hot beer enjoyed by the two Germans. But the voices weaken by the *tour-de-force* of that colloquium that seems to never end. Trousson (2007) describes the embarrassing situation with an ironic comment:

> It was time to warm up, and here they were, attached to German metaphysics, mathematics, or the need for a principle in science. It was naturally a beautiful dialogue of the deaf, and the meeting would undoubtedly have entertained Voltaire.[79]

They Cannot Understand Kant

The day after, von Humboldt writes in his journal that the peculiar *rencontre métaphysique* lasted "from ten to fifteen hours," evaluating it as an almost total fiasco.[80] He considers that his expectation—of being able to share understanding of the two philosophical schools around crucial elements, seeking points of convergence—was not even close. This would have occurred because, for him, in a sense, French philosophers simply ignore metaphysics, so they cannot understand Kant or his disciples, gathering themselves to an immediacy materialism limited by the radical sensualism of Diderot, Condillac and his heirs. Unable to hide his disappointment, he so summarizes his interpretation for the motives of the almost total dissent verified in the colloquium (GS XIV: 486, as cited in Beyer, 2013):

> The reason why we cannot reach an agreement is this: every philosophy is based on the pure intuition of the I out of all experience, whether expressly, starting directly from it as Fichte does, or tacitly, demonstrating that the explanation of phenomena leads to this, as in Kant's case. The French ignore this absolutely; in this respect they have neither a sense nor an idea about it, and it was so in fact that all the time we were in two different worlds.[81]

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[79] Free translation of: *Le temps de s'échauffer et les voilá s'empoignant sur la métaphysique allemande, les mathématiques ou la nécessité d'un principe dans les sciences. Ce fut naturellement un beau dialogue de sourds et la rencontre eût sans nul doute diverti Voltaire*.

[80] This wide imprecision regarding the time spent in the meeting is quite odd. The Baron von Humboldt was usually methodical and careful in his notes to the diary (Lüth, 2007).

[81] Free translation of: *La raison pour laquelle nous ne parvenons point à nous mettre d'accord est la suivante : toute philosophie a pour fondement la pure intuition du Moi hors de toute expérience, soit expressément, en partant d'elle directement ainsi que le fait Fichte, soit tacitement, en montrant que l'explication des phénomènes y conduit, comme chez Kant. Les Français ignorent absolument cela, ils en possédent aussi peu le sens que l'idée et, de fait, nous sommes toujours restés dans deux mondes différents*.

The only reference to Cabanis in Humboldt's journal logs for that long, frustrating day is his comment that morality can be a matter of simple calculation. And that, right after the annotation: "The remarks on the moral were distressing" (GS XIV: 486), and perhaps embarrassing. He then records in his diary that, again, the Frenchmen cannot understand Kant.

The talented Berliner is not only restless, curious, and methodical, but mostly stubborn and determined. He does not give up with the clumsy colloquium, and just concludes that, on this side of the Rhine, les Idéologues are not ready to appreciate the new dialectic that is foreshadowed on the other bank of the Rhine. Therefore, it will be necessary to deepen the struggle for a new philosophy, reinvent logical thinking, renew the conception of scientific knowledge, reform the state and politics, redefine education as Bildung, and recreate the university as an institution of culture, science, and civilization. This is a most herculean task, an abyssal challenge. But it does not frighten Friedrich Wilhelm, Baron von Humboldt, formed in the midst of the *Sturm und Drang* (Storm and Passion) school of his mentors Schiller and Goethe, heirs of the great Immanuel Kant.

To meet the challenge launched on that long Parisian journey, Wilhelm is not alone. At that very moment, in the distant Königsberg, old Kant has just published a bold, subtle, and ironic text titled *Der Streit der Fakultäten* [The Conflict of Faculties], reacting against the attempted censorship of the King of Prussia. Wilhelm's younger brother Alexander von Humboldt, visiting him in Paris during Christmas this year, brings him a precious gift, the first edition of that book that would go down in history as the pioneering manifesto of university autonomy.

The loyal Alexander also tells the news that, in that year, a refugee in Tübingen, another young man, also with the names Wilhelm and Friedrich, but surnamed Hegel, has declared the intention of overcoming the ideas of the Revolution of 1789. Welcoming, assimilating, subverting Kant, Hegel has begun to write his masterpiece, *the Phänomenologie des Geistes* [Phenomenology of the Spirit], proposing an original dialectic as the condition for a new conception of history. The end of this story is well known.

In 1808, Wilhelm Baron von Humboldt accepts the post of Director of Education and Religions in the Ministry of the Interior of the Prussian Kingdom. In a short time, he promotes a general reform of the basic education system, following almost to the letter the Enlightenment concepts of Mirabeau/Cabanis and Condorcet that had been generated by the revolutionary turbulence in France and was soon rejected by all: Jacobins and Girondins, left and right. The following year, von Humboldt convened Schelling, Schleiermacher, and Fichte, his former professors of philosophy, to design a new university model, purposedly in contrast to the higher education regime implemented in post-revolutionary France, which he knew well at this time.

In 1810, along those lines, another Friedrich Wilhelm, King Friedrich Wilhelm III of Prussia, authorizes the creation of the University of Berlin, on the terms proposed by Humboldt. For reasons that history does not record (although we can speculate about), Humboldt resigns

from his position and moves to a diplomatic post in Vienna. Schleiermacher becomes the first Rector of the new university, soon replaced by Fichte.

In 1818, Georg Wilhelm Friedrich Hegel takes over the chair of philosophy at the University of Berlin, which had been vacant since 1814 when the old Fichte died. A charismatic teacher and masterful lecturer, his courses in philosophy, logic, and history attract students from all over Europe. Hegel is appointed Rector of the University of Berlin from 1829 until 1830, shortly before his death during a cholera epidemic. A whole generation of disciples and intellectual heirs, who went down in history as the Young Hegelians, mourns him. Among them, another Karl—this one, however, surnamed Marx.

Chapter 8

Bonaparte's Education Reform

As discussed in chapter 2, to replace the social structure inherited from the old regime that perpetuated privileges of the rich nobility, after Mirabeau and Condorcet, Cabanis and his fellow Idéologues intended to re-organize the French educational system more democratically. This would ensure the consolidation of a new social order freed from the old aristocratic political regime. However, the bourgeois liberal political restoration that succeeded the revolutionary era had no strong commitment toward the poorer social segments, which were facing new forms of oppression and exploitation by the emergent mode of production. The neutralization of the proposed revolution in education was completed next, between 1802 and 1810, alongside the wide-ranging, profound educational reform initiated by the Consulate and actualized in the Empire of Napoleon Bonaparte.

Education reform placed highly in Napoleon Bonaparte's list of political priorities (Englund 2010). He largely sought to meet the demands of the new bourgeois middle class and favor the political interests of the Roman Catholics, the majority of French society. This included furthering France's position as a military and industrial world power, which entailed its consolidation as a global center for scientific and technological production (Chateranne & Papot, 2012).

In May 1802, by decree, a new education system was established, setting the basis of a teaching model whose fundamentals and remnants are present to this day, not only in France but also in several countries of Latin-Mediterranean culture. At the level of primary education, the *écoles populaires* [popular schools] would be placed under municipal responsibility. The secondary school network, including private and clerical schools, would be directed by a central, state-controlled authority. The strong point of the new education system was a network of lycées, which were fully maintained and controlled by the state. A replacement to the écoles centrales of the Daunou Reform, this network was intended to expand the educational opportunities of graduates from secondary schools. The lycées were originally conceived as a transition between basic and higher education. To this end, their curricula included languages, modern literature, arts, sciences, and other studies deemed necessary for a "liberal" education.[82]

Figure 18. *Napoleon I on his Imperial Throne*. Portrait by Jean-Auguste-Dominique Ingres (1806). Provenance: Collection. Musée de l'Armée. (Work in the public domain.) https://commons.wikimedia.org/wiki/File:Ingres,_Napoleon_on_his_Imperial_throne. jpg

[82] In its original format, the lycées were in some way precursors to the liberal arts colleges of the United States. For a thorough treatment of this issue, see mainly the collection *Napoléon et les Lycées*, organized by Jacques-Olivier Boudon (2004), a recognized expert in Napoleonic-era historiography.

Napoleon personally drafted a system for secondary education that differentiated the public instruction given to civilian professions and to military careers (Chateranne & Papot, 2012). Candidates of a professional civil education studied languages, rhetoric, and philosophy; education for careers in the armed forces emphasized mathematics, physics, chemistry, and specific military subjects such as ballistics, logistics, and strategy. The new system had the goal of educating elite civilian and military cadres, selected from a middle class that proved economically successful in the post-revolutionary conjuncture. Scholarships were offered to the best students of secondary schools, with priority given to the children of military personnel and government employees. The government was to provide teachers with a fixed salary, but it also planned to offer bonuses and other incentives to thriving teachers. Schools would place strong emphasis on patriotism, in tandem with the new regime's high degree of centralized control over the entire educational system—which later, during the empire years, would only increase. With an agreement with the Vatican, known as the *Concordat*, Napoleon reestablished religious education and allowed religious orders to run some of the schools.[83]

Fourcroy Strikes Again

As a first-rate revolutionary and a major figure of the Convention's educational, scientific, and cultural policy, Fourcroy was personally recruited by Bonaparte, who appointed him to the Consulate's Council of State. In September 1802, as a devoted neo-Bonapartist, he took up the general directorship of public instruction. He was to carry out the mission of drafting, negotiating, and defending before the deliberative plenaries a law of education reform for the whole Empire.[84] At this point, he had already distanced himself from the Idéologues and even renounced publicly his own plan for a reform of medical education.

In 1804, with the popular support of more than 3.6 million voters in a national referendum, proportionally still the greatest electoral victory in history, the French Republic becomes an Empire. Napoleon Bonaparte is crowned as Emperor of France and first King of Italy, in the presence of Pope Pius VII, in the Cathedral of Notre Dame. In order to consolidate political dominance over the country, he intensified the many social reforms initiated during the Consulate. The bill for the education reform entered the agenda of the Council of State in February 1806. The debates went on for months and, on a few occasions, had the active participation of Bonaparte himself (Boudon, 2004).

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[83] In addition to recognizing the Vatican as a sovereign state and ensuring its military protection, declaring Catholicism as a "religion of the Frenchmen," and including clergy expenses in the public budget, the Concordat restored to the Catholic Church properties that had been expropriated by the National Assembly in 1792, including religious schools. As a counterpart, the Consulate established an *église nationale* [national church] under state control, subjecting all clergy to a civil constitution. With this agreement, the First Consul would appoint all the cardinals, archbishops, and auxiliary bishops of the country, although the Pope had veto power in the appointments. See the classic work by Markham (2010).

[84] For Boudon (2004), Antoine de Fourcroy was the true *maître d'oeuvre* of the Bonapartist education reform.

In the different legislative chambers, Fourcroy relentlessly defended that the bill proposed by the government was meant to improve the previous legislation that he, to a large extent, helped to formulate. On several occasions, he argued that it would be pointless to destroy the new institutions, but rather they should be consolidated by uniting their many parts, aiming to establish and reinforce the necessary relations with the general administration. Fourcroy's discourses often ended with unrestrained praises to the emperor, who should be applauded for having conceived himself the new system of public instruction (Boudon, 2004).

The *Education Reform Act* was finally approved by the Legislative Assembly on May 10, 1806. The *Décret d'application* of this law, which was only approved on March 17, 1808, established the scope of the Imperial University. The napoleonic idea of university did not refer to a teaching institution but rather characterized an organ that ensured the state monopoly of education activities, thus integrating and controlling all educational institutions throughout the Empire, comprising a professoriate that was exclusively dedicated to teaching. This decree also defined the overall hierarchical structure of the education system, which (similar in perspective to the Condorcet Plan of 1792) featured various types of educational institutions: *Petites écoles; Collèges; Instituts (Écoles Normales); Lycées centraux; Lycées des Arts et Métiers; Écoles Polytechniques; Grandes écoles; Facultés*.

The *collèges* were municipal or communal secondary schools, where French, Latin, geography, history, and mathematics were taught. There also were independent schools known as *instituts* (of equivalent level to the *collèges*), some of which were called *écoles normales* (those intended for the training of teachers of primary education). The lycées continued to be maintained by the state, offering room and board and scholarships, with a six-year course focused on classical studies and mathematics. What we now call professional technical training was carried out by a special category, the *Lycée des Arts et Métiers*, as well as by *écoles polytechniques*, which taught higher education for engineering and military careers. *Grandes écoles* were schools for training a scientific and technological elite for the French state, which eventually offered higher education for traditional careers in selected academic fields. Meanwhile, *facultés* were the only institutions authorized to train cadres for the two fields with the most social prestige and political capital at the time: law and medicine.

The concept of "normal school" was redefined and later extended when the *École normal de Paris*[85] was recreated by the 1808 decree, as part of the *Université imperiale de France*. Aiming at the "training in the art of teaching the sciences and the humanities," the new establishment included a *pensionnat* [boarding school] for students from all the provinces, handpicked by accredited inspectors based on their results in the lycées. The school functioned like a military academy, following a strict code which included a mandatory uniform. The Paris national institution was opened in 1810, in parallel with a sister

[85] The history of Paris's *école normal* is the object of a full collection of papers organized by Pascale Hummel (1996).

establishment inaugurated by Napoleon in Pisa, under the name of *Scuola normale superiore*. However, the Paris pensionnat was extinguished by the Restoration Ministry of Public Instruction in 1824, since it came to be perceived as an epicenter of liberal thought influenced by the Idéologie.

The Imperial University

Being particularly worried about the independence of secondary schools and lycées, Napoleon sought to establish an even more rigorous and centralized control of the French education system (Englund, 2010). With this aim, he included in the education reform of 1806-1808 the concept of "Imperial University"—which was initially defined as a type of national congregation of teachers, a state career of sorts that lacked a specific institutional link. Article 1 of the Educational Reform Act of 1806 reads as follows: "A body named Imperial University will be formed, and it will be exclusively in charge of the whole Empire's public teaching and education."[86]

Napoleon insisted on the idea that, upon creation, the "virtual" university should have full autonomy from the ministries, as it would answer directly to the emperor (Boudon, 2006). In overt flattery, still in 1806, Fourcroy gives Napoleon full credit for the idea of the Imperial University as a national professoriate, to be coordinated by a single organ (cited in Aulard, 1911, pp. 152-153):

> Besides the high political considerations that call for such an institution, the establishment of a teaching corps is still the only means of saving public instruction itself from total ruin. The remains of the ancient teaching corporations were until now only enough to support the edifice; but these resources are being exhausted every day . . . . A corporation such as that, of which Your Majesty conceived the thought and traced the plan, can thus on its own regenerate public instruction and ensure prosperity.[87]

The Imperial University, simultaneously an organ for the general control of a given territory's network of schools, and a single teaching corps for the entire educational system, is a peculiar idea that has no parallel in Western history. Even in France, it did not outlive Napoleon Bonaparte, given that in 1815 the central control organism of the French education system was renamed as *Commission nationale d'Instruction publique*, and its teaching members were allotted across the institutional network. In reaction to the strict grasp held by state bureaucracy during the Napoleonic era, as soon as the legal

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[86] Free translation of: *Il sera formé, sous le nom d'Université impériale, un corps chargé exclusivement de l'enseignement et de l'éducation publiques dans tout l'Empire*.

[87] Free translation of: *Outre les hautes considérations politiques qui appellent une pareille institution, l'établissement d'un corps enseignant est encore le seul moyen de sauver l'instruction publique elle-même d'une ruine totale. Les débris des anciennes corporations enseignantes ont su jusqu'à présent pour soutenir l'édifice ; mais ces ressources s'épuisent chaque jour . . . . Une corporation, telle que celle dont Votre Majesté a conçu la pensée et tracé le plan, peut donc seule régénérer l'instruction publique et assurer la prospérité*.

competence of the Imperial University was questioned, the various bodies dedicated to higher education withdrew from the unified education system, confirming their institutional autonomy as isolated, independent academies, schools, institutes, and faculties (Charle & Verger, 1994).

In this system of higher education, which became known as the "university monopoly" (Aulard, 1911), no educational institution could be established outside the Imperial University, no one could open a school or work in teaching without being a member of the University's teaching staff or without having graduated from one of its faculties or higher education schools. This reform was preceded by a specific, exclusive, specialized teaching model adopted in the medical reform of 1802-1803—a time when French society accepted increasing government control over the training and practice of new professional categories that sought to consolidate their hegemony during a transitional political context.

Boudon (2007) collected data pertaining to the French higher education scenario at the end of the First Empire. In 1814-1815, about half of the 6,000 French higher education students attended any one of the nine faculties of law—predominantly the Faculty of Paris, which accounted for almost a quarter of all students. The three faculties of medicine (in Paris, Montpellier, and Strasbourg) had almost 1,200 students, while the three schools of pharmacy registered less than 400 students. In 1808, the creation of the faculties of letters and sciences forced the government to recruit teachers from outside the so-called imperial professions. Each faculty of letters should offer at least three chairs (literature, philosophy, history), while each faculty of science would have at least four chairs (mathematics, mechanics, physicochemistry, natural history). In 1813, there were only 145 higher education teachers throughout the country—89 in letters, 56 in science. In 1814-1815, the 21 faculties of letters comprised 1,332 students. The Paris Faculty of Arts, housed in the Sorbonne, was not the most important in the Empire; only 70 students were enrolled, in addition to the students of the *École normale superieure*. The nine faculties of science had a much smaller student body, numbering 326, since the majority of students drawn to scientific careers were in military schools such as the *École Polytechnique de Paris*. Finally, nine faculties of theology recruited students mainly from seminaries and Catholic schools.

Revisions and Reforms

The French model of higher education—which materialized during the Napoleonic period and expanded in the Second Empire—not only reinforced the suppression of the university by the Revolution of 1789, but also brought about a strong differentiation of quality among the various units of higher education and between professional training versus academic science education (Charle & Verger, 1994). With an institutional regime dominated by academies, faculties, and isolated schools that were independent from universities, it is precisely in this historical phase (early nineteenth century) that a linear curricular architecture of professional career training was introduced throughout the French higher education subsystem. It was only during the Third Republic, which arose after the defeat in the war

against Germany in 1870, that substantial modifications in the French higher education system allowed for the recovery, though only partial, of the original idea of university in France (Weisz, 1983).

Louis Liard, who was appointed Director of Higher Education in 1884, summarized the bases of a new proposal for reforming higher education in France in a booklet titled *Universités et Facultés*. He compared the two institutional formats to demonstrate that the French choice of higher education based on faculties was a huge historical mistake, which should be swiftly corrected (Liard, 1890). Later, admitting a supposed superiority of the United States higher education model for economic, scientific-technological, and social development, Liard (1894) proposed a republican theory of the university, conceived as a vast organism, single and multiple at the same time:

> Single like the human spirit wherefrom comes all science, multiple like the diverse objects upon which this spirit applies itself. Open to all that can be the subject of studies and research: mathematical abstractions, physical realities, moral realities, creation of the letters, creations of the arts, applications of sciences to the technical arts. Having as many compartments as there are natural divisions in things—distinct but not separate compartments, in which a single life, a single spirit would circulate.[88]

Cautious and gradualist, the new reform comprised a series of decrees that granted faculties the autonomy to receive financial support, manage resources, and create chairs and courses (Weisz, 1983; Boudon, 2007). A decree from 1885 established in each faculty and *grande école* two deliberative bodies: the faculty assembly and the academic council. An additional step was taken by an 1889 decree allowing faculties to have their own budget, which would be made up of enrollment fees and state subventions. Given the new autonomy, faculties increased their teaching staff through the creation of specialized chairs. While the administrative independence of faculties indeed advanced, deans continued to be appointed by the minister, though they were now chosen from each faculty's own shortlist. This reform culminated in what became known as the Liard Law, passed by the French Parliament in July 1896. The law granted juridical personality to the teaching staff of faculties that were constituted as aggregate institutions. Such faculties were then legally authorized to bear the name "university." In this process, the University of Paris was immediately refounded in November 1896, followed by the creation of 15 other universities throughout the country (Boudon, 2007).

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[88] Free translation of: *Conçut comme un vaste organisme, un et multiple à la fois, un ainsi que l'esprit humain d'où vient tout science, multiple ainsi que les objets divers auxquels cet esprit s'applique, ouvert à tout ce qui peut être sujet d'études et de recherches, abstractions mathématiques, réalités physiques, réalités morales, création des lettres, créations des arts, applications des sciences aux arts techniques, avec autant de compartiments qu'il y a de divisions naturelles dans les choses, compartiments distinctes, mais non séparés, dans lesquels circulerait une même vie, un même esprit*.

The Liard Reform—despite having solid arguments, a consistent formulation, and a careful plan of implementation—was considered a failure by historians of education (Weisz, 1983; Charle & Verger, 1994; Boudon, 2007; Prost, 2007). In the model of higher education that consolidated in Belle Époque France (one century after the suppression of "gothic universities" by the Revolution of 1789), the power of faculties continued to increase. This was even more true among the so-called higher faculties (medicine and law, since faculties of theology had lost ground in nineteenth-century republics) and the polytechnic schools, all of which offered training in the "imperial professions," which was a semantic twist of the idea of *profession libérale*, cultivated in the post-revolutionary era.

The conditions and determinants of this peculiar institutional model, particularly regarding higher education in the field of health, with professional training in medical faculties and hospitals, has been analyzed by Pinell (2009):

> The originality of the situation has hardly attracted the attention of historians, although it is one of the few cases in France where the university faculty is not controlled by civil servants. In other words, in this institution belonging to two fields, the particular social characteristics of clinical teachers contribute to promoting the anchoring of the faculty of medicine in the medical field and its autonomy vis-à-vis the academic field. Also . . . it is through the mediation of the few professors of ancillary sciences (the only "classical" academics) that links will be maintained between the faculty of medicine and the world of public education.[89]

Given the hegemony of liberal professional education in the French model of higher education, the instruction of secondary school teachers was left to the new faculties of letters and sciences. In this context, universities had a merely nominal existence, insofar as they constituted a unit without practical power. They had the limited role of political mediation and of representing before the state a group of faculties, themselves possessing political, financial, administrative, academic, and symbolic autonomy.

Hence, both in the French historical matrix and in countries where Mediterranean models of higher education remain dominant, one still finds residues and traces of the most anachronistic features of this curious republican university—negated from within by its very own institutional structures. On this, Antoine Prost (2009) critically comments:

> First off is a poor, narrow conception of universities, limited to the teaching they provide. The comparison with foreign universities is overwhelming in this regard. Creating communities of life and not only of study was not on the republicans' agenda. They were inspired by German seminaries, not by Anglo-Saxon colleges.

[89] Free translation of: *L'originalité de la situation n'a guère attiré l'attention des historiens bien qu'il s'agisse d'un des rares cas en France où l'instance universitaire de formation n'est pas contrôlée par des agents de la fonction publique. Autrement dit, dans cette institution appartenant à deux champs, les caractéristiques sociales particulières des enseignants cliniciens contribuent à favoriser l'ancrage de la faculté de médecine dans le champ médical et son autonomisation vis-à-vis du champ universitaire. Aussi . . . c'est par l'intermédiaire des quelques professeurs de sciences accessoires (les seuls universitaires « classiques ») que se maintiendront des liens entre la faculté de médecine et le monde de l'enseignement public*.

> Next in order is the strength of the faculty tradition, symbolized by the rapid return after 1968 of the title of dean, of the name of the faculty, and the rarity as well as the precariousness of the training courses straddling two older faculties.[90]

Prost's (2009) conclusion is equally critical, almost ironic:

> Finally, the difficulty, which seems to be decreasing, in accommodating applied courses, in the sciences and above all in the letters, where the preparation of examinations for secondary level teaching continues to structure education: when everything is blocked by contestation, only the aggregation courses [teacher training] continue to happen. Therein lies the holy of holies of our literary higher education.[91]

However, after World War II, this model suffered a rapid decline, and it symbolically imploded during the urban revolts of May 1968, in Paris (Prost, 2009). Owing to a series of events in the second half of the twentieth century, culminating with the launching of the Bologna Process in 1999,[92] even the European countries that had gradually adopted the principles devised by Cabanis and promoted by the Bonaparte Reform ended up abandoning the peculiar model of higher education without universities.

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[90] Free translation of: *D'abord, une conception pauvre, étroite, des universités, résumées à l'enseignement qu'elles dispensent. La comparaison avec les universités étrangères est accablante sur ce point. Créer des communautés de vie et non seulement d'étude n'était pas au programme des républicains. Ils se sont inspirés des séminaires allemands, non des collèges anglo-saxons. Ensuite, la force de la tradition facultaire, que symbolise le retour rapide après 1968 du titre de doyen, du nom de faculté, et la rareté comme la précarité des formations à cheval sur deux anciennes facultés*.

[91] Free translation of: *Enfin, la difficulté, qui semble se réduire, à accueillir des formations appliquées, en sciences et surtout en lettres où la préparation des concours du second degré continue à structurer l'enseignement : quand tout est bloqué par la contestation, seuls les cours d'agrégation continuent à se dérouler. Là est le saint des saints de notre enseignement supérieur littéraire*.

[92] The Bologna Process, still in course, results from international agreements among European governments regarding policy reforms to create a shared Higher Education international community. Now adopted by 48 countries, the Bologna reform is aimed at learning mobility, cross-border academic cooperation and the mutual recognition of study periods, academic credits, degrees and qualifications earned abroad. There is now a profuse literature on this endeavor, full of controversies. See mainly Bergan and Matei (2020).

Chapter 9

Cabanis Betrayed by Fourcroy

Day 30 Germinal, Year X (Tuesday, April 20, 1802). It is a cloudy day, with a pleasant temperature, which is rare this season.

Doctor Pierre-Jean-Georges Cabanis, Lifelong Senator of the French Republic, leaves his retreat to attend a session of the Tribunat.[93] Cabanis is then at the age of 45. He has not been to central Paris in weeks. Sick and tired, he has spent more and more time reclusive in the Auteuil mansion, where he painfully tries to recover notes, rapports, and references to the writing and revision of the books that will form his philosophical, political, and pedagogical legacy. To relax in his spare time, he translates from ancient Greek the *Divine Homer* and writes poetry, his passion for youth. In addition, he dedicates himself, with his sister-in-law Sophie de Grouchy, widow of Condorcet, to the publication of the complete works of his late friend, victimized by the Terror.

The trip was quiet and short, thanks to the new suburban roads of the bustling capital, full of renovations and public works, and the dexterity of Antoine Damour, faithful gardener of the late Madame Helvétius who, when necessary, served as a coachman.[94] Cabanis arrives early, just after lunchtime, to the grey building of the *Palais-Égalité* (the name with which the Convention had renamed the Palais-Royal, built by Cardinal Richelieu), where, under the

[93] The *Tribunat* was part of the Corps législatif, established by the Consulate. The first *Président du Tribunat* was Pierre Daunou, one of the most active of the idéologues, elected with 76 out of 78 votes of the representatives (Guillois 1894, p. 155).

[94] As in Chapter 7, the Historical Map of Paris was my main source regarding Parisian landscape circa 1800 (http://paris-atlas-historique.fr/10.html). As well, information on Georges Cabanis's private life was drawn especially from Guillois (1894) and Pouliquen (2013).

Consulate, the chambers of the *Corps législatif* gathered. At that time, the sidewalks surrounding the old palace are buzzing with people, full of dispatchers, stewards, and notaries. With the help of Antoine, he descends from the carriage with difficulties, but soon reaches the wide and majestic corridor full of columns. He crosses it slowly, then the courtyards, and heads to the grand salon, where later, the tribunes would meet to appreciate the bill of educational reform proposed by the First Consul Napoleon Bonaparte.[95]

The huge hall is still empty, only a few clerks move between the long central table and the small thrones of the people's representatives. On the right side of a wooden stage, shallow and wide, behind a small pulpit, scriveners organize books and papers on long and narrow benches, preparing for the next session. Avoiding the row of chairs situated in front of the stage, reserved for gentlemen like him, Cabanis sits right in the last row in the background, on one of the wide benches of carved raw wood, in a corner underneath the volutes that support a small auxiliary staircase. He settles on a small cushion of goose feathers that Antoine had brought. Quiet, patient, he falls asleep.

Little by little, the large room fills with busy people: diligent employees set stage and audience, assistants and advisors of the tribunes take possession of the front chairs with leather briefcases. In the narrow wooden benches, some old people try to sit down as comfortable as possible, with a general air of curiosity. The same happens to a few ladies, very well dressed, with ostentatious signs of recent nobility. With the decay of scientific and philosophical debates and the closing of the salons, petty politics had become the latest fashion in Paris.[96]

From his corner, discreet, almost hidden, Cabanis observes everything. With joy, at a distance he recognizes the long hair, small eyes, and long-eagle nose of a well-known figure, who is not trying, like him, to go unnoticed: Pierre Daunou, writer of the Public Education Act of 1795 and director of the National Archives. Daunou had held the position of president of the Tribunat until recently, when First Consul Bonaparte dismissed him, along with all the tribunes who disagreed with the Concordat.

A *maître de cérémonies* announces, screaming, the presence of the honorable tribunes for the afternoon session.[97] A gathering of around 40 gentlemen, of various sizes and weights, enter through a curtained door and another group do it through a side arch located in the corner of the hall. In a line, loosely organized, they head to the little thrones with red

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[95] The legislative session narrated in this chapter in fact occurred in the place and time noted. However, the presence of Cabanis in that event is purely fictional, since there is no evidence that that happened, moreover considering his poor health condition at the time. I have used this "poetic license" to over-emphasize the confrontation of values, ideas and methods between the two rival remarkable intellectuals and policy builders.

[96] On Parisian political culture during the post-revolutionary era, see mainly Kale (2006).

[97] This session of the corps législatif was meticulously described in the notes taken by Jean-Jacques-Régis de Cambacérès (1753-1824), a member of the Imperial cabinet and one of the most influential politicians of the Napoleonic Era. These notes are part of his *Mémoirs*, published by the Fondation Napoleon (de Cambacérès, 1999).

cushions, lined up on steps on the front and sides of the great hall. Some of them sit down and, almost immediately, begin to talk to their neighbors. Many of them wear dark clothes, several wear colorful military uniforms, a few have a kind of tunic that mimic Roman magistrates' togas, while others wear solemn costumes typical of their regions of origin. A few are dressed in bourgeois fashion, with jackets and vests of various colors.

The six secretariat members of the session then arrive. They check the piles of papers on the dark wooden table and sit on their thrones, on the central stage covered by an old carpet. Soon after enters President Chabot, solemn and frowning. Cabanis moved, bothered. He knew well the magistrate Georges-Antoine Chabot de L'Allier (1758-1819). They had been elected at the same time to the Conseil de Cinq-Cents, where Cabanis represented the commune of Auteil and Chabot the commune of L'Allier (from where he withdrew his toponym of false nobility). Together they participated in the conspiracy that resulted in the Coup of 18 Brumaire, but Chabot's contribution had only been the dissemination of rumors, lies, and intrigues necessary to destabilize opponents.

After republican protocols, which would very soon give way to imperial rituals, the president of the session announces the agenda. Cabanis notes that, in the reading, Chabot changes the tone of voice by mentioning the bill of the Consulate's first educational reform, pointing out that it had been forwarded directly by the eminent First Consul. To present the proposal, he asks the maître de cérémonies to invite Doctor Antoine-François de Fourcroy, in charge of the Public Instruction section of the Ministry of the Interior, member of the *Conseil d'Etat,* who would be the *orateur du gouvernement* [government speaker] for that session.

Never Again Brumairian Months

At that time, a France precariously pacified by the Treaty of Amiens commemorates the *Loi d'État* [State Law] that regulates Napoleon's Concordat with Pope Pius VII, negotiated the previous year and promulgated the week before. But what the population really celebrates is the re-establishment of the Gregorian Calendar. Never again Brumairian, Nivose, or Vindimairian months, nor republican years in Latin numerals. The birth of Christ is again the initial milestone of history, and Sundays are reincorporated into the daily lives of the common people.

But not everyone concurs with the Concordat. Revolutionary veterans and Republican activists are making violent criticisms of the growing power of the First Consul, who is engaged in a personal campaign to become emperor. Intellectuals and scientists, mostly agnostic and anti-clerical, such as Cabanis, are outraged at the restoration of religious hegemony in a state that should be secular, and with the warmongering-patriotic atmosphere in a society that should cultivate peace. From the first movements that revealed the insidious tyranny, when a political police corps was organized and, in fact, the

constitution was not complied with, Georges Cabanis aligns himself with the movements of resistance to populist authoritarianism of the Bonaparte family.[98]

Nevertheless, Napoleon never hid his admiration for some of the Idéologues—Cabanis mainly—with whom he liked to discuss philosophy and natural sciences when he attended their salons and classes at the Institut de France. Boldly, Cabanis refused several invitations made by the then aspiring despot to private hearings and public events, dodging maneuvers that were already part of the small politics of the Consulate and its *courtisans*. They were too embarrassing acts of seduction, co-optation, and even explicit corruption, offering positions, sinecures, lifetime pensions, and pompous titles of nobility.[99]

Cabanis knows up close the virulence (and charisma) of Charles-Lucien Bonaparte, Napoleon's younger brother, a former supporter of Robespierre who, with the end of the Directory, ascended to the presidency of the Conseil de Cinq-Cents. They had been partners in the conspiratorial movements that resulted in the Coup of 18 Brumaire, but also in the first negotiations to recreate the Académie Française from the classes of the Institut nationale de France. However, admiration and discreet complicity had soon become contempt, after fraud was found in the results of a plebiscite, sponsored by Lucien shortly after being appointed Minister of the Interior by his brother Consul. Cabanis's repudiation extends to other members of the Bonaparte family, from the firstborn Joseph to the flamboyant Jérôme to the youngest Élise, all committed to raising archaic noble titles and royal crowns, contested and usurped, in countries and regions conquered by the celebrated brother.

The curtains of the small door through which legislators and leaders had entered suddenly open, giving way to a man of broad and sudden gestures, almost clumsy, hurried to reach the pulpit.

The Manservant of Napoleon

Antoine de Fourcroy is almost the same age as Cabanis. When he was younger, he was slightly obese, which rounded the features of his face, but he is now thin and skinny, looking much older. He dresses with exaggerated elegance: dark blue velvet coat with rich embroidery on the cuffs and lapel; white satin vest, also embroidered, with floral motifs; white shirt, high and starched collar with a *jabeau* of fine lace. His pale, dry forehead extends to the top of his head, forming a frontal baldness, covered by tufts of totally white hair, half

[98] On Napoleon Bonapartes's politics, including his tyrannic rule and nepotic practices, see especially Englund (2010).

[99] Cabanis's relationship with Napoleon, which extended to his family members, is well exposed by Pouliquen (2013).

frizzy, like protruding flakes of cotton over the pointed ears. On the thin and long face stands out a pair of sunken and dark eyes that, however, shine brightly.[100]

Fourcroy climbs to the pulpit, where he stands absolutely still for a few seconds. After a pause, he lifts his gaze, takes his breath, and begins a long greeting to the tribunes, his institutional hosts, reiterating his status as a spokesman and advisor for the powerful First Consul. Fourcroy has the voice and moves of a dramatic actor; he alternates low tones and breaks in the rhythm of his oratory, addressing parliamentarians, leaders, and the public as spectators of a monologue, certainly rehearsed. In childhood and adolescence, he already revealed great talent for the dramatic arts. In his mature life, this gift was very useful to him as a professor of chemistry and pharmacology in the *Jardins du Roi* and at the *École Royale Véterinaire*, where his courses and conferences were always crowded.[101]

Noting that his listeners are captivated, Councilor Fourcroy finally addresses the issue of that important legislative session. At his command, two clerks begin to distribute copies of a pamphlet to the tribunes. There, in carefully printed typography, the main points of his speech[102] are summarized. Some copies that remain are thrown over the benches where the commoners are located. Cabanis cannot avoid a sense of curiosity, which provokes an almost involuntary movement to come out of his corner, almost a hiding cave, to fetch one of the leaflets.

With solemn air, increasingly sure and confident, Fourcroy faces the legislators, projects his voice to the galleries, and directly addresses the astonished President Chabot. After a brief preamble, in a soft, almost conciliatory tone, he states that the bill does not confront, but rather perfects, the previous legislation, passed at the National Convention in 1794. He ensures that First Consul Napoleon's interest is not in erudite education—cultivated knowledge often of little use—but in the training of young people for scientific and technical efficiency, with superior capacity for the essential professions, ready for executive jobs necessary for the type of government that the Consulate wishes to bequeath to sovereign France.

There he is, at last, honored in the position of a public manservant, humble fulfilling the high duty to transmit and defend the thought and intention of the First Consul. Another dramatic pause, so long that it provokes grumbling in the already impatient Cabanis. Fourcroy drinks a sip of water from a crystal glass, and proceeds, fencing with firm words:

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[100] This description of Antoine Francois de Fourcroy is based on two pictorial sources: for his physical features, I have used his last portrait, in steel engraving, by C. T. Riedel, published in 1819 but drawn a few years before; for the dresses, I describe the oil portrait by Anicet Lemonnier, painted circa 1800, which shows the extravagant gentlemen fashion typical of the Napoleonic Era: https://commons.wikimedia.org/wiki/File :Lemonnier_-_Antoine-Fran%C3%A7ois_de_Fourcroy.jpg

[101] Information on the life and work of Antoine de Fourcroy was drawn from two biographers: in English, William Smeaton (1962); in French, Georges Kersaint (1966). Both biographical sources register Fourcroy's theatrical performance skills and his extraordinary talent as a magnetic teacher and lecturer.

[102] Published as *Discours prononcé au Corps législatif par A.F. Fourcroy, orateur du Gouvernement, sur un projet de loi relatif à l'Instruction publique. 30 Germinal an X (20 avril 1802).*

> The government, in seeking a new mode of education appropriate to the current state of knowledge and the genius of the French nation, thought it necessary to get off the usual road. Instructed by the past, it rejected the ancient forms of universities, whose philosophy and enlightenment had called for reformation for almost half a century, and which no longer are according with the progress of reason.[103]

In the same pacifying tone of his grand opening, Fourcroy states that public education should not be imposed on the families; the aid of the national state will stimulate local efforts in this regard, in municipalities and parishes throughout the country. In primary school, education will be limited to reading, writing, and arithmetic. For the teaching of French, Latin, geography, history and mathematics, there will be secondary communal and municipal schools called colléges. The Emperor Bonaparte himself has designed the plans for innovations in the lycées to integrate classical studies with industrial modernity.[104] As a result, education will return to the hands of private teachers and, in view of the will of the French people, it will be guided and, wherever needed, carried out by the Holy Church.

Inebriated by his role of orateur du gouvernement [government spokesperson], Fourcroy solemnly declares that the Consulate of France will establish lycées, with boarding houses, internships, and scholarships. Professionalized technical apprenticeships will be offered in a special kind of high school, lycées des Arts et Métiers, and in Écoles Polytechniques for higher education. There will also be independent schools, the écoles normales, for the training of teachers for primary education. Grandes écoles and facultés will be responsible for higher education in scientific careers and classical studies, the only institutions qualified to form careers of greater social prestige, essential for the state and industry.

In his corner, attentive to all that the *grand orateur* says, Georges Cabanis cannot avoid the feeling of being robbed. The education reform plan he conceived with Mirabeau and Condorcet ten years prior—including details from the *plan de décret* [plan of decree] shared with Condorcet and enriched by his rapports to the Institut, which profited from the debates with his fellow Idéologues—is being presented to the Tribunat by the unashamed Counselor Fourcroy. The conceptual proposal he wrote for Mirabeau is all there, except for the key political issue of equity in education being a right for all citizens and, moreover, a duty of the state. His plan has not only been stolen, but even worse: it has been corrupted by the revival of religious teaching, the distortion of higher education as mere professional training, and the militarization of schooling for a coarse and poor-minded elite. For that, Cabanis feels badly and deeply betrayed.

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[103] Free translation of: *Le gouvernement, en recherchant un nouveau mode d'enseignement approprié à l'état actuel des connaissances et au génie de la nation française, a cru nécessaire de sortir de la route accoutumée. Instruit par le passé, il a rejeté les formes anciennes des universités, dont la philosophie et les lumières appelaient la réformation depuis près d'un demi-siècle, et qui n'étaient plus d'accord avec les progrès de la raison.* (Fourcroy, 1802, p. 65)

[104] In fact, once again Fourcroy was giving away one of his ideas to the emperor, according to Claude Viel (2011).

For a moment, Fourcroy moves away from the text of his speech and, lowering the tone of his voice, almost in a whisper, informs the tribunes and the audience that the teaching of ideology will be completely banned from schools at all levels. Public authorities and the legal system will be united and attentive to ensure that teachers will not exceed these limits. Still speaking low, with an almost intimate tone, he formulates an argument persuasive by its own strength: it would be unwise to destroy, and not consolidate, the current educational institutions, uniting the various parties, aiming to establish, in a rigorous and disciplined manner, the standardization of the necessary relations with the general administration of the educational system, under the responsibility of the state. His words, now in a crescendo, spoken in an increasingly firm and resonant voice, seek a grand finale to the height of that historic moment:

> Voilà, citizen legislators, the bases and reasons for the project that the government is submitting before you today. It hopes that you will recognize the spirit that drives us for the prosperity of the State, that you will find in it the means to achieve the goal towards which several other projects have undoubtedly been directed without having been able to achieve it yet.[105]

A huge ovation, soon transformed into a cadence of applause, greets the end of the discourse. All tribunes are standing, applauding, as well as almost all the occupants of the crowded galleries. Fourcroy descends from the pulpit and stands up motionless in front of the crowd, his head hanging in reverence like an actor graced by the affection of his audience. He goes back to the pulpit, raises his arms, slowly manages to silence the mass and, almost to screams, concludes his pronouncement. Moved to tears, he makes a declaration of personal and political submission to Consul Bonaparte, future Emperor Napoleon I:

> Messieurs ! I will applaud myself, for all my life, for having contributed to the reorganization of education and public instruction, in accordance with the views of the great man who, not content with having enlightened his century and made the happiness of his contemporaries, prepares high destinies for the generation that is coming to succeed us.[106]

At this point, the crowded audience spreads in frantic applause and whistles, pounding their feet hysterically on the wooden floor. Cries of *Vive la France*! are repeated, other voices are heard, may the savior of this nation come, the myth, the legend. A large, supplicant woman climbs onto the bench in front of her, faces the door, and shouts the name of the aspiring

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[105] Free translation of: *Voilà, citoyens législateurs, les bases et les motifs du projet que le gouvernement soumet aujourd'hui à vos lumières. Il espère que vous y reconnaîtrez l'esprit qui l'anime pour la prospérité de l'Etat, que vous y trouverez les moyens d'atteindre le but vers lequel plusieurs autres projets ont sans doute été dirigés sans qu'ils aient pu y parvenir encore*. (Fourcroy, 1802, p. 84)

[106] Free translation of: *je m'applaudirai toute ma vie d'avoir concouru à réorganiser l'éducation et l'instruction publique, d'après les vues du grand homme qui, non content d'avoir illustré son siècle et fait le bonheur de ses contemporains, prépare de hautes destinées à la génération qui doit nous succéder.* (Cambacérès as cited in Boudon, 2006, footnote 11.)

tyrant as if the First Consul was there, in such a way that everyone thinks that, at any moment, the Corsican would appear in the great hall. But in the place where Napoleon should be, in front of the delirious mass, one sees an actor at his peak, marvelled by his own greatest performance, in ecstasy, sweaty, trembling, panting, possessed.

Freemason Brothers

Cabanis knows Fourcroy very well, since they had been Freemason brothers in the *Loge des Neuf sœurs de l'Orient de Paris.*[107] He knows him as a shrewd, skilled, and opportunistic politician, from the times of the Estates General, the Atelier de Mirabeau, the disputes in the National Assembly, the Convention, the times of Terror, the 18 Brumaire plots.

In 1792, sponsored by Jean-Pierre Marat, Fourcroy was elected deputy to the National Convention. There, sitting on the left in the assemblies, he joined the Jacobins, who appointed him to the Comité d'instruction publique. Together with Marat, he headed the movement for the extinction of universities, colleges, and scientific societies, starting with the Academy of Sciences. In August 1793, he replaced Marat, who was murdered in the bath, in the dreaded Comité de salut publique. With calculation, talent, and a good dose of luck, Fourcroy survived the Terror, but at the expense of witnessing helplessly the manhunt and execution of his mentors, friends, and companions. At the end of that fateful year, he assumed the presidency of the *Club des Jacobins* and, despite this condition, he did nothing to stop Danton's political ordeal.[108] During the Directory, Fourcroy took several important positions in the political scene of France and, with the Consulate, he became the main advisor for scientific and educational affairs to the Bonaparte family. After the Coup of 18 Brumaire, First Consul Bonaparte appointed him to the Conseil d'Etat of the first triumvirate.

Cabanis recalls how he and Fourcroy had been very close friends and constant partners in various political projects. That started when Cabanis was a member of the Paris *Comité des hôpitaux,* taking over the general administration of French hospitals. Together, they helped Richerand,[109] a mutual friend who had been drafted as a military surgeon, to stay safe in Paris, away from the battlefield, during the revolutionary wars of 1792. As a member of the Convention, in opposition to Mirabeau's proposals taken up by Condorcet, Fourcroy advocated in 1793 the complete re-creation of the French system of higher education to overcome "les gothiques Universités."

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[107] Cabanis's role in French Freemasonry is mentioned by Weisberger (1993).

[108] Georges Jacques Danton (1759-1794) was one of the most important political leaders of the French Revolution. During the Convention, he shared power with Marat and Robespierre. Accused of corruption and leniency, Danton and 14 fellows faced a short two-day trial before the Revolutionary Tribunal and were immediately guillotined on April 5, 1794.

[109] Anthelme Louis Claude Marie Richerand (1779-1840), also known as Anthelme-Balthasar, was their student at the École de Santé de Paris and later became a famous military surgeon during the Napoleonic Wars.

As Garat's main collaborator on the Comité d'instruction publique, even outside the Convention, Cabanis was strongly against Fourcroy's educational reform proposals. For him, Fourcroy's plan was neither consistent nor a real system. Lacking technical detail and without conceptual quality, Fourcroy's project distanced itself from the dense contributions (mémoirs, rapports, projets) of Condorcet. It was more of a political libel, in a gloomy and dramatic tone (almost violent) when describing the chaos of medical practice in the monarchy, with an aggressive and triumphalist rhetoric when presenting the proposed solutions. In the specific case of medical education, Cabanis preferred the realistic plan drawn up by the commission chaired by Félix Vic D'Azyr. Nevertheless, with a wide range of support from the Jacobins, it was the Fourcroy Plan that was approved by the leaders of the Revolution.

At that moment in the Tribunat, Cabanis remembers quite well the opportunity and the reasons for taking distance from that man, so eloquent, magnetic, and, on that day and in that scene, unfortunately so pedagogical. In the very difficult debates in different committees and councils during the Convention, Cabanis would in no way accept chemistry as a fundamental science of medicine (because, for him, nothing could be more important than the Clinic) and did not agree with the creation of the schools of health.

Unfortunately, his former mentors Roucher and Vicq d'Azyr did not survive the Terror to complete their contributions to humanity, recalls Cabanis, suddenly sad. His faithful friend Condorcet had been denounced by the same Chabot de L'Allier who, on that day, presides over the Tribunat. They had all been indicted by the Comité de salut publique (which had Fourcroy as one of its members). These unhappy memories make old Cabanis even more melancholic.

Cabanis remembers the Lavoisier case. Fourcroy had met Antoine-Laurent de Lavoisier (1743-1794) ten years before the Revolution, when he began his teaching career in the Jardins du Roi, as Lavoisier had been banned from teaching at the Faculty of Medicine. The great chemist took the ambitious Antoine de Fourcroy as practically his adopted son and intellectual heir. They were collaborators in many scientific projects, mainly in the reform of standard chemical nomenclature, inspired by the *Encyclopédie*, which resulted in a systematic classification and notation used even today: acids, salts, bases, compounds, etc.

By the end of 1793, denounced to the same Comité (then chaired by Robespierre), Lavoisier was sentenced by the revolutionary courts to the guillotine for treason to the homeland. Several scientists and intellectuals, including Lagrange and Cabanis, took a public stand in his defense. Fourcroy, Lavoisier's friend and disciple, terrified by what happened to his other mentor Felix Vic D'Azyr, omited himself and, when he finally mobilized, it was too late to save Lavoisier from the execution.[110] As an attempt to evade the accusation of being

[110] There has been much controversy about the potential role of Fourcroy in the execution of Lavoisier. The hypothesis of partial responsibility by omission, considering his position of influence and political power among the Jacobins, has found support among Lavoisier's biographers, such as Jean-Pierre Poirier (1993).

responsible for Lavoisier's death sentence, Fourcroy wrote a posthumous eulogy that contributed to one of the most resilient myths in the history of science. The legend says that, when confronting Lavoisier's scientific achievements as an argument for pardon, the chairman of the revolutionary courts, supposedly replied, "The Republic does not need scientists." This tale has been repeated in countless occasions as a brutal demonstration of denialism endorsed by totalitarian regimes.[111]

It is this man who, at that moment, mesmerizes the tribunes, the fanatical mob, and steals the scene at the Palais-Égalité. With a bitter taste in his mouth, and a painful and restrained indignation aimed at the usurping Bonaparte family and their accomplices, Georges Cabanis strangely feels ashamed, as if the victory of a manservant embodying Napoleon was the defeat of his life. Deeply sad, with his thoughts on the many sacrificed friends of his generation, Cabanis takes advantage of being positioned in the very last row of benches, in the most discreet corner, in the farthest place, and withdraws slowly through the backdoor of the great hall, supported by his elegant dark wooden cane, very finely crafted in Brazil.

A Traitor Betrayed

Respecting the tragic grandeur of that apotheotic scene, President Chabot, said de L'Allier, makes a symbolic vote call, following upon the enthusiastic acclamation of the tribunes and the fanatical Bonapartists, and closes the session. Two weeks later, May 1, 1802, in the solemn presence of the Consuls of the Republic, the Senate formally endorses a motion for full approval of the education reform bill. In September 1802, Antoine de Fourcroy is appointed by Napoleon to the post of Director General of Public Instruction, in return for his commitment to the approval of the Act, since then christened as the Bonaparte Law.

Always efficient and skilled in the petty politics, Fourcroy manages to approve the reform of medical education, extinguishing the écoles de santé and restoring the faculties provided for in the Bonaparte Law. In the following year, already in the Faustian, glorious, and almost delirious atmosphere of the First Empire, Fourcroy dedicates himself feverishly to completing the reform of the educational system with the organization of the Imperial University. He works hard, negotiating tirelessly with legislators and leaders, culminating in the approval of the Bonaparte Law of May 10, 1806, which implements the Imperial University. In the arduous process of regulating and implementing the complex education system, he submits all the details to the emperor, his counselors and deputies, and advisors.[112]

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[111] The original quote from Fourcroy is: *Le juge-bourreau n'avait-il pas annoncé que la République n'avait plus besoin de savants, et qu'un seul homme d'esprit suffisait à la tête des affaires*? [Had not the judge-executioner announced that the Republic no longer needed scholars, and that a single man of mind was enough at the head of affairs?]. The deconstruction of this anedocte was made by James Guillaume (1909), more than a century ago, but the tale is still told as if it were true.

[112] The dedication and talent of Fourcroy in this endeavor are well described by Boudon (2006; 2007).

Political setbacks are then revealed, illustrated clearly in the *Décret portant organization de l'Université* [Decree on the organization of the University], published on March 17, 1808, where any trace, minimal whatsoever, of academic freedom is waived:

> Article 38. - All schools of the Imperial University will take as the basis for their teaching:
>
> 1 The precepts of the Catholic religion;
>
> 2 Fidelity to the Emperor, to the imperial monarchy, the repository of the happiness of the peoples and to the Napoleonic dynasty, conservative of the unity of France and of all the liberal ideas proclaimed by the Constitutions;
>
> 3 Obedience to the statutes of the teaching body, which are intended to ensure uniformity of instruction, and which tend to train for the State citizens attached to their religion, their prince, their homeland, and their family.[113]

With the implementation of the reform, Fourcroy applies for the position of *Grand-Maître de l'Université impériale,* the highest position of governance of the new educational system, whose powers and prerogatives had been personally and carefully outlined by him. But Napoleon surprises him and, without warning, rejects his postulation. For the most powerful position in the educational hierarchy of the French Empire, he appoints the greatest rival of Fourcroy at that time: Jean-Pierre Louis, Marquis de Fontanes (1757-1821), then president of the Corps législatif. The Marquis de Fontanes was the main political leader of the French Catholics and, in smaller detail, the lover of Marie-Anne Élise Bonaparte, Grand Duchess of Tuscany, the emperor's younger sister.

Humiliated, Fourcroy still remains in the deserted Comité d'instruction publique, appearing assiduously to comply with bureaucracies. Startled, almost paranoid, certain that he fell in disgrace to the imperial family, he expects every day a punishment from the authoritarian government he had helped build. Disgusted, resentful, devastated, deeply depressed, he announces to his family that he will die soon.

On December 16, 1809, it is not known whether as retribution, consolation, or remorse, Emperor Napoleon unexpectedly grants him the *Legion d'Honneur* [Legion of Honor] and the titles of Comte de Fourcroy and *Chevalier de l'Empire* [Knight of the Empire], accompanied by patrimony, rents, and a generous lifetime pension. But it is too late. That same day, in Paris, upon receiving the news of the emperor's graces, Antoine-François de

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[113] Free translation of: *Article 38. – Toutes les Écoles de l'Université impériale prendront pour base de leur enseignement: 1° Les préceptes de la religion catholique ; 2° La fidélité à l'Empereur, à la monarchie impériale dépositaire du bonheur des peuples et à la dynastie napoléonnienne, conservatrice de l'unité de la France et de toutes les idées libérales proclamées par les Constitutions ; 3° L'obéissance aux statuts du Corps enseignant, qui ont pour objet l'uniformité de l'instruction et qui tendent à former pour l'État des citoyens attachés à leur religion, à leur prince, à leur patrie et à leur famille.*

Fourcroy shouts "*je suis mort!*" and falls dead. The official cause of death was registered as an "attack of apoplexy."[114]

[114] In addition to his legacy as a scientist, teacher, politician, and education reformer, Antoine-François de Fourcroy is cited in history as the creator of the *Grand Liqueur Impériale Mandarine Napoléon.* Very sweet and aromatic tangerines grew on the island of Corsica, Napoleon's homeland. Fourcroy received as a gift from the then young field marshal a package of these fruits and, with his advanced mastery of chemistry, had the idea of crushing them into a syrup of secret recipe, then distilling it, mixing the concocted liquid with cognac, using a fully original method of preparation. Napoleon liked this liquor so much that, often, on the pretext of talking about state issues related to education reform policies, he had long, highly spiritual audiences with his personal chemist and private physician. In one of these sessions, Napoleon practically demanded that the excellent drink be given his name. Fourcroy hastened to meet the imperial desire-order, taking advantage of the modern concept of patent which, by his and Lavoisier's proposal, had been approved by the National Assembly in 1791. Until recently, the manufacture of the emperor's favorite liquor was exclusive to the Fourcroy family, its formula being a coveted industrial secret. All of this is perhaps just an apocryphal legend regarding Fourcroy's contribution to European gourmandize. Parts of this tale have been reproduced in dozens of blogs and magazines specializing in beverages, but the source seems to be a site maintained by the Museum Mandarine Napoléon. URL: http://domainenapoleon.com/EN_mandarine.htm

Chapter 10

The Influence of Cabanis in Nineteenth-Century Europe

If, on the one hand, the Revolution of 1789 brought about extraordinary changes in French society and provoked structural reforms in the state apparatus, on the other it left the country in a deep economic crisis. After overcoming the crisis (by implementing the reforms), the French nation quickly regained its leadership in agriculture, recomposed its incipient industry, and began to excel in research and technological development. That happened especially in economic sectors linked to commerce and to military organization. Even before the Treaty of Amiens in 1802, which ended the ten-year Revolutionary Wars, the new France became a mecca for scholars and political militants[115] from all over the so-called civilized world: Italian, British, Iberian, and German progressive liberals flocked to France, attracted by the political and cultural environment engendered by the reconstruction of the post-revolutionary state. According to Brockliss (2000, p. 120), these young intellectuals from various countries took advantage of short periods of political stability under the new regime to see with their own eyes the social advances and scientific developments of post-revolutionary France.

Since the mid-eighteenth century, scientific and philosophical books, magazines, textbooks, and treatises produced in France were exported and promptly translated into other languages. Cabanis's work was no exception. *Rapports du physique et du moral de l'homme*, for example, was translated into German by Ludwig-Heinrich Jakob under the title *Über die Verbindung des Physischen und Moralischen in dem Menschen*, and published in Leipzig as early as 1804, just one year after the first French edition. As mentioned in the Introduction, the English translation of the *Coup d'oeil* was published only two years after the original edition. The first translation of the *Coup d'oeil* into Spanish was published in

[115] And, of course, students of numerous fields from all over the world, as analyzed by Moulinier (2011).

Madrid in 1820, as *Compendio Histórico de las revoluciones y reforma de la Medicina* (Cabanis, 1820). A second edition in Spanish was published in Paris 11 years later (Cabanis, 1831), taking advantage of the fact that the 1830s saw a general renewal of interest in the work of the Idéologues.

After being banned for a couple of decades, accused of atheism in France and in other Roman Catholic countries, Cabanisian thought (a key foundation for the Idéologie) resurged by the mid-nineteenth century as a source of intellectual inspiration and influence on three dimensions. First, Cabanis's ideas directly contributed to the philosophical grounds of important schools of thought in France and Germany. Secondly, in the sphere of health care and medicine, Cabanis's work contributed to the hegemony of a materialist perspective within life sciences in general, and, in particular, for health sciences, clinical knowledge, and mental medicine. Thirdly, in the realm of politics *sensu stricto*, Cabanis's thought and institutional action inspired some of the most important socio-critical theories that instigated revolutionary leaders and political movements of the European *ottocento*.

On Philosophical Schools[116]

Georges Cabanis inspired different schools of thought of historical relevance in the nineteenth century. His works were widely disseminated throughout Europe, during the early years of the nineteenth century, but mainly from the 1820s to 1840s. Cabanis's physiological theory, as well as his proposal of a "new anthropological philosophy," as part of the Idéologie epistemological framework, strongly influenced Comte's positivism and contributed to Schopenhauer's pessimism, which became a major trend in the continental philosophy of that time.[117]

Auguste Comte (1798-1857), founder and the main reference of positivism, a French contribution to the empiricist philosophical tradition, considered that Cabanisian epistemological perspective of the *sciences de l'homme* formed a solid groundwork for the newborn social and human sciences. A critical reader of Condorcet regarding the role of scientifically based education for human progress, Comte adopted the idea of perfectibility as a condition for social, cultural and political change. This allowed him to formulate his law of progress, defining it as the engine of history of civilized nations. He proposed that natural science would replace theology in the making of a rational society. Nevertheless, he accepted that the Idéologie would be a part of zoology (the branch of biology that studies animals, which includes humans) only if defined in physiological or materialistic terms, along the lines proposed by Georges Cabanis and Xavier Bichat. Both theorists considered their own work as part of a larger project that they called "the science of man," or anthropology,

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[116] Warning: This section is not a scholarly systematic account on Cabanis's philosophy. For the interested reader, there are several general references, such as Cazeneuve (1956), Besançon (1997), Saad (2016), and Gaille (2017).

[117] Specifically regarding Cabanis's influence on European continental philosophy, I recommend the recent thematic issue *Lecture de Cabanis au XIXe siècle* organized by Laurent Clauzade and Mariana Saad for the *Cahiers de Philosophie de l'Université de Caen* (2020).

which sought to integrate *Physiologie* and *Idéologie* by adopting Condillac's materialism. Comte's biographer Mary Pickering (1993, p. 158) notes that the founder of positivism proclaimed himself the inheritor of the intellectual tradition of the Idéologues. Pickering (1993, p. 155) also observes that

> [Comte] particularly favored Destutt de Tracy's effort to make social science "positive" by basing it on a philosophy that would ensure certain knowledge, escape the twin evils of theology and metaphysics, and avoid de dangerous rhetoric of 1789.

In one of the first volumes of his major work, the *Cours de Philosophie Positive*, Comte (1838) recognizes several times the debt of his philosophy to Georges Cabanis (and also Bichat and Gall), whose theory of the physiological determination of intellectual and moral functions was fundamental for positive science's claim to be the culmination of the progress of human spirit. In addition, from Cabanis's *Rapports du physique et du moral de l'homme*, he adopted the notion that physical laws and biological conditions regulate the functioning of both reason and passions. According to Clauzade and Saad (2020, pp. 13-14), introducing a collection titled *Lecture de Cabanis au XIXe siècle*:

> Cabanis was also for Auguste Comte a constant reference, from his very first writings to his last works: this is how Comte, in the System of Positive Politics, claims to have finally realized the doctrine "sketched by Cabanis" of the relationship of the physical to the moral.[118]

German philosopher Arthur Schopenhauer (1788-1860) has been regarded as one of the greatest thinkers of the nineteenth century, who influenced Nietzsche, Freud, and Wittgenstein. Born in Danzig and raised in Hamburg and Paris, Schopenhauer's family moved to Weimar after the death of his father. His mother Johanna was an accomplished writer of novels and travel books who, according to biographer David Cartwright (2010), became the most famous female author in Germany in the 1820s. In his mother's salon in Weimar, the young prodigy Arthur had a chance to become a cadet to Goethe's second circle of bright intellectuals.

Before enrolling in the new University of Berlin created by Humboldt in 1811, then directed by Fichte, Schopenhauer studied Medicine and natural sciences for two years at the prestigious University of Göttingen. His doctoral dissertation, *On the Fourfold Root of the Principle of Sufficient Reason*, presented to the Faculty of Philosophy of Jena in 1813, was a first introduction to the philosophical system object of his main treatise, published in 1819, *The World as Will and Representation* (Schopenhauer, 1819/1909). Further developments of Schopenhauer's thinking, ranging from the epistemology of science to the philosophy of nature, from art and esthetics to the metaphysics of morals, were detailed in several subsequent publications, paid for by his family inheritance. Schopenhauer attempted to

[118] Free translation of: *Cabanis a aussi été pour Auguste Comte une référence constante, de ses tout premiers écrits à ses derniers ouvrages : c'est ainsi que Comte, dans le Système de politique positive, prétend avoir enfin réalisé la doctrine « ébauchée par Cabanis » des rapports du physique au moral*.

establish himself as a *privatdozent* [private lecturer] at Berlin in 1820. He scheduled his lectures at the same time as Hegel's courses—who was then the future rector of the University of Berlin—but usually there were no listeners at all to his speeches (Kaufmann, 1966, p. 227). Schopenhauer conceived of himself as the philosopher who dethroned Kant and whose work was Hegel's antithesis. Owing to his arrogant attitude and the virulence of his criticism to established academic leaders, he failed several times to enter an academic career in different universities (Cartwright, 2010).

Alienated from the mainstream idealist philosophy, which was dominated by his rival Hegel, Schopenhauer lived in different cities across Germany before settling down in a bitter scholarly retirement in Frankfurt. In the 1850s, a pessimistic philosophical wave struck European intellectual circles. Suddenly, Schopenhauer's books became fashionable and were sold out, and the old stubborn scholar at last encountered recognition and, shortly before his death, he was turned into a sort of celebrity. Expert in the analysis of scholarly networks in Europe, sociologist Randall Collins proposed that the Schopenhauerian oeuvre might be considered the most important achievement of mid-nineteenth century German philosophy.

> The reemergence of a strong Prussian state after 1815, together with the conservative hegemony of Austria, had a severely dampening effect on philosophical creativity. With the exception of Schopenhauer's major work (1819), and some of Herbart's later productions (1816, 1824), there is nothing new at this time. (Collins, 1987, p. 65)

Schopenhauer translates the notion of perfectibility (and the search for perfection constitutive of human being advocated by the Idéologie) as a perennial sense of incompleteness, with the human subject not looking forward towards perfection, but always lacking fulfillment, away from true satisfaction. As an assumption, he proposes two possibilities or methods of considering the intellect, opposed and fundamentally different in the philosophical perspective adopted. One is subjective, "starting from within and taking the consciousness as given," made "out of the materials which the senses and the understanding provide" for allowing the human being to construct itself in it. The other method is objective, "which starts from without, takes as its object not our own consciousness, but the beings given in outward experience" (Schopenhauer 1819/1909, p. 6). In this case, human subjects investigate the relationships of their intellect to individual qualities, in Kantian terms. Schopenhauer (1819/1909, p. 418) notes that Locke was the originator of the objective method of consideration, but it was Kant who "brought it to incomparably higher perfection." However, the limits of metaphysics were a barrier for the method's usefulness, and only the natural sciences would provide the conditions for its full development for the good of humankind. In the domain of natural science (Schopenhauer, 1819/1909, p. 57),

> Thus two states of matter stand over against each other in natural science as extremes: that state in which matter is furthest from being the immediate object of the subject, and that state in which it is most completely such an immediate object,

> i.e., the most dead and crude matter, the primary element, as the one extreme, and the human organism as the other. Natural science as chemistry seeks for the first, as physiology for the second.

As much as these methods are opposed to each other, they must be brought into agreement, although taking a pathway totally different from the one Hegelian dialectics equivocally took. For Schopenhauer (1819/1909), this task could not be at all performed by philosophical enquiry, but rather the standpoint of this method of consideration must be the empirical domain of physical reality. Therefore, the role of scientific empirical enquiry is crucial for understanding the world and its natural history. This epistemological strategy is clearly presented, giving due credit to Georges Cabanis (Schopenhauer, 1819/1909, p. 6):

> It takes the world and the animal existences present in it as absolutely given, in that it starts from them. It is accordingly primarily zoological, anatomical, physiological, and only becomes philosophical by connection with that first method of consideration, and from the higher point of view thereby attained. The only foundations of this, which as yet have been given, we owe to zootomists and physiologists, for the most part French. Here Cabanis is specially to be named, whose excellent work, "*Des rapports du physique au moral*," [*sic*, by translators] is initiatory of this method of consideration on the path of physiology.

The acknowledged debt of Schopenhauer to Cabanis was first analyzed by Paul René Janet (1823-1899), Professor of Philosophy at the Sorbonne University after 1864. Janet (1880) wrote a landmark essay titled "*Schopenhauer et la Physiologie Française: Cabanis et Bichat,"* published in the *Revue des Deux Mondes*, a literary, cultural and political monthly magazine quite influential in late-nineteenth-century Europe. In that article, Janet describes how, departing from a critique to the philosophy of Kant and his disciples, Schopenhauer produces a unique theory of human existence based on concepts drawn from Oriental philosophical milenar tradition and on a peculiar version of empiricist philosophy of science. Janet's hypothesis is simply that the ontological objective grounds of Schopenhauer's categories of "representation" and "will" are borrowed from the two luminaires of French physiology, Cabanis and Bichat, leading representatives of the Idéologie and inheritors of Enlightenment materialism. An excerpt of the concluding paragraph of the introduction to his essay is crystal clear, noting that, by the end of the nineteenth century, these eminent thinkers were already in oblivion (Janet, 1880, p. 36):

> If Schopenhauer is indebted to Kant and Fichte for all the subjective part of his philosophy, it is to Cabanis, Bichat, and to the English and French physiologists in general (he often cites Lamarck, Bell, and Magendie), that he owes the objective part. If the first book of his work comes from Kant, one can say that the second comes, in large part, from Cabanis and Bichat. It is interesting to see this curious return of fortune of our eighteenth-century philosophy in Germany, this revenge of physiological realism on metaphysical idealism. Besides, regardless even this interest, Cabanis and Bichat are by themselves eminent thinkers too much forgotten, although in reach of everyone, and whose value is today singularly enhanced by their

> encounter with the spirit of our time, and by the return of the very ideas that they were the defenders.[119]

In addition to the *Rapports du physique et du moral*, Janet resorts to Cabanis's controversial paper, the *Lettre sur des causes premières*, written in 1806 but posthumously published in 1824, as we saw in chapter 1. From these references, Janet (1880) inferred that Cabanisian concepts of *sensibilité* [sensitivity] and instinct went beyond the human physiology domain resulting in the notions of *moi* [self] and *volontés partielles* [partial wills], equivalent to Schopenhauerian categories of "object" and "will." In this regard, he comments that (Janet, 1880, p. 46):

> [Cabanis] rises to the conception of the general cause of vital phenomena, and he seeks it in a principle which would embrace at the same time all the phenomena of nature. He thinks that there is "some analogy between animal sensitivity, the instinct of plants, elective affinities and simple gravitating attraction."[120]

Quoting the entire section of the *Rapports* in which Cabanis elaborates in detail the idea of a universal instinct, Janet concludes that "This capital page contains in germ the whole philosophy of Schopenhauer, the only difference being that Cabanis calls sensitivity what he calls will" (Janet, 1880, p. 47).[121]

In sum, the scientific ground of Schopenhauer's famous postulate of the world as will and representation, particularly as applied to human beings, was undoubtedly a translation of the Cabanisian view of the human body as the biological synthesis or the material expression of qualities of a same universal sensibility. For Janet, Cabanis's effort to integrate the "physique" and the "moral," taken as non-opposing concepts, was enriched, context-adapted, and updated to compose the anti-Hegelian response to philosophical idealism.

On scientific grounds, there were sound consequences of such an early intersection of philosophy and natural sciences for the health sciences, which are discussed in the next section. Let us now look briefly at the impact of Cabanis's work in the fields of public health, medicine, psychiatry, and correlates.

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[119] Free translation of: *Si Schopenhauer a dù à Kant et à Fichte toute la partie subjective de sa philosphie, c'est à Cabanis, à Bichat et en general aux physiologistes anglais et français (il cite souvent Lamarck, Bell et Magendie), qu'il en doit la partie objective. Si le premier livre de son ouvrage vient de Kant, il est permis de dire que le second lui vient, en grande partie, de Cabanis et de Bichat. Il est intéressant de voir ce curieux retour de fortune de notre philosopie du XVIII siècle en Allemagne, cette revanche du réalisme physiologique sur l'idéalisme métaphysique. D'aillerus, indépendamment même de cet intérêt, Cabanis et Bichat sont par eux-mêmes des penseurs éminens trop oubliés, quoique à la portée de tout le monde, et dont aujourd'hui la valeur est singulièrement relevée par leur rencontre avec l'esprit de notre temps, et par le retour même des idées don't ils ont été les défenseurs.*

[120] Free translation of: *[Cabanis] s'élève jusqu'à la conception de la cause génerale des phénomènes vitaux, et il la cherche dans un principe qui embrasserait à la fois tous les phénomènes de la nature. Il soupcónne qu'il y a "quelque analogie entre la sensibilité animale, l'instinct des plantes, les affinités électives et la simple atraction gravitante."*

[121] Free translation of: *Cette page capitale contient en germe toute la philosophie de Schopenhauer, avec cette seule difference que Cabanis appelle sensibilité ce que celui-ci appelle volonté.*

Health Sciences and Mental Medicine

Despite the political turbulence of the Terror and the political moves that subsequently led to Bonaparte's authoritarian regime, the turn to the nineteenth century in France was marked by advances and innovations in the health care system and in the medical education model. As seen in chapter 3, soon after the 1789 Revolution, Cabanis and his comrades Pinel and Thouret were engaged in the reforms of Parisian hospitals. The series of political bodies that consolidated the First French Republic established a state-coordinated health care network based on large hospitals, integrating the different health professions (surgeons, physicians, pharmacists, dentists, veterinarians, officiers de santé, midwives), and implementing morbid anatomy as a system for diagnostic verification (Rabier, 2010). Michel Foucault (1963), in the introduction to his monumental book on the emergence of the clinic, considered post-revolutionary French medicine as an "essential mutation in medical knowledge" (Foucault, 1963, p. x), reinforcing its relevance for the foundation of modern clinical and pathological knowledge.

The eminent historian Erwin Ackerknecht (1967) proposed that, in addition to the revolutionary measures, faculty training with the standardization of curricula and hospital teaching contributed to create a certain unity of knowledge and practice in the local medical community. Toby Gelfand (1981, p. 180) supported and enriched the Foucauldian approach, analyzing "the essential novelty of the process that saw the hospital assume a dominant place within the structure of Paris medicine (and vice versa) at the time of the Revolution." The concatenation of these vectors, factors, and events, systematically analyzed by Pierre Huard (1970), with the energy brought in by revolutionary reformers—Cabanis, Pinel, and their comrades at the forefront—would have provided the basis of what came to be called the Parisian Clinical School.

This narrative has been challenged by the argument that the Parisian school was a "myth" because French doctors borrowed the then new technology of pathological anatomy from British physicians (Keel, 1998), and that the method of semiology-etiology correlation as diagnostic reasoning preceded the Paris medicine movement (Brockliss, 1998). In either way, resulting from the critical mass of innovative and creative researchers and practitioners, or merely being the effect of effective propaganda for ideological hegemony through medical science, Paris became the world epicenter for medical education and practice (Weisz, 2001). For that reason, British and North American physicians traveled to France specifically to learn about the new revolutionary medicine and, for the coming decades, kept their personal and institutional ties. Rosen (1951, p. 64), in his presentation of *The Diary of an American Doctor in Paris in 1828*, writes:

> Paris was the Mecca of medicine during the first half of the nineteenth century, the medical supremacy of the French metropolis attracting physicians and students from all parts of the world.

However, the influence of a remarkable cohort of physicians-philosophers-politicians, represented by personalities such as Cabanis, Pinel, and Bichat, lies much beyond their

contributions to anatomy, physiology, and the clinical sciences. As members of the Idéologie, they believed that the revolution in medicine, together with the reform of medical education, would be essential for the nation's "moral regeneration." In practice, they thought, lessening the morbid effects of diseases upon patients and populations would permit the development, prescription, and application of salutogenic principles, thus instilling virtuous habits in healthy, productive, and free citizens (Quinlan, 2007). As recognized by Rosen (1946), the ideologists that had medical training indeed contributed to introduce scientific medical practice and modern medical teaching in France and, therefore, helped to organize the health field of nineteenth-century Europe.

Like other physicians involved in the political reform of the post-revolutionary period, Cabanis insisted that the newly developed science of hygiene (of which he was the first chair-professor at the Paris École de santé) would be central for both the improvement of individual well-being and the evolution (or "perfectibility") of humanity. In fact, in *Rapports du physique et du moral de l'homme* and (through a different lens) in the *Coup d'oeil*, Cabanis turned to Hippocratic principles and concepts—as historical, philosophical, and scientific foundations—for the study of social and environmental determinants of health. His aim was to identify the ways in which these factors could be modified in order to obtain harmonious but effective results for individuals and for society (Caponi, 2009).

Stephen Jacyna (1987, p. 118) comments that, from 1830 to 1850 in France, most physician-researchers followed the views of Cabanis and Bichat on the anatomical and physiological bases of human health-illness phenomena, as part of what the Idéologues called science de l'homme. Cabanis's physiological empiricism, by influencing Bichat and Comte, undoubtedly served as fertile ground for the emergence of Louis Pasteur's microbiology (1822-1895) and Claude Bernard's experimental physiology, both fundamental axes of French scientific medicine in the second half of the nineteenth century (Canguilhem, 1966/2009).

An entire generation of hygienists—whose most illustrious representatives were Louis-René Villermé (1782-1863), Julien-Joseph Virey (1775-1846), Pierre-Charles Alexandre Louis (1787-1872), Adolphe Quételet (1796-1874), and Jules Guérin (1801-1886)—who trained in France between 1815 and 1850, acknowledged their scientific and intellectual roots in the ideas of Cabanis and Bichat (cf. Williams, 1994, pp. 151-166). Hence, on the political dimension of health, Cabanis can be considered a precursor of social medicine (as developed in the context of mid-nineteenth-century Europe). This branch later served as historical reference for the movements that reclaimed social medicine as crucial in contemporary Latin America—in Brazil, this field is today known as collective health (Vieira-da-Silva, Paim, & Schraiber, 2014).

In the field of what used to be called *alienisme*, or mental medicine, Cabanis's physiological theory of health balances also had great impact throughout the entire nineteenth century. This was due to more than just an interlocution, which was not always convergent, with his friend and partner Philippe Pinel, who authored two founding works of modern medicine: the seminal treatise on scientific nosology, titled *Nosographie philosophique, ou la méthode*

de l'analyse appliquée à la médecine (1798); and the *Traité medico-philosophique sur l'aliénation mentale* (1801), the inaugural classic of modern psychiatry.

Several authors—Patrick Valas (1986), Jan Goldstein (1990), Serge Besançon (1997), and Mariana Saad (2006)—find in Georges Cabanis's work sufficient reasons to qualify him, in many aspects, as a precursor of Freudian psychoanalysis.

Besançon (1997) considers that, by defining the brain as an "organ of thought," Cabanis "invented the modern psyche next to the soul." In actuality, the French physician-idéologue was not interested in uniting soul and body, "which would make Cabanis a banal author," but rather in drawing medical and scientific criteria to make possible the study of thought processes, which is another key definition of the Idéologie. Therefore, the probable influence of Cabanisian philosophy on psychoanalysis would have been exerted not directly but through Schopenhauer's philosophy (Besançon, 1997).

Indeed, the first fundamental texts of Freud's psychoanalysis—namely *Project for a Scientific Psychology* (Freud, 1895), *Studies on Hysteria* (Freud & Breuer, 1895/2016), and *The Interpretation of Dreams* (Freud, 1899/n.d.)—reveal some influence of the *Rapports du physique et du moral de l'homme*. In the first two texts, the hydraulic metaphor as an illustration of how the brain and the nervous system function suggests an understanding of neuronal dynamics composed by flows and masses of a fluid energy, corresponding to Cabanis's idea of sensibility, which is extremely close to the neural network model proposed by contemporary neurosciences. In *Studies on Hysteria* (Freud & Breuer, 1895/2016, p. 145), a footnote is particularly noteworthy (including an excerpt in the original French with a second-hand quote to Cabanis):

> The conception of the energy of the central nervous system as being a quantity distributed over the brain in a changing and fluctuating manner is an old one. "*La sensibilité,*" wrote Cabanis, "*se comporte à la manière d'un fluide, dont la quantité totale est déterminée, et qui, toutes les fois qu'il se jette en plus grande abondance dans un de ses canaux, diminue proportionnellement dans les autres.*"[122] (Quoted from Janet, 1894, p. 277)

In *The Interpretation of Dreams*, a dense treatise considered as the landmark of Freudian psychoanalysis, there is another secondhand reference to Cabanis's *Rapport du physique et du moral de l'homme* (Freud, 1899/n.d., p. 30), recognizing him as a pioneer in this matter:

> Very little research has hitherto been carried out into the modifications occurring in dream-life during chronic psychoses. On the other hand, attention was long ago directed to the underlying kinship between dreams and mental disorders, exhibited

[122] Free translation provided by the author: *"Sensibility—says Cabanis—seems to behave like a fluid whose total quantity is fixed and which, whenever it pours into one of its channels in greater abundance, becomes proportionally less in the others."*

> in the wide measure of agreement between their manifestations. Maury (1854, p. 124) tells us that Cabanis (1802) was the first to remark on them.

Valas (1986, p. 10) comments that the role of sexuality in the structuring of the psyche was once considered secondary and that, thanks to Cabanis's work, the phenomenon of sexuality has begun to achieve scientific importance "as a vector of the reproduction of the species, essential for determining the whole sphere of interpersonal relationships that are its psychological expression."[123] And he proceeds to explore Cabanis's hypotheses about human instincts (Valas, 1986, p. 10):

> From the opposition that he makes between reproductive instinct and conservation instinct, Cabanis speaks of "instinctive habits". . . . Sexual instinct in its development influences the highest social, moral, and religious feelings of humanity."[124]

We can also identify in the Cabanisian oeuvre other themes that would later be taken up by psychoanalysis. First, a proto-concept of the "unconscious" as a space for generating, storing, and acting out drives, affections, and feelings—emerging from what Cabanis called "internal impressions of passions" (Mitchell, 1979). Second, the hypothesized existence of a deep, primeval *moi*, somewhat equivalent to the Freudian concept of the *Ich*, physiologically rooted in the psyche (Mrozovski, 2013, p. 470). Third, the notion of sensibilité as a fluid, analogous to Freudian concept of libido, which would be "*la cause déterminante de ses volontés, de ses appétits*" [the determining cause of his wills, his appetites] (Cabanis, 1803, p. 190). Fourth, a radically subjective linguistics, where sensations (senses, perceptions etc.) were equivalent to the signifiers of an intimate language, which holds the key to decode thought as a script (Cabanis, 1802, p. 157). And finally, the conception that the clinical analytical method comprises a careful reading of signs, insofar as the complex of symptoms is structurally overdetermined as a language (Saad, 2016).

Cabanis also anticipated the psychoanalytic concept of drive (or instinct) "in a sense that is remarkably similar to the term used by Sigmund Freud one century later" (Goldstein, 1990, p. 51). Revising an original idea by Condillac, he put forward the notion of an instinct of conservation and reproduction (life drive) that is opposed to an instinct of destruction (death drive). For Valas (1986, p. 10), such ideas—adopted, made more precise, and disseminated by German pessimist philosopher Arthur Schopenhauer (as discussed in the past section)—became commonplace in European culture at the end of the nineteenth century. Eventually, according to Nobus (2018, p. 3), Cabanis's proposition of a distinction between the conservation instincts (for self-preservation) and the sexual instincts (for reproduction)

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[123] Free translation of: *comme vecteur de la reproduction de l'espèce, l'essentiel de la détermination de toute la sphère des relations interpersonnelles qui en sont l'expression psychologique.*

[124] Free translation of: *A partir de l'opposition qu'il fait entre instinct de reproduction et instinct de conservation, Cabanis parle « d'habitudes instinctives ." Ces idées, mieux cernées, seront diffusées par Schopenhauer, et deviendront courantes à la fin du XIXe siècle. L'instinct sexuel dans son développement influence les sentiments les plus élevés, sociaux, moraux et religieux de l'humanité.*

influenced a plethora of French and German scholars, including Freud, throughout the nineteenth and early twentieth centuries.

Let us now take a brief look at some points, from the works of Georges Cabanis, that contributed to the rich theoretical and practical construction of the social and political movements that shook Europe in the second half of the nineteenth century.

On Political Movements

Marie Gaille (2014) suggests that Cabanis's fundamental political interrogation could be stated as such: how to institute a veritably free society, i.e., a society composed of citizens that are conscious, educated, and truly emancipated as subjects? For Georges Cabanis, the human being is endowed not only with the faculty of feeling, but also with the ability to share affections, create bonds and provoke conflicts with other conscious beings—starting with their relatives and close companions, and extending to others with whom they maintain economic and social relations. Therefore, the state of being in relationship with others (which ultimately makes us the political animal described by Aristotle) is part of any human's physical and moral nature (Gaille, 2014).

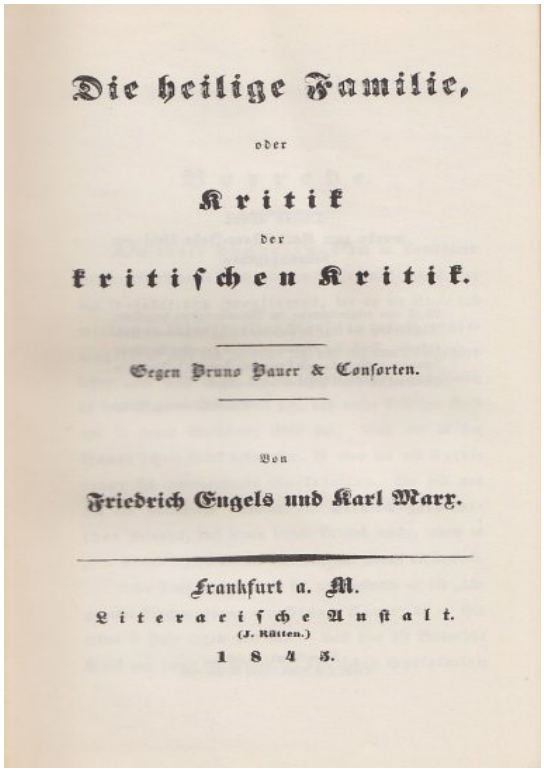
For Jacyna (1987, p. 118), the first social scientists of modernity adopted the epistemological foundations of what Cabanis called *anthropologie*, which was later delimited by him as a science de l'homme. Cabanis enjoyed great reputation in the post-revolutionary era among first-generation socialists, particularly in Saint-Simonian circles, as a militant thinker who paved the way for a new approach to political science (Saad, 2016). Henri de Saint-Simon[125] himself, in *Mémoire sur la science de l'homme* (1813), listed Condorcet, Vicq d'Azyr, Bichat, and Cabanis as the most important thinkers for the substantiation of what he called "social physiology". Many of his disciples and other so-called utopian socialists continued to value Cabanis and other Idéologues as inspirers of political philosophies self-proclaimed as "scientific" (Taylor, 1982).

At this point, I would like to propose that dialectical materialism, through the almost sacrificial effort of Karl Marx (1818-1883) and Friedrich Engels (1820-1895), constitutes the theoretical political framework whose principles most assertively place Cabanisian thought as a scientifically minded philosophy and social emancipation project (Torrance, 1995).

In *The Holy Family*, a collection of works Marx co-authored with Engels, a lengthy note titled "Critical battle against French materialism" features Georges Cabanis as an important character, and his work as a fundamental reference. Marx writes (1845/2011, chapter 6):

> *Mechanical* French materialism . . . reaches its zenith with the physician *Cabanis* . . . . At the end of the eighteenth century *Cabanis* perfected Cartesian materialism in his treatise: *Rapport du physique et du moral de 1'homme*. (Italics in the original.)

[125] Claude-Henri de Rouvroy, Comte de Saint-Simon (1760-1825).



Die heilige Familie,

oder

Kritik

der

kritischen Kritik.

Gegen Bruno Bauer & Consorten.

Von

Friedrich Engels und Karl Marx.

Frankfurt a. M.

Literarische Anstalt.

(J. Rütten.)

1845.

Figure 19. Front page of the first edition of Engels and Marx's *Die Heilige Familie* [The Holy Family]. Foreign Languages Publishing House, Moscow 1956. https://www.marxists.org/archive/marx/works/1845/holy-family/index.htm

In this quote, not only did Marx highlight Cabanis as the apogee of French materialism, he also made a profound and intriguing statement: Cabanis had completed and perfected Descartes's project of a materialist philosophy! That statement, and the fact that the *Rapports du physique et du moral de l'homme* is mentioned with such prominence in the entire text, no doubt demonstrates that Marx had great intellectual respect for Cabanis.

Marx had a short time to conceive and write *The Holy Family*, considering the great variety of authors and philosophical schools analyzed therein, and above all the density of his argumentation. It can be speculated that, in the studies where he sought to organize the epistemological matrix of scientific socialism, Marx may have used Cabanis's work as one of the bibliographical sources, particularly regarding Bacon, Locke, Condillac, and Helvétius. This applies especially to Cabanis's positive appreciation of Francis Bacon, who is recognized by Marx (1845/2011, chapter 6) as the "the real progenitor of *English materialism* and all *modern experimental* science." According to Kristof (1978, p. 236):

> . . . reading the works of P-J.G. Cabanis, a materialist thinker and a contemporary of De Maistre, who was vehemently attacked by the latter for singing the praise of Bacon, one discovers some amazing overlaps with Marx's writings. What Marx says in The Holy Family about the genealogy of modern materialism tracing itself from

> Bacon to Hobbes, Locke, Helvetius etc., seems at times to be lifted almost word by word from Cabanis.

Olivier Bloch (1977) has demonstrated that, in effect, Marx's main source on the history of materialism (particularly of the schools of French materialism), as presented in *The Holy Family*, was Charles Renouvier's *Manuel de philosophie moderne*, published in 1842 in Paris. Based on this bibliographical source, Marx (1845/2011) comparatively analyzed the French and English schools of post-Renaissance materialism, finding strong mutual influence and intense cross-fertilization. Their differences, he commented, reproduced the specificities of the two national cultures. On this aspect, Marx divided his critical analysis of French materialism into two trends: the first one, mechanical materialism, which descends directly from Descartes, "merges with French *natural science* proper;" the second trend is greatly influenced by Locke's philosophy and, enriched by elements of French political culture, "leads directly to *socialism*." He concludes: "The two trends intersect in the course of [historical] development" (Marx, 1845/2011, p. 144).

These developments leave room for prudent speculation about which philosophers, among the French materialists of the late eighteenth century, would best represent this philosophical intersection or crossbreed. But such a prudent speculation may easily become an appealing hypothesis: that the founder of dialectical materialism was quite aware of Cabanisian thought beyond the *Rapports*.

In *Du degré de certitude de la Médecine*, Cabanis writes (1798b, p. 15): "I shall take man as he is in society, with all of the abilities society develops and the resources it perfects."[126] Cabanis (1799, p. 24) opens the first chapter of *Quelques principes et quelques vues sur les secours publics* with the following declaration: "Man's existence is not isolated and solitary. Nature makes him a sociable being: it makes society necessary as a fulfilment of his life. According to nature, man is born and lives only in society."[127]These statements are strikingly convergent, perhaps equivalent, to two popular Marxian quotes, respectively:

> If man is by nature social, then he develops his true nature only in society and the power and the power of his nature must be measured not by the power of the single individual but by the power of society. (Marx, 1844/2011, p. 32)

> Man lives from nature . . . and he must maintain a continuing dialogue with it if he is not to die. To say that man's physical and mental life is linked to nature simply means that nature is linked to itself, for man is a part of nature. (Marx, 1844/2011, p. 276)

In one of Marx's famous Letters to Kugelmann, dated December 5, 1868, Marx saw German physician-philosopher Friedrich Ludwig Büchner (1824-1899) as the leader of what he disparagingly called vulgar materialism. In this letter, among other sarcastic remarks against

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[126] Free translation of: *"Je prends l'homme tel qui'l est dans la societé, avec toutes les facultés qu'elle developpe, avec les moyens qu'elle perfectionne."*

[127] Free translation of: *"L'existence de l'homme n'est pas isolée et solitaire. La nature l'a fait être sociable: elle a rendu la societé nécessaire au complément de sa vie ; elle ne le fait naître et vivre qu'em societé."*

his intellectual opponents, Marx comments on a mistakenly simplifying reference to Cabanis made by Büchner. Demonstrating knowledge and respect toward the French physician-philosopher and revolutionary, Marx writes (1868/1928, p. 173):

> I have received Büchner's lectures on Darwinism. He is obviously a "book-maker" and probably for this reason is called "Büchner". His superficial babble about the history of materialism is obviously copied from Lange. The way such a whipper-snapper disposes of, e.g., Aristotle—quite a different sort of natural philosopher from Büchner—is really astonishing. It is also very naive of him to say, referring to Cabanis, 'you might almost be listening to Karl Vogt'. As if Cabanis copied Vogt!

In sum, there is no doubt that, for Marx, Georges Cabanis deserved a prominent position as a theorist of scientific materialism on the boundaries between the material world and the social world, the physical and the moral, the empirical and the ideological. More importantly, it remains to be discussed the assumption, shared by them both, that the human belonging to the economic and social world is mediated by language and by education (in the sense of a human right and a capability to teach, learn, and teach-learn).

Additional Comment on Education

At the end of his critical note in *The Holy Family*, Marx (1845/2011, chapter 6) gives the floor to Helvétius, to whom "it is education, by which he [Helvétius] means not only education in the ordinary sense but the totality of the individual's conditions of life, which forms man." Marx goes on to evaluate that, to carry out a reform that can abolish "the contradiction between particular interests and those of society," it is necessary to transform human consciousness. Such a transformation toward perfectibility, for Helvétius and, later, for Cabanis, would be feasible by means of a liberating education. It is plausible to consider that, in the urgency of polemicizing with Bruno Bauer and his associates, the young Marx might not have studied the *Coup d'oeil*, nor any of the Cabanisian writings on education, and even if he did, it would not have been with the same depth with which he undeniably read the *Rapports*.

Caught in the dilemma between reform and revolution, the founder of historical materialism and scientific socialism resorts again to Helvétius: "Great reforms can be implemented only by weakening the stupid respect of peoples for old laws and customs" (Marx, 1845/2011, chapter 6). This strikes me as utterly Cabanisian, and inescapably up to date.

Chapter 11

Cabanis in Brazil

Argentine historian, thinker, pedagogue, and social activist Gregorio Weinberg, in a text as profuse as it is disconcerting, titled *Modelos Educativos en el Desarrollo Histórico de América Latina* [Educational Models in the Historical Development of Latin America], distinguishes the Spanish from the Portuguese pattern of colonial education policy. The push for opening universities in Spanish colonies was a solution for the needed political and religious control of an enormous territory, subdivided into many provinces, distant and diverse from one another (Weinberg, 1981, p. 53). This was very distinct from (but no less effective than) its Portuguese counterpart. Analyzing the educational model of Portuguese colonization, Weinberg found that the relative geopolitical unity and stability of Portugal's main colony, Brazil, made it easier for the colonial government to establish a rigid religious, ideological, and intellectual monopoly. Indeed, during colonial times, free press, book printing, and higher education were forbidden in Brazil for more than three centuries (Weinberg, 1981, p. 55).

In colonial Brazil, as part of a secular strategy of domination, the Portuguese Crown allowed only religious teaching in Jesuit schools; the first of these, the *Colégio do Salvador da Bahia*, was founded in the province of Bahia, in 1553, by the priest Manoel da Nóbrega. Other schools were then established in São Vicente, Porto Seguro, Rio de Janeiro, and Vitória. For two centuries, higher education was restricted to the post-scholastic model of the *Ratio Studiorum*.[128] To complete studies in theology, defend a thesis, and obtain a degree, a scholar had to go to the University of Coimbra, in Portugal. Local noblemen and upper-echelon officials who wanted their sons to pursue a secular higher education in law or medicine would send them to European universities, such as those in Paris, Montpellier, and Edinburgh.

In Portugal, the Pombaline Reforms shattered the educational dominance of the Society of Jesus over the areas controlled by the Portuguese Crown, but maintained the ban on higher education institutions in the colonies (Cunha, 2007, pp. 26-39). After the expulsion of the Jesuits in 1759, the Marquis de Pombal promoted in 1772 a university reform, whose

[128] *Ratio Studiorum* is the abbreviation of *Ratio atque Institutio Studiorum*, an official protocol created in 1599 by the Company of Jesus to guide the global network of Jesuit colleges and universities (Grendler, 2016).

paradigm was the University of Coimbra. This produced an anomalous historical amalgam: a secular model of the university that was nonetheless obedient to the Catholic Church, the technical training in metallurgy for the incipient industry, and mining for the colonies, as well as medicine, surgery, and law. With these reforms, medical studies were performed in three different spaces: the teaching hospital, destined to clinical training, the anatomical theater for the teaching of anatomy and the basics of surgery, and the pharmaceutical dispensatory, intended for the teaching of pharmacy (Pita, 2017). As the Iberian universities were the last ones to emerge from scholasticism, in the aftermath of the Inquisition, anachronistically this model was replicated in the economic and political reality of late colonial Brazil (Cunha, 2007).

The French Revolution in Brazil

During the final decades of the colonial era, several attempts of inciting republican revolutions happened in Brazil. They were linked, in different ways, to the French Revolution. The best-known of such episodes is the *Inconfidência Mineira*, a conspiracy that, in 1788-1789, took place in the gold-mining province of Minas Gerais, and eventually came to be celebrated as a patriotic landmark of Brazilian history (Furtado, 2002). Joaquim José da Silva Xavier, dubbed Tiradentes, a low-ranking infantry officer who also practiced dentistry and surgery, was the only conspirator condemned to death by hanging, followed by quartering—he later became a martyr of the country's sovereignty, according to the official hagiography. Members of the Minas Gerais conspiracy who belonged to wealthy families or were higher-ranking military officers or clerics were pardoned or received soft punishment such as temporary banning overseas (Maxwell, 2004). The aborted rebellion in Minas Gerais was supposedly inspired by Enlightenment ideas, but recent historiographic analyses (Furtado 2002) have recognized that, more than a politically engaged fight-for-freedom, it was mostly a rebellion against taxation—for free trade and economic autonomy from Portugal—incited by the local elite of merchants, clerics, and higher-ranking soldiers.

In *Conflicts and Conspiracies: Brazil and Portugal, 1750–1808*, British historian Kennneth Maxwell (2004) analyzed the juridical processes conducted by the colonial authorities to repress these movements, particularly the Tiradentes trial, although he neglected other upheavals whose ramifications have been reduced in the official history. For its social scale and political consequences, the most important of these movements was perhaps the Revolution of the Tailors (also known as the *Revolta dos Búzios*), an attempted popular rebellion that happened in Salvador da Bahia in 1797-1798.[129] As stated by local writers who first "re-discovered" the Bahian insurrection (Barros, 1922; Amaral, 1926), the colonial authorities feared that a French-style revolution would break in the Province of Bahia as a result of the gathering of a few literate people with low-ranking soldiers and native-born impoverished people. Social historian Affonso Ruy (1941) explored further the notion that

[129] The colonial capital until 1750, Salvador da Bahia was then Brazil's second-largest city.

the planned rebellion was a proletarian movement led by working class people, freed men of Black ancestry, slaves, and poor craftsmen, to the point of suggesting that it was "the first social revolution of Brazil."

Figure 20. Watercolor by João Teófilo (2015) after the oil painting *Tiradentes esquartejado* [Tiradentes quartered] by Pedro Américo (1893). Front cover of the Revista de História da Biblioteca Nacional sobre a Conjuração Baiana (1798). https://cargocollective.com/jtilustra/conjuracao-baiana [author contacted for authorization].

The Bahian insurrection was swiftly and crudely repressed. This efficient reaction was possible because, despite its popular resonance, the few members of the local elite who initially joined the conspiracy withheld their support for the movement afterward (Valim, 2013). For that reason, the colonial armed forces acted right after the first manifestos and pamphlets were handed out throughout the city because the mere dissemination of uncensored unauthorized written or printed material was a capital crime against the Crown. Forty-eight people were arrested, among them 11 whites, nine slaves, and the rest "mulattoes" [*sic*], 23 of whom were artisans, mostly tailors (which named the rebellion), and only five of whom were women (Tavares, 2008). In a very short prosecution, 36 of them were charged for conspiring against the Crown and planning to murder colonial authorities. After the trial, 19 went to prison, seven were exiled to Africa, slaves were whipped in public, and five sentenced to death. But only four Black men—two soldiers, Luiz Gonzaga das Virgens and Lucas Dantas Torres, and two tailors, João de Deus Nascimento and Manuel Faustino dos Santos Lira—were executed by hanging and quartered in public, in November 1799 (Tavares, 2008).

A content analysis of the series of hand-written *avyzos* [warnings] and *prelos* [presses] addressed to the "*Poderoso e Magnífico Povo Bahiense e Republicano*" [Mighty and Magnificent Republican Bahian People] concluded that they were openly inspired by the

Revolution of 1789 (Mattoso, 1990). With a journalistic format, these papers presented the French Revolution as a successful popular movement, still in the making, which would come to provide military support to the local insurrection (Mattos, 1974). In one of the pamphlets deposed as evidence in the *Autos da Devassa* [Acts of Court Inquiry], the anonymous author wrote (as cited in Turner, 2014):

> Each soldier and citizen, especially the browns and black men living hidden and abandoned, all are equal, there is no difference, there is only *liberty, equality, and fraternity*. Whoever opposes the People's Freedom will be hanged without further appeal: in this will be understanding . . . soon we will have *foreign assistance* [italics added for emphasis].

Indeed, the political agenda of the Bahia conspiracy was to establish a secular state in Brazil with political and religious freedom, promoting equality and public education (Jancso, 1996). However, the confirmation that the conspirators fought for republican ideals, against racial discrimination, and for the abolishment of slavery meant that the Bahian conspiracy had leaders and support from the impoverished classes. This made their plot far more threatening to the colonial order than the other rebellions of Minas Gerais, Rio de Janeiro, and Pernambuco (another important center of colonial Brazil), alarming the local authorities (Jancso & Morel, 2007). In a letter dated February 1799—sent to the Portuguese Ministry of the Colonies Rodrigo de Sousa Coutinho, Count of Linhares—the Governor of the Province of Bahia Fernando José de Portugal e Castro denounced such "Jacobin ideas," especially dangerous "in a country with so many slaves" (cited in Ruy, 1942, p. 192). The concerned colonial officer also expressed the fear that "the principal people of the city are infected by the abominable French principles." And thus, Governor Portugal e Castro concluded his threatening report by saying:

> The reading of similar papers is enough to conclude that their readers follow the Jacobin principles and to put them on trial, or by a vague voice, sometimes born of hate and enmity, or because one has heard them reflecting on some fact labored by the French Nation.[130]

Despite its failure, the Revolta dos Búzios exerted an important intellectual influence for the subsequent political upheavals in the final years of colonial rule in Brazil. The few intellectuals found with forbidden French books, mostly white men representative of the local elite, received light punishment, soon to be dismissed. Among those arrested in the conspiracy, the licensed surgeon Cipriano Barata, who had been convicted to prison and exiled to Fernando de Noronha Island, was released after a successful court appeal, becoming a prolific writer and a Republican activist; a key figure in the approaching struggle for the independence of Brazil. The conditions for that to happen were given, indirectly, by the

[130] Free translation from old Portuguese language: *não he bastante a licção de semelhantes papeis para se tirar a consequencia de que os Leitores seguem os princípios jacobinos e se proceder contra elles, ou por uma voz vaga, ás vezes nascida do odio e inimizade, ou porque se lhes ouvio fazer alguma reflexão sobre algum facto obrado pela Nação Franceza.*

Napoleonic Wars. In 1807, the Portuguese Crown and its entire court, escaping from French troops, fled to Brazil, with a stop in the Province of Bahia on the way to Rio de Janeiro, then capital of the colony.

Medical Education and Political Action

The first institution of higher education in Brazil was founded in Salvador da Bahia in February 1808, right after the arrival of the prince regent of Portugal, soon to become King John VI. A royal charter authorized the teaching of surgery at the Royal Military Hospital, therefore creating the *Colégio Médico-Chirúrgico da Bahia*. Nine months later, a similar college was established in Rio de Janeiro, the city where the Portuguese court eventually settled (Cunha, 2007).

The institutions created in Salvador and Rio de Janeiro were not faculties of medicine but rather schools of anatomy and surgery nested in military hospitals, as noted by Lycurgo Santos-Filho (1980, p. 77), the forefather of historians of medicine in Brazil. The course was four years long, and after students took their exams (and swore an oath on the Bible), they received a professional certificate somewhat equivalent to the low-level degree of officier de santé as in France. Those wishing to obtain the advanced degree of Doctor of Medicine had to continue their training in Europe, usually in Coimbra (Santos-Filho, 1980). The first reforms in the two schools, which turned them into *academias médico-chirúrgicas* [medical-surgical academies], took place between 1812 and 1815. The reforms expanded the disciplines from five to 14, and required students to be present in the classroom for the lectures.

Until 1815, the *Colégio Médico-Chirúrgico da Bahia* consisted basically of two teachers and a porter, obeying the statutes of the University of Coimbra. Due to the low-quality teaching practiced by the institution, many students sought complementary training in other European medical schools, such as those in Paris, Montpellier, and Edinburgh. Brazilian students, instead of going to the University of Coimbra, began to move beyond Portugal—to France and England—in search of cultural and scientific training.

For inaugurating higher education in Brazil, the prince regent received the counsel of José Correia Picanço (1745-1823), physician to the royal family and chief surgeon of the kingdom, who nominally became the first chair-professor for both schools in Salvador and Rio de Janeiro. Picanço was born in the Province of Pernambuco to a barber-surgeon father, from whom he learned his craft. He joined the military at a young age and was removed to Lisbon. There, he studied at the São José Hospital School of Surgery under the mentorship of Manoel Constâncio, who is recognized as the founder of academic surgery in Portugal. Picanço would have then traveled in 1767 to Paris to complete his medical studies. According to biographers (Mello, 1895; Gomes, 1951; Vasconcellos, 1955), upon passing practical exams, he received the diploma of officier de santé in the late 1770s and therefore confirmed his credentials as a surgeon. In 1772, he returned to France to obtain a doctorate in medicine from the University of Paris, with a view to assuming the chair of anatomy, surgery, and obstetrics at the University of Coimbra's Faculty of Medicine.

Biographical information on José Correia Picanço has been repeatedly plagiarized in various narratives regarding the official history of medical education in Brazil, replicating errors, contradictions, and inconsistencies.[131] A notable example of misinformation pertains to the exact location of Picanço's surgical studies, which supposedly took place in Paris, Montpellier, or even Padova, Italy. Both Gomes (1951, p. 160) and Vasconcellos (1955, p. 239) mention these three places but do not indicate sources (Gomes: "returning to Lisbon, according to tradition, after attending the schools in Montpellier and Padova;" Vasconcellos: "References state that Correa Picanço attended the schools of medicine in Montpellier and Padova").[132]

Additionally, as we saw above, the concept of officier de santé was only defined in 1793 by the Convention after the French Revolution, and its certification was dependent on the écoles de santé, which were established in 1794 (Crosland 2004, p. 236). Consequently, it was impossible for Picanço to receive a "diploma of Officier de Santé" in 1768, as Gomes states (1951, p. 160). Furthermore, officier de santé was not an "honorary title . . . a new step in his ascendant medical career," as informed by Vasconcellos (1955, p. 239). As we have seen above, this category denoted a lower class of health professionals, with shorter training and limited competence, who acquired a barely formal status during a fleeting moment of the French Revolution after 1794. In fact, officiers de santé suffered discrimination and prejudice from physicians and surgeons who were unified in the category of *médecins* (Rey, 1993). Therefore, Picanço could not have been an officier de santé in the late 1770s, which raises a question that is at the very least intriguing: where did his biographers obtain this false information, and why did they present this scorned category as if it were a respected title?[133]

One of the leaders (and the principal ideologist) of the Tailors' Revolution of 1798, mentioned above, was Cipriano José Barata de Almeida (1762-1838), a Bahian-born surgery practitioner.[134] In 1786, Cipriano Barata registered for the courses of philosophy and medicine at the University of Coimbra, but was not granted the medical degree, in part for

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[131] In signed articles, official notes, and records in various websites, the biography of Correia Picanço is often copied from the contents of two texts: a paper presented at the first Congress on the History of Bahia, held in Salvador in 1949, and a thesis presented to the second Brazilian Congress of the History of Medicine, in Recife in 1953. Both works summarize a folio published in 1895 by Commander Antonio Joaquim de Mello in a collection of biographies of famous sons of the state of Pernambuco. The credibility of this information is crucial for the precise assessment of the influence of the French model of medical education (in the pre-Independence era) on the early schools of surgery that predated medical education in Brazil.

[132] Free translation of, respectively: *". . . regressando a Lisboa, reza a tradição, depois de frequentar as escolas de Montpellier e Pádua" and "Referências existem de que tenha Correa Picanço frequentado as Escolas de Medicina de Montpellier e Pádua."*

[133] History records a true officier de santé of Brazilian origin: Caetano de Lopes Moura, a Black man born in Bahia, son of a freed ex-slave, a seeker of adventure who served in Napoleon's army as a field surgeon. After the Napoleonic wars, Lopes Moura lived in Grenoble, as a licensed surgery-practitioner, then moved to Paris, where he became a translator and writer, as a protegé of Brazilian Emperor Peter II. The life of Caetano Moura is narrated in a fascinating ethnohistorical study written by Cláudio Veiga (1979).

[134] Biographical information on Cipriano Barata presented heretofore are mostly summarized from the work of Luis Henrique Dias Tavares (1986, 2005, 2008), the founder of the Bahian school of social history.

being accused of heresy by the *Santo Ofício* (a residual of the Inquisition that remained active in Portugal) in 1788. Back in Bahia, Cipriano Barata settled as a sugarcane farmer, licensed surgeon, and apothecary, providing health assistance for the poor. His return was further marked with intense political participation, as well as by his being one of the founders of the first masonic lodge of Brazil, the *Cavaleiros da Luz* [Knights of Light]. Despite his systematic denial in the *Devassa* of the Revolta dos Búzios, which eventually saved him from harsher penalties, Barata was indeed a key figure in the conspiracy, acting as a promoter of the meetings and writer of the manifestos and pamphlets that clashed the movement. After a decade of low profiling in clinical practice and in agricultural activities, Barata returned to political activism, organizing meetings in Salvador, writing pamphlets and collecting donations in cash and food, in support for the Pernambuco Revolution of 1817, an early serious attempt to establish a democratic republic in Brazil separate from the Portuguese Crown.

In 1820, in Portugal, a liberal political movement contacted the general courts of Lisbon for the elaboration of a constitution for the United Kingdom of Brazil, Portugal, and Algarve. In Salvador da Bahia, after the rebellion of one regiment composed by Brazilian-born freed men, local political leaders agreed to organize a provisional junta for the provincial government and, seizing the opportunity, elected deputies to the Lisbon constitutional assembly (Tavares, 2005). All three representatives from Bahia—Francisco Agostinho Gomes, Cipriano Barata, and Lino Coutinho—were in favor of liberal ideas but only Barata defended Brazil's independence with a republican regime. They were among the Brazilian deputies who, after having confirmed that the new constitution would not recognize the independence of Brazil, refused to take the oath before the Portuguese monarchy. Cipriano Barata and Lino Coutinho abandoned the Courts of Lisbon and escaped on a clandestine boat to England. Back in Brazil, he arrived in Pernambuco, where he founded and was the editor of a revolutionary newspaper, *Sentinella da Liberdade* [Sentinel of Freedom].

The independence of Brazil was officially declared on September 7, 1822, and Prince Peter, son of King John VI of Portugal, was enthroned Emperor of Brazil. Involved in virtually every sedition against the monarchy of Peter I, Cipriano Barata was arrested several times and declared his pride of knowing from the inside all prisons of the country. With the tolerance of his prison-keepers, even sentenced to life, he managed to keep writing and publishing his underground journal, sarcastically re-titled with the name of each prison it was written

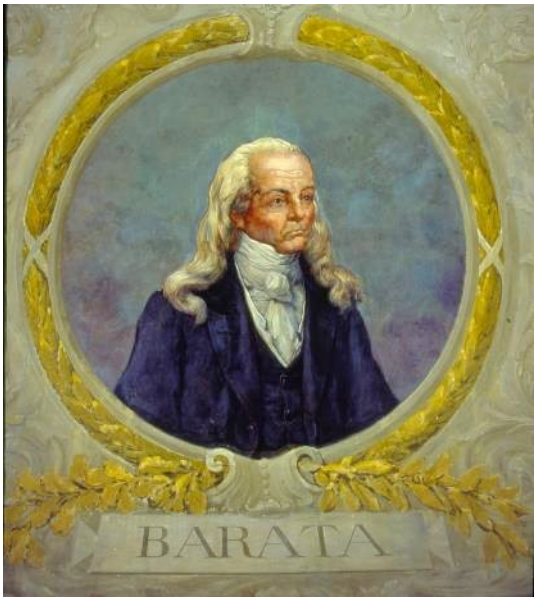

Figure 21. *Cipriano Barata.* (Fresco painting by Domenico Failutti, 1922). Provenance: Museu Paulista da USP, São Paulo, Brazil. (Work in the public domain.) https://commons.wikimedia.org/wiki/File:Domenico_Failutti

in.[135] After the abdication of Emperor Peter I in 1831, Barata was finally pardoned in 1834 and retired to Rio Grande do Norte, the most remote province of Northeast Brazil, where he survived as a French and Science teacher until his death in 1838 (Tavares, 1986).

Physician, politician, diplomat, tribune, poet, and musician José Lino dos Santos Coutinho (1786-1836)[136] was born in Salvador to a Portuguese family that owned sugar-cane plantations in the Recôncavo, the region surrounding the bay area. After completing general studies in Bahia, he was admitted to the University of Coimbra in 1805, enrolled in courses of mathematics, philosophy, and medicine. After graduating in medicine, he went to England and France for short periods of complementary training in anatomy and surgery. Back in Bahia in 1813, Coutinho started a successful clinical practice, translated medical books from French and English, and wrote semiological observations and reflections of his own,[137]

[135] In Bahia, the journal became the *Sentinella da Liberdade, hoje na Guarita do Quartel General de Pirajá, na Bahia de Todos os Santos* [Sentinel of Freedom, Today Behind the Gates of Pirajá Headquarters, in All Saints' Bay].

[136] As noted by Magalhães and Junqueira (2017, p. 264), there is no biographical study about this stateman so important for the consolidation of Brazil as a nation, perhaps the most influential amongst Brazilian Enlightenment intellectuals. Indeed, a true polymath, Lino Coutinho was the closest to a *médecin-magistrat*, to use Foucault's words referring to Cabanis's profile, in the context of nineteenth-century Brazil.

[137] These notes were later organized in two volumes, both published in 1832: *Topographia Médica da Bahia* and *Memória sobre a doutrina de Victor Broussais*. The first collection of notes was presented to the Academy of Sciences of Lisbon in 1823, while the second publication is mentioned in Sacramento-Blake's *Diccionario Bibliographico Brazileiro* (1899), but no copy of this text has been found as of today (Magalhães & Junqueira, 2017).

which led him to join the faculty of the medical-surgical school (the one founded by José Correia Picanço) as a non-chair lecturer in surgical pathology.

In parallel to his clinical and teaching duties, Lino Coutinho was quite active as a free mason militant, which launched him to a highly successful political career, also thanks to his strong connections with the local aristocracy and the colonial political authorities (Magalhães & Junqueira, 2017). Appointed as secretary to the Provincial Council of Bahia in 1820, he was then elected to the Lisbon Courts. In Portugal, Coutinho excelled in the constitutional assembly with his rhetorical talent and, because of that and of his outstanding medical expertise, became a member of the Royal Academy of Sciences of Lisbon, despite his fierce opposition to the Portuguese colonial rule in Brazil. After escaping from Portugal with the other renegade deputies, Lino Coutinho boarded a light ship in Falmouth straight back to Bahia, where a small mercenary British fleet was helping the fight for liberating the province from the Portuguese army. He arrived right on time to participate in the final campaign for the independence of the Province of Bahia.[138]

During and after the Bahian independence war in 1823, given his diplomatic skills and confirmed political experience, José Lino Coutinho became a member of the provincial governing junta. Involved in a rebellion in 1824, he was elected deputy for the national constituent assembly, but Emperor Peter I barred the initiative, repressed the movement of the liberal activists, dissolved the body of representatives, and imposed his own constitution.

In 1825, Lino Coutinho, then in his late thirties, was appointed chair-professor of external pathology of the Medical-Surgical Academy of Bahia. Notwithstanding his overt opposition to the Emperor on political grounds, Coutinho was chosen as chief physician to the imperial court and moved to the capital, Rio de Janeiro. In 1826, elected as General Deputy to the new national assembly, he presented to the Emperor a legislative project for reforming medical teaching in Brazil. Strongly influenced by the medical faculty model devised by the Cabanis Reform, the project was discussed by the higher chambers of Parliament, and both academies of surgery—Rio and Bahia alike—were requested to present proposals for curricular and institutional reforms.

Until 1832, the Bahian medical-surgical school reportedly awarded only 13 diplomas of surgeons. According to an official report sent to the Imperial Court, the situation was still quite precarious in September 1829 (Carvalho Filho, 1909). Then, the faculty counted on seven *lentes* [chair-professors], one substitute teacher for the surgical chairs, an interim secretary without salary, a doorman, and hosted only 17 students (Ribeiro, 2014).

The Society of Medicine and Surgery of Rio de Janeiro was created in 1829, with the mission of promoting and defending the medical and surgical sciences (Ferreira, Maio, & Azevedo, 1997). Its first official act was to set up a temporary commission charged with drafting a law

[138] Bahia was the only place in Brazil where independence came only after a fierce war against the Portuguese troops and fleet commanded by the Marshal Ignacio Madeira de Melo, a veteran of the Napoleonic Wars (Tavares, 2005).

that would establish medical faculties in Brazil. For almost two years, the Society carried out studies, held public hearings, and discussed the recommendations of a temporary commission. The proposal that was submitted mostly replicated the statutes of the Paris Medical School but adapted its institutional protocols to local conditions, extending training to six years. According to Roberto Machado and colleagues (1978, p. 185):

> This creation [of the Rio de Janeiro Society of Medicine and Surgery] clearly shows off the French inspiration. We can see this influence not only in the presence of the French physicians among its founders (the doctors Sigaud, who had been secretary of the Royal Society of Medicine of Marseille, and Faivre) and in the training of several of its members (the idea for this creation began with Dr. Meirelles, while pursuing his doctorate in Paris), but above all (and because of it) the plan for a social medicine [in Brazil] was entirely based on what had been done in France by the medical societies.

In 1831, Emperor Peter I abdicated the throne of Brazil and returned to Europe, to become Peter IV, King of Portugal. Re-elected General Deputy to the imperial parliament, José Lino Coutinho was appointed Minister of Internal Affairs of the first Regency Cabinet, with responsibilities including education and health issues. In his capacities, both as a politician and as an academic leader, the Brazilian *médecin-magistrat* [physician-magistrate] promoted the transformation of the medical-surgical academies of Rio and Bahia into faculties of medicine. The legislative act was finally approved by the Imperial parliament of Brazil in 1832, without amendments (Machado et al., 1978).

Figure 22. José Lino dos Santos Coutinho. Portrait, crayon on paper (date/author unknown). Moniz de Aragão family estate. (Work in public domain.) https://www.geni.com/people/Jos%C3%A9-Lino-Coutinho/6000000020351446085

Elected first dean of the Faculty of Medicine of Bahia, Lino Coutinho immediately transferred the institution to the building of the old *Colegio de Jesus* and opened the wards of the *Hospital da Santa Casa de Misericordia* for the clinical lessons. From 1833 to 1836 he promoted several initiatives, such as the creation of a library, the installation of chemistry laboratories, and the assembly of the anatomy division, with material brought from Europe

by the new chair-professor Jonathas Abbott.[139] In addition, during his administration, the congregation reformed the curriculum, increased the number of chairs, and organized the faculty's by-laws, closely following the model of the Paris Medical School. José Lino Coutinho died in 1836, at the age of 52 years, diagnosed with severe intestinal illness and "gout rheumatism," in the peak of a bright career as an academic entrepreneur and political leader.

Figure 23. José Lino dos Santos Coutinho, by Pasquale de Chirico (1906). Estatue in mortar at the Faculdade de Medicina da Bahia, photograph by Denise Coutinho, 2005 (reprodution authorized).

The new Empire of Brazil kept family ties with European dynasties, maintaining a slave society, with strong economic, political, and cultural connections with the old continent. For idiosyncratic reasons, to be understood in the historical processes analyzed herein, these movements that marked the transition from the colonial regime to a constitutional monarchy were led by physician-politicians, belatedly inspired by the libertarian ideas of the French Revolution.

The last and greatest of the armed rebellions of this time occurred in 1837-1838, in Salvador da Bahia. This revolution began with a military uprising in the São Pedro Fort, extending to the entire city of Salvador. Soldiers and civilian adherents quickly occupied the urban area and formed an interim republican government. An act of the Municipal Chamber proclaimed the independence of the Province of Bahia, separated from the Empire of Brazil, still under the regency, pending the crowning of the Prince Pedro de Alcântara, future Emperor Peter II.

The movement condemned the aristocratic rule, declared the abolition of slavery, and advocated free education for all. The marines and part of the National Guard remained loyal

[139] Jonathas Abbott (1796-1868) was a British expatriate who graduated from the *Colégio Médico-Chirugico da Bahia* in 1820. He served as military surgeon in the newly instated Imperial Navy during the independence wars of Bahia in 1823, and was granted Brazilian citizenship. During an academic journey in 1830-1831, he completed his medical studies in France and Italy, acquiring a doctoral medical degree from the University of Palermo. Back to Salvador, he was admitted to the *Faculdade de Medicina da Bahia* as the chair of anatomy, and eventually became its vice-dean in 1837. For almost two decades, until 1858, Abbott delivered annual inaugural speeches to the new students of his chair. Source: Lima Júnior, Castro, 2006, p. 534.

to the government and seized the city. The local elite fled to the *Recôncavo* (the nearby sugar-producing region), where landlords had begun to organize the resistance forces. Land routes were cut off, and warships were sent from Rio to block the harbor. Reinforcements from neighboring provinces swelled the army to more than 5,000 troops, and in March 1838 the siege to retake the city of Salvador began. In the most violent repression of all Brazilian urban revolts, in a two-day long bloodbath, an unregistered number (more than one thousand) of the rebels were massacred, mostly poorly equipped soldiers and unprepared volunteers, many of them African slaves and unskilled workers. Surrender came soon after the siege began, on 16 March. The government captured the leaders, executed the slaves and soldiers, and condemned thousands of the rebels to hard labor and to exile in remote jungle provinces and on the isolated island of Fernando de Noronha.[140]

The Bahian revolution of 1837 is known in the history of Brazil as the Sabinada Revolt, after the name of its main leader, Francisco Sabino Alvares da Rocha Vieira [1796-1846]. Sabino was a hero of the Independence Wars of 1823, as he was one of the commanders who bravely repelled the attack of Portuguese forces on the strategic village of Itaparica. A writer, journalist, and military surgeon, he was the first member of the *Faculdade de Medicina da Bahia* who graduated in Brazil. With the implementation of the Surgical Sciences section in 1833, he was admitted as anatomy assistant and, in 1837, won the competition for the chair-professorship of surgery. This was a major feat in that Francisco Sabino, in addition to being a "blue-eyed mulatto," with black-African ancestry, had been already denounced as a homosexual, prosecuted for the death of his wife, and arrested for the murder of a local noble heir in a public duel (Souza, 1987). Captured by the restoration army after lengthy court hearings, he was twice sentenced to death. The enthroning of the young Emperor Peter II in July, 1841 was celebrated with a general amnesty for all political prisoners (Souza, 1987). Francisco Sabino was pardoned, then banned to the jungle, being forbidden to reside in cities. Living in small towns near the Southwestern border, he resumed the practice of medicine and surgery, became known as a humanitarian doctor, retook political activism, edited small newspapers (one of them titled *O Zumbi*),[141] and was expelled from several provinces, until he died of unknown cause during Christmas 1846 (Souza, 1987).

Enlightenment, Idéologie, Cabanis: Missing Links

Enlightenment revolutionary ideas were brought into Brazil by intellectuals and professionals who had studied in Europe, notably those graduated as surgeons or physicians, such as

[140] The most complete studies on the Sabinada Revolt are the books by Luiz Vianna Filho (1938) and by Paulo Cesar Souza (1987), both in Portuguese. In English, Canadian historian Hendrik Kraay (1992) provides a good account on the topic.

[141] *Zumbi* was the ceremonial name given to several different generations of leaders of the Quilombos de Palmares. *Quilombos* were the settlement of runaway slaves, many of them fortified (as in the case of Palmares), that, during the seventeenth century, resisted against the colonial armies. This detail has been used to reinforce the interpretation of the Sabinada as an urban racially motivated revolt (Souza, 1987).

Cipriano Barata and Lino Coutinho. The Idéologie movement did not have the same political and cultural impact in Brazil as it did in Argentina (Di Pasquale, 2011), although some traces of its presence are found in libraries, as well as in writings and courses taught by Brazilian intellectuals after 1830. That happened despite the fact that Joachim Le Breton—one of the most active Idéologues, editor of *La Décade philosophique* and permanent secretary of the class of moral and political sciences at the Institut national de France—migrated to Brazil in 1816, invited by the Portuguese Crown to create the Imperial Academy of Fine Arts, and died in Rio de Janeiro in 1819.[142] Nonetheless, being one of the intellectuals successfully coopted by Napoleon's politics, there is no evidence that Le Breton, as a former Idéologue, had any influence in the local cultural and political scene.

Regarding medical education in Brazil before the country's independence, Pedro Nava (2003, p. 63) highlights the role of José Maria Bomtempo (1774-1843) and Joaquim da Rocha Mazarem (1775-1849), physicians assisting the Portuguese court "who opened the doors of our medicine to the influx of the French masters, which would be so beneficial and lasting." With Brazil's independence from the Kingdom of Portugal, France's influence grew stronger. The works of Corvisart, Richerand, and Laennec, together with physicians linked with the Idéologie movement, such as the anatomist Xavier Bichat, the alienist Philippe Pinel and the theoretical physiologist Georges Cabanis, were fundamental for this scientific hegemony.

José Correia Picanço, his colleagues, and their disciples were familiar with Cabanis's clinical writings. One of the first books published in 1812 by the Brazilian Royal Press (founded by King John VI in Rio de Janeiro) was Cabanis's compendium on diagnosis *Du degré de certitude de la médecine*, translated as *Do gráo de certeza da medicina*, by Correia Picanço himself (Guerra, 1987). A rare collection of clinical records by Georges Cabanis, *Observations sur les affections catarrhales*, was published in 1816 in Salvador da Bahia, in a translation by Lino Coutinho (Guerra, 1987).[143]

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[142] There is much controversy among Brazilian historians whether Joachim Le Breton was the leader of a "French cultural mission" for the purpose of industrial and artistic teaching in Brazil, or the head of a colony of unemployed artists, politically displaced after the fall of Bonaparte. According to the official version, Le Breton, former administrator of the Louvre Museum, was commissioned by King John VI to organize a cultural mission, to bring the lights of European civilization to Brazil. For historian Eliane Dias (2006) Alexander von Humboldt, who was a gifted diplomat and a good friend of Le Breton, influenced the representatives of the Portuguese monarchy exiled in Brazil and persuaded the French artists about the possibilities of artistic progress in Portuguese America. Considering that Le Breton, Jean Baptiste Debret [1768-1848], the Taunay family, and the other artists, traveled on their own, financially supported by private interests, therefore the French Mission, one of the most traditional canons of Brazil's historiography, may have been a myth (Schwartz, 2008).

[143] Other French medical books were also translated and published (Castro, 1968). In 1816, José Soares de Castro, *Lente* of Anatomy and Surgical Medicine of the Operatória da Escola de Cirurgia da Bahia, translated Bichat's *Recherches physiologiques sur la vie et la mort* and published it as *Observações Fysiologicas sobre a Vida e a Morte*. In 1817, the pharmacist Manoel Joaquim Henriques de Paiva translated Antoine de Fourcroy's *Philosophie chimique, ou Vérités fondamentales de la chimie moderne, disposées dans un nouvel ordre*, titled in Portuguese as *Filosofia Quimica ou Verdades Fundamentaes da Quimica Moderna, destinados a servir de Elementos no Estudo desta Sciencia*.

According to Greek-Bahian historian Katia Mytilineou Mattoso (1990), amongst the evidence confiscated during the prosecution of the Revolta dos Búzios, there were books from French pre-revolutionary writers, including Voltaire, Rousseau, Volney and Condillac (the latter in Cipriano Barata's arrested library, composed of 74 volumes). The first translation into Portuguese of Jean-Jacques Rousseau was probably made by Barata, as an abridged underground edition for the debates in the masonic lodge he founded in Salvador (Mattoso 1969). According to Marrach (2009, p. 67), the iconic *Encyclopédie* by Diderot and D'Alembert, perhaps the most important book of the French Enlightenment, was studied jointly by Cipriano Barata and Frei Caneca,[144] close friends who were political partners in both the Pernambuco Revolution of 1817 and the Confederation of the Equator of 1824. Finally, Antoine Destutt de Tracy was one of the authors most cited by Barata in several articles and editorials published in the *Sentinella da Liberdade* (Marrach, 2009, p. 66).

For all these reasons, Cipriano Barata has been recognized as a pioneer promoter of such ideas that contributed to the independence of Brazil, although not to the extent of denouncing the dependent economy, the unequal social structure, and the despotic political system that defined this historical process (Tavares, 2003; Mattoso, 2004; Jancso & Morel, 2007; Marrach, 2009; Valim, 2013).

After José Lino Coutinho's death, his family estate included a valuable library, subjected to Court Inventory (Magalhães & Junqueira, 2017). The library comprised around 400 volumes, but only 291 of which, in good shape, were then listed. More than 80 per cent of the titles were in French and 11 per cent in Portuguese; two books in English, one in Spanish and one in Italian. Lino Coutinho's library included an impressive selection of books on philosophy, economy, political sciences, and medicine, representative of different ages of the French Enlightenment.[145]

Analyzing the original notarial document, Magalhães and Junqueira (2017, p. 274) comment:

> This massive presence of French books in the private library of the first Chairman of the School of Medicine in Bahia—a recurring fact among the Portuguese-Brazilian followers of the Enlightenment of that time—is explained by the fact that France was the birthplace of the Enlightenment philosophers, and of many other renowned physicians . . . . There were few translations into Portuguese of the philosophers' books and medical papers—and that is why Coutinho himself has become a translator.

[144] Friar Joaquim do Amor Divino Rabelo (1779-1825), known as Frei Caneca, the leader of the Confederation of the Equator of 1824, a republican rebellion against the tyranny of King Peter I, was executed by firing squad in 1825.

[145] These are the books related to the Idéologie listed in the inventory of Lino Coutinho's library, according to Magalhães and Junqueira (2017):

A few classical pieces of this library are worth highlighting. The oeuvres of Montesquieu—organized by Destutt de Tracy, Villemain, Walckenaer, ex-members of the Institut national de France, with commentaries of D'Alembert, Helvétius, Voltaire, Condorcet and Bertolini—is in the Inventory, complete in eight volumes, published in Paris in 1826. Also in eight volumes, there is the collection of theater plays by Voltaire, published in Neufchatel in 1773, together with miscellaneous writings from Jean Baptiste D'Alembert, the leader of the encyclopedists, in a late edition printed in Amsterdam, in 1766. Also from Amsterdam, published in the same year of 1776, the Court Inventory includes *La morale universelle* by the Baron D'Holbach. Probably as a central piece of the library, there is the complete oeuvres of Turgot, organized by Dupont de Nemours, in nine volumes published in Paris, from 1808-1811.

Members from the Idéologie group are also well represented in the inventory: from the first generation, the Marquis de Mirabeau, with his *Discours sur l'égalité*, in a second edition printed in Paris, in 1826; from the second generation of ideologists, a second edition of Condorcet's *Esquisse d'un Tableau historique des Progrès de l'Esprit humain*, together with Daunou's *Essai sur les garanties individuelles* [1819], Thouret's *Abrégé des révolutions de l'ancien gouvernement François* [1800] and Dégerando's *Du perfectionnement moral, ou De l'education de soi-même* [1824]. Finally, item #138, a valuable piece of the Court Inventory, is a first edition in two volumes of the *Projet d'éléments d'Idéologie* by Antoine Destutt de Tracy, published in Paris in 1801 by Didot & Fermin.

Among the 29 books on medical topics listed in the inventory, Richerand's *Nouveaux élémens de physiologie* stands out, in a second edition printed in Paris, in 1803. As well as *Histoire des Phlegmasies ou Inflammations Chroniques* by Broussais, in three volumes, printed in Paris in 1822, which was the object of analysis in Lino Coutinho's clinical memoir above mentioned. Finally, item #144 of the inventory holds two different editions of Georges Cabanis's masterpiece, the *Rapports du physique et du moral de l'homme*, in a first edition by Crapart, Caille & Ravier in 1802, and a late edition, revised and expanded, published in Paris by Didot & Fermin-Courcier in 1824. The notary Jozé Olympio Gomes de Souza, Registrar of the Court, remarked in the inventory that several books, approximately one hundred volumes, were in such a bad condition that they could not be sold at auction (Magalhães & Junqueira, 2017, p. 305).

The library confiscated from Francisco Sabino, leader of the Sabinada Revolt, was gigantic (for the parameters of the time), composed of more than one thousand volumes.[146] Again, many classics of the Enlightenment: Montesquieu, Rousseau, Voltaire, Locke, Condillac, and 15 volumes of the *Éncyclopédie*. The *Histoire de Napoléon*, by Ségur, in two volumes, was there together with a collection of military strategy books on cavalry and infantry, Say's treatise on economy, and Tocqueville's essay on democracy. Sabino's collection of medical and surgical treatises was extraordinarily large and diverse, including Magendie, Richerand,

[146] Luiz Vianna Filho (1938, p. 79) included a complete inventory of the library confiscated during Sabino's arrest as an appendix to his study on the Sabinada.

Aliberti, Laennec, Broussais (six volumes). The inventory included several works of the physicians-Idéologues, the complete oeuvre of Bichat, Pinel's *Nosographie* and one volume of *Médecine Clinique*, and one book by Cabans [*sic*, as mispelled in the manuscript], in two volumes, whose title was missing, probably the *Rapports du physique et du moral*.

According to biographer Vianna Filho (1938, pp. 78-79):

> Sabino had the prestige of intelligence. He was the most cultured of the revolutionaries, who knew the latest trends from overseas, up to date on the last word about the republican regime . . . . He was intoxicated by French culture, which continued to exert an undeniable influence on our intellectual environment. We lived in a time when we were dressing and thinking like in Paris. From there, we imported fashionists and books. Everything that was French was cool in our midst.[147]

Throughout the nineteenth century, the French influence on Brazilian medical teaching was indeed profound and comprehensive. The educational model that was adopted in the two medical schools in Bahia and Rio continued to be ritualized and rhetorical, strongly marked by French post-revolutionary scholarship.[148] In terms of teaching methods and educational resources, the entire body of material (books, methods, regulations, programs, readings, tools, even furniture) was imported from France (Machado et al. 1978, p. 180). Medical Idéologues, such as Pinel and Cabanis, were key references for the *theses inaugurais*[149] and for the memoirs of candidates for chair-professorships, particularly in the field of mental medicine. Exemplary of the first kind was the thesis titled *Sobre analogias entre o homem são e o alienado, em particular sobre a monomania* [On the analogies between the healthy man and the alienated, particularly regarding the monomania] by Geraldo Franco Leão (1842), while Antonio Luiz da Silva Peixoto's *Considerações Gerais sobre a Alienação Mental* [General Considerations about Mental Alienation] (1837) represented an example of the second kind, both transcribing and summarizing Pinel's writings on the topic.

Lima Júnior and Castro (2006) surveyed the archives and library collection of the Faculdade de Medicina da Bahia, looking to investigate the different philosophical schools which influenced the medical practices of imperial-era Brazil. They found a strong if delayed influence of the Idéologie and its icons (Destutt de Tracy, Condillac, Maine de Biran, and especially Cabanis), in addition to early references to Comtean positivism. This connection is mostly due to Antonio Ferrão Moniz de Aragão (1813-1887), a Bahian-born entrepreneur,

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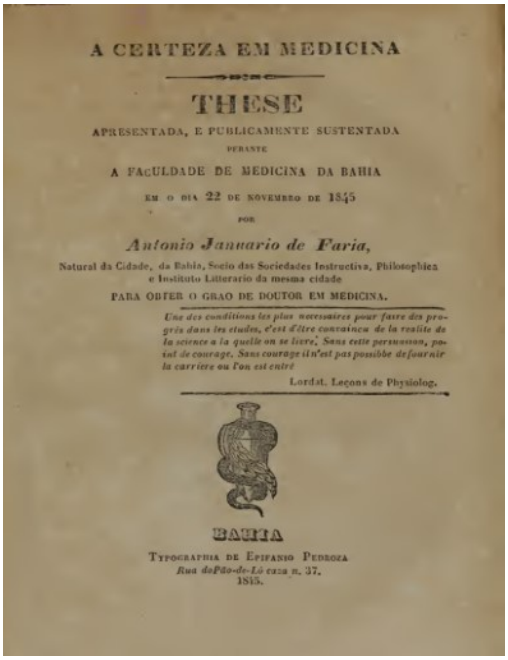
[147] Free translation of: *Sabino tinha o prestígio da inteligência. Era o mais culto dos revolucionários, o que conhecia as últimas tendências d'além-mar, sabendo a última palavra sobre o regime republicano. [...] Era um intoxicado pela cultura francesa, que continuava a exercer sobre o nosso meio intelectual uma influência incontestável. Estávamos na época em que nos vestíamos e pensávamos como em Paris. De lá importávamos modistas e livros. Tudo que era francês era corrente no nosso meio*.

[148] Even so, after 1860, a major influence of German laboratory sciences started up in local research programs, such as, for example, the *Escola Tropicalista da Bahia* (Edler, 2002, 2009; Malaquias, 2016), as mentioned in the Introduction.

[149] An authorial written piece, generally short and schematic, required to obtain a doctoral degree in medicine, as described by Lima & de Castro (2006, p. 534).

humanist and philosopher who married Lino Coutinho's widow and probably took possession of the family library. Son of a wealthy, noble family, he was educated in Paris, where he supposedly took classes with Auguste Comte, and in London, where he was acquainted with John Stuart Mill.[150] Back in Bahia in 1834, he started to teach free courses in philosophy based on the Idéologie. In 1858, Moniz de Aragão published the primer *Elementos de mathematica*, whose introduction on the classification of sciences is considered the first manifestation of Comte's positivism in Brazil (Ferreira, 1977).

Particularly in relation to Cabanis, his physiological and clinical writings were included in the collections of medical school libraries in Bahia and Rio de Janeiro, as well as in the private libraries of several local intellectuals who had studied in France (Lima Júnior & Castro, 2006). Elements of Cabanis's work were repeated (and often plagiarized) in the titles and contents of many academic papers from the Faculdade de Medicina da Bahia.



A CERTEZA EM MEDICINA

THESE

APRESENTADA, E PUBLICAMENTE SUSTENTADA

PERANTE

A FACULDADE DE MEDICINA DA BAHIA

EM O DIA 22 DE NOVEMBRO DE 1845

POR

Antonio Januario de Faria,

Natural da Cidade, da Bahia, Socio das Sociedades Instructiva, Philosophica e Instituto Litterario da mesma cidade

PARA OBTER O GRAO DE DOUTOR EM MEDICINA.

Une des conditions les plus necessaires pour faire des progrès dans les etudes, c'est d'être convaincu de la realité de la science a la quelle on se livre. Sans cette persuasion, point de courage. Sans courage il n'est pas possible de fournir la carriere ou l'on est entré

Lordat. Leçons de Physiolog.

BAHIA

TYPOGRAPHIA DE EPIFANIO PEDROZA

Rua do Pão-de-Ló casa n. 37.

1845.

Figure 24. Front page of Antonio Januario de Farias's *A certeza em medicina* (1845). M.D. Thesis presented to the Faculdade de Medicina da Bahia. Salvador: Typographia Epifanio Pedroza, 1845. http://repositorio.ufba.br/ri/handle/ri/24820

A very apt example is the thesis by Antonio Januario de Farias (1845), *A certeza em medicina* [Certainty in medicine], whose title, epigraph, and profuse citations come from Cabanis's works, including *Du degré de certitude de la médecine*, *Rapports du physique et*

[150] This information was given in 1978 by Gilberto Freyre, one of the founders of the Brazilian anthropological school, without indication of its historiographical sources, in a debate at the Instituto Geográfico e Histórico da Bahia with Pedro Calmon—a Bahian intellectual leader who wrote the terms of reference for the law that created federal universities in Brazil after World War II. Source: https://www.wikifox.org/pt/wiki/Ant%C3%B4nio_Ferr%C3%A3o_Muniz_de_Arag%C3%A3o

du moral de l'homme, and even *Coup d'oeil sur les révolutions et réformes de la médecine*. In a footnote on page 9, there is a second-hand citation supposedly coming from the *Coup d'oeil*—"*Le medecin (disait Hyppocrate) ne doit être ni envieux ni injuste envers les autres médecins, ni devoré de la soif de l'or*"—citing as reference a inaugural lecture of the Anatomy Chair given by Jonathas Abbott, in 1844.

Antonio Januario de Farias (1822-1883) was one of the Brazilian members of the *Escola Tropicalista da Bahia*.[151] Self-titled as "*academia scientifica,*" the Escola Tropicalista da Bahia was a sort of unofficial medical research institution established outside the medical school in Salvador da Bahia whose work resulted in discoveries that aroused international interest and helped to conform the scientific field of tropical medicine.

For more than three decades, from 1865 to 1900, the unusual movement conducted research on tropical diseases, inaugurating in Brazil the use of state-of-the-art scientific methodology. Its founders were Otto Wucherer (1820-1875), a Portuguese of German origin trained in the University of Tubingen, and John L. Paterson (1820-1882), a Scottish physician graduated from the University of Aberdeen and in London. These foreign physicians, trained in European universities under the influence of the British and German models of higher education, maintained contact with their training and research networks. With the participation of young physicians recently graduated from the Faculdade de Medicina da Bahia, they created an informal teaching system based on seminars and academic colloquia (so it was called "tropicalist school") which, in the beginning, provoked strong reaction from the old Faculty. They also implemented the *Gazeta Medica da Bahia* [Medical Gazette of Bahia], which became the most influential scientific journal of Imperial Brazil, according to Malaquias (2016).[152]

In 1855, Januario de Farias was admitted to the faculty as a substitute lecturer of the medical section, then became lecturer of Physiology in 1862, and, after two years, chair-professor of Clinical Medicine. In 1874, he was elected dean of the Faculdade de Medicina da Bahia and, until the end of his term in 1881, promoted the science-based Pasteurian medicine in the old conservative school, which paved the way for the second generation of "*tropicalistas*."[153] In parallel, under his leadership, the Gazeta Médica da Bahia started to

[151] In addition to Wucherer, Paterson, and Januario, the other members of the group were José Francisco Silva Lima (1826-1910), Ludgero Rodrigues Ferreira (1819-1866), Antônio José Alves (1818-1866), and Manuel Maria Pires Caldas [1816-1901], all graduated in Bahia. Forgotten in the local historical accounts for a few decades, the memory of these pioneers was recovered by Gonçalo Moniz (1923). Writer, physician and amateur historian Pedro Nava coined the label *Escola Parasitológica e Tropicalista da Bahia* (1948). Antonio Caldas Coni, a local physician who explored old files of the *Gazeta Médica da Bahia* (1866-1915) for a presentation in the first academic conference on the history of Bahia, simplified the title for Escola Tropicalista da Bahia when he expanded and published his lecture as a small brochure (Coni 1952). For a general account of this historical landmark, see Schwartz (1993), Jacobina (2008), and mainly Edler (2002; 2009).

[152] Specifically about the Gazeta Medica da Bahia, see Moraes (2013) and Malaquias (2016).

[153] This group was composed by the brothers Antônio Pacífico Pereira (1846-1922) and Manoel Vitorino Pereira (1853-1902), and by Raimundo Nina Rodrigues (1862-1906), who later performed leading roles in the Faculdade de Medicina da Bahia.

focus on scientific methodology, sociopolitical concerns, medical education reform and other pedagogical issues (Moraes, 2013).

The Empire of Faculties

When the two medical-surgical academies of Bahia and Rio de Janeiro were transformed into faculties of medicine, they strictly followed the model and guidelines of the Cabanis Reform. Regarding the state control of professional practice, the law stipulated that no person without a degree conferred or approved by the schools could treat patients, perform surgeries (including tooth-pulling), act as a midwife, or run a pharmacy. Until 1850, the professional activity of physicians, surgeons, dentists, pharmacists, and midwives was supervised and controlled by the medical schools themselves, which held exams and conferred degrees and certificates in accordance with municipal councils, which registered titles and granted licenses to lawfully work in these professions (Machado et al., 1978, p. 178). In 1854, another law established a *Congregação de Lentes* [congregation of chair-professors] in both schools to act as the governing council and to elect its dean and other institutional authorities, as well as to decide over academic issues.[154]

During the entire nineteenth century, no attempt to establish universities had been successful in Brazil, even though some proposals were examined at different levels of the legislature. I highlight the most important examples, following the historical review by Fávero (2010, pp. 23-26). In 1823, the Public Instruction Commission of the Constituent Assembly, led by José Bonifácio de Andrada e Silva, submitted a public education plan, which maintained the medical-surgical schools in Bahia and Rio de Janeiro and proposed to open two universities in São Paulo and Olinda, all governed by the by-laws of the University of Coimbra. This proposal was approved with amendments, but Emperor Peter I dissolved the constituent assembly and nullified its deliberations. Senator Manuel Castro e Silva presented a similar proposal in 1842, but the large amount of criticism and objections during two years of parliamentary debate culminated in a public document against the plan issued by the Faculdade de Medicina da Bahia, and the proposal was shelved in 1845. In 1882, Baron Homem de Melo again proposed the creation of universities in major cities across the country, but his project was rejected, and the model of faculties prevailed.[155]

[154] The application of such national rules and norms was neither peaceful nor easy in the old Faculdade de Medicina da Bahia, crossed by family feuds and provincial micropolitics, as bluntly analyzed by Ribeiro (2014).

[155] In his assessment of this education reform bill, Ruy Barbosa, the most prestigious Brazilian magistrate of the nineteenth century, praised the concept of university but admitted that it would only be feasible after thorough reforms in the entire Brazilian system of public education (Fávero 2010, p. 25).

In 1879, based on a proposal by Vicente Figueira de Saboia,[156] the Leôncio de Carvalho Act was approved, with the intention to profoundly alter the structure of Brazilian education system. Regarding higher education, the reformers were loosely inspired by the model of the German universities (and contrary to the rhetorical education of the French faculties). For medical education, this reform advocated practical teaching, with the creation of laboratories for medical physics, organic chemistry, physiology, and pharmacology, with less importance given to magistral lectures. To provide better training for students, the medical course was extended to six years, candidates' public oral exams were abolished, and practical tests and qualifying exams made obligatory for granting academic degrees (including diplomas for pharmacists and dentists). Only after this reform were women permitted to enter medical courses. The first female physician of Brazil, Rita Lobato Velho Lopes from Rio Grande do Sul, graduated in 1887 in the Faculdade de Medicina da Bahia (Wolf, 1971).

During the entire nineteenth century, with the opening of faculties of law in São Paulo and Recife, as well as mining, agriculture, and polytechnic schools in Rio de Janeiro, Ouro Preto, and Salvador, the educational model being established in Brazil eliminated the institutional figure of the university (Fávero, 2010). After the Proclamation of the Brazilian Republic in 1889, the strong presence of positivist doctrine in the organization of the nation, particularly among the military, entailed an increase of French cultural influence. This helped to consolidate in Brazil a Bonapartist model of education, a system made up of primary schools, lycées, normal schools, polytechnic schools, and faculties (Ferreira et al., 1977).

At the turn of the twentieth century, following the creation of the *Faculdade Livre de Medicina e Farmácia* in Porto Alegre, Brazil had a total of three faculties of medicine, two faculties of law, two polytechnic schools, and zero universities. The absence of universities in the Brazilian territory continued into the first three decades of the twentieth century. The first initiative to unify the faculties of medicine, law, and engineering to create the University of Brazil in Rio de Janeiro, which took place in 1922 (almost 100 years after Brazil declared its independence), only had a symbolic effect (Fávero 2010, pp. 30-31).

Brazil's first university, de facto, was the University of São Paulo, established in 1934 by a state law, via the incorporation of pre-existent institutions: the Faculty of Medicine, the Faculty of Law, the Polytechnic School, the Luiz de Queiroz Superior School of Agriculture, and the Institute of Education—in addition to the newly created Faculty of Sciences, Letters and Arts (Cunha, 2007, p. 241). The political-institutional plan that guided its design replicated the model of the University of Paris. Its establishment, organization, and consolidation, which took place between 1934 and 1945, received support from a French

[156] Chair-professor of clinical surgery at the Rio de Janeiro School of Medicine and obstetrician to Princess Isabel, Saboia made several trips to France and Germany between 1871 and 1875, commissioned by Emperor Pedro II to study the models of medical training employed in Europe. See the detailed entry in the *Dicionário Histórico-Biográfico das Ciências da Saúde no Brasil* (1832-1930) (Dicionário..., s.d.).

mission.[157] For decades, this university has been the main center for scientific research and academic training in the country.

Most Brazilian federal universities established after the end of the dictatorship of Getúlio Vargas, in 1945, followed the same process of aggregating pre-existent traditional faculties, which was conducive to institutional isolation, as well as symbolic and political autonomy (Cunha, 2007). The only exception was the University of Brasilia (UnB). Conceived in 1960 by Anísio Teixeira (1900-1971) and Darcy Ribeiro (1922-1997) as a research university with a curricular structure inspired by the North American model, this institutional experiment was harshly repressed by the dictatorship that followed the military coup of 1964 (Salmeron, 2008). There was no medical school at UnB, but rather a center for health sciences, intended for the integrated training of all health professions. Acute political repression led to a process of gradual backward regression to the anachronistic model of higher education, culminating in the fragmentation of UnB's training centers.

In 1968, a broad university reform was promoted by the military dictatorship, originally as an attempt to implement in Brazil the North American model of higher education (Cunha, 2007a). However, there was strong reaction from students and teachers, mostly the chair-professors, their adjuncts, and assistants, well settled in university institutions fragmented by faculties and schools. A department-like structure replaced the academic governance—which was still organized by chair-professorships—while the curriculum structure organized by disciplines and the system of direct entry into professional courses were maintained. In the late 1980s, after the country's redemocratization, there was a strong growth in student enrolment, mostly conducted by the private system of higher education, promoted by neoliberal governments.

During Luiz Inácio Lula da Silva's presidency (2003-2010), governmental policies helped to increase access to higher education by social segments previously excluded from public universities, along with affirmative action programs such as quotas for poor, black, and indigenous students (Lloyd, 2015). Two major programs were implemented: PROUNI and REUNI. PROUNI was a massive scholarship program launched in 2005 to finance university tuition at private higher education institutions for students from low-income families (Brasil/MEC, 2006). REUNI is an acronym for an investment program for the expansion of public universities, with incentives for efficiency and population coverage along with affirmative action programs (Brazil/MEC 2007).

The target of the REUNI initiative was to expand the federal network of 56 federal universities in order to eventually challenge the hegemony of the private sector of higher education in the country. During 2008-2009, budget increases planned for the network of Brazilian public universities were maintained and, in some cases, anticipated. Mass-scale construction of

[157] Organized by Georges Dumas (1866-1946), physician and professor of psychology at the University of Paris, and Teodoro Ramos (1895-1935), professor at the Polytechnic School of São Paulo, the "French USP mission" included young academics (Fernand Braudel, Jean Gagé, Émile Leonard, Paul Arbusse-Bastide, Pierre Monbeig, Émile Coornaert, Roger Bastide, and Claude Lévi-Strauss, among others) who later stood out in their respective fields of knowledge (Paula, 2002).

labs and classroom buildings, equipment acquisition, and faculty and staff recruitment, all contributed to expand access to higher education for larger population groups, with the participation of 18- to 25-year-olds in tertiary education increasing from 9% to 15% in less than a decade. This ambitious $5-billion expansion plan was launched just before Brazil got hit by the world financial crisis of 2009, and ended with the impeachment of President Dilma Rousseff in 2015. Although effective in reducing some of the negative consequences of poverty and social inequity, these initiatives did not challenge exclusionary structural features of the Brazilian system of education (Almeida-Filho, 2015).

Currently, with a few exceptions, Brazilian universities are still operating on a rigid curricular regime, with an outdated organizational structure, heavily influenced by the nineteenth-century reforms triggered by the French Revolution and modified (or tamed) by the restoration policies. Decades later, the old format of the "empire of the faculties" prevails, with separate faculties of medicine, law, engineering, and other schools, in universities that exist nominally, quite similar to the model that arose from the Liard Reform of 1896 in France. As of today, upon approaching the majority of Brazilian universities, particularly in the field of health, we find traces, indices, and structural marks of institutional elements and curricular patterns that resulted, directly and indirectly, from the French system of higher education, first engendered by the Cabanis Reform for medical education and then adjusted to the Bonapartist reform for professional career training in general.

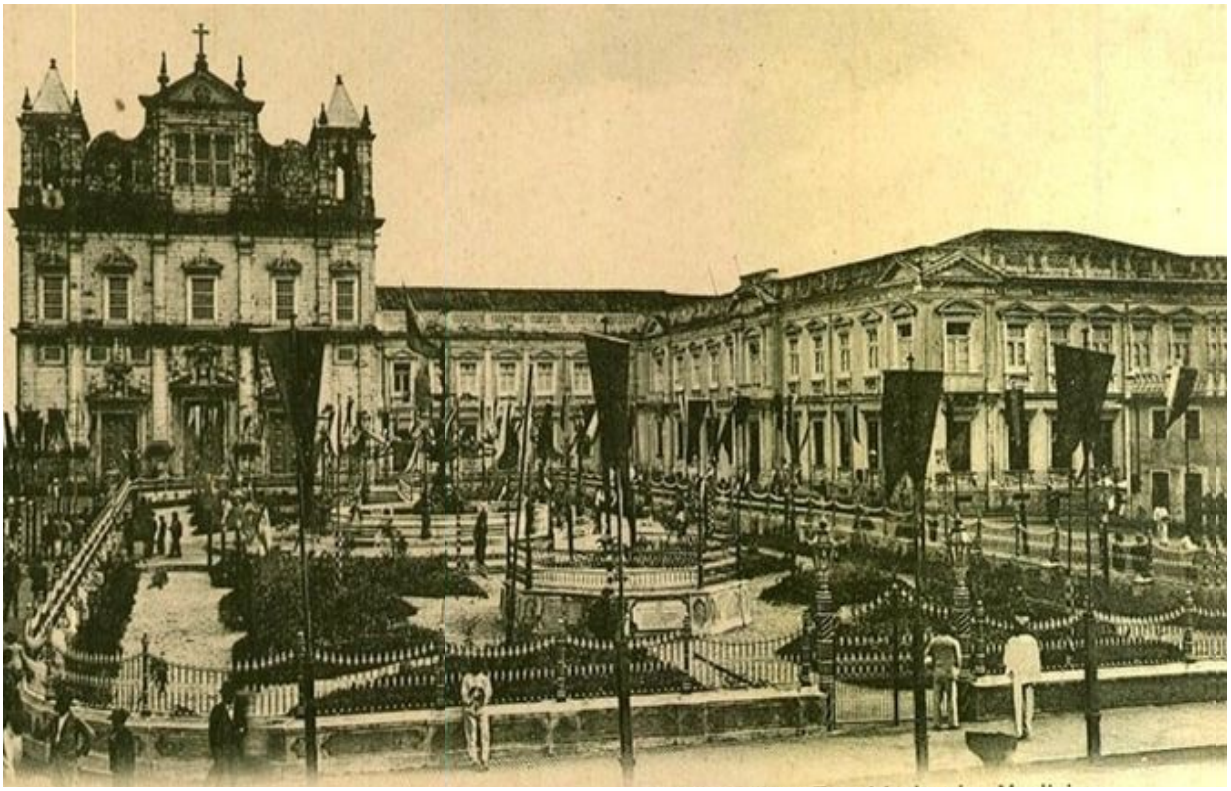


Figure 25: Faculty of Medicine of Bahia. Photograph of author unknown (circa 1905). Acervo do Arquivo e Biblioteca do Memorial da Medicina Brasileira. http://www.medicina.ufba.br/historia_med/hist_med_art28.htm

Chapter 12

Epilogue: On Institutional Change and Intellectual Oblivion

This concluding chapter is about change and oblivion. It is a tale of renewal and transformation, on institutional grounds, followed by amnesia (or, more accurately, suppressed memory) on intellectual grounds. Change: the Cabanis Reform, originally focused on transforming medical education, resulted in profound changes in higher education and the general education systems in France and abroad. Oblivion: Better known today as a late-Enlightenment second-rank materialist philosopher, and as a pioneer medical scientist devoted to theoretical physiology, Georges Cabanis is not even remembered as an educator, and his name is seldom cited in connection to the innovations he pursued and the reforms he led.

As we have seen in chapter 2, the topic of medical teaching was disproportionately present in the proposals for education reform conceived by Mirabeau and Condorcet after the fall of the Ancien Régime—of which Cabanis was more than a mere contributor and an early supporter. Given the huge political capital accumulated by a whole generation of talented physician-philosopher-politicians—Georges Cabanis being one of their leaders and a fully-fledged role-model—the model of medical education proposed by Vicq d'Azyr, Fourcroy, and Cabanis himself (described in chapter 3) inspired and was a catalyst for general reforms in the French education system proposed by Condorcet, Cabanis, Daunou, Fourcroy, and Bonaparte. This can be explained by the prestige and centrality of medicine in bourgeois ideology, as forged by the cultural restoration which followed the revolutionary turmoil of late eighteenth century.

Analyzed in chapters 5 and 6, the set of initiatives I have proposed to name as Cabanis Reform comprised five features: (a) a professionality bias, with official certification of academic degrees as part of an officially regulated health training policy; (b) an organizational model based on faculties, schools, and institutes, thus dismissing the institutional figure of the university; (c) the appropriation of hospitals, which were made available for teaching-learning activities; (d) a rigid curriculum structure, formed by chairs, subjects, matters, disciplines, and contents, guided by disciplinarity as a paradigm and specialization as a horizon; (e) an analytical pedagogy based on clinical practice, with a strong emphasis upon naturalistic observation and practical ability. Despite being proposed specifically for medical training, these key features of the Cabanis Reform laid the foundations for the model of liberal professional training and a new system of education implemented in France, which were formally instituted by the decrees of 1806 and 1808, as seen in chapter 7.

As discussed in chapters 4 and 9, in the very beginning of the nineteenth century, the proposals of Cabanis and his fellow Idéologues were valued, welcomed, and adopted by theoretical and political currents, some of which are still active—despite often being contradictory with each other and with the Cabanisian perspective itself. More than two centuries ago, Cabanis's ideas in many ways did indeed prove revolutionary, yet the Cabanis Reform ended up being conservative, both pedagogically and politically. In a trajectory marked by disconcerting events and rapid developments, Cabanis's thought emerged from a conservative philosophical tradition and evolved into a critical disruptive tone. It is true that our médecin-magistrat opposed revolutionary radicalism, sustained a posture of moderate intellectual criticism, and was well integrated into a process of economic, social, and ideological restoration. However, all of that happened while he was emphatically positioning himself against a totalitarian political order and a conservative social context, praising the new scientific developments and the changing political forces of his times.

As we saw in chapter 9, at the institutional and pedagogical level, the model of higher education generated or inspired by Cabanis's proposals and adopted-adapted by Fourcroy-Bonaparte Reform eventually became paradigmatic in France, where it consolidated in the second half of the nineteenth century. Despite initially aiming at medicine, this reform crossed the gates of the medical faculty, stretched above the restricted scope of higher education in health, went beyond higher education in general into the whole educational system, and effectively redefined the role of the state in public education in nineteenth-century France. And it also surpassed national borders, because the general educational model of post-revolutionary France was, a decade later, partially incorporated in von Humboldt's plan for the elementary and secondary schools in Prussia which, eventually, became a reference for other modernizing education reforms in European countries.

During the entire nineteenth century and the first decades of the twentieth century, models of higher education based on faculties quickly spread throughout the sphere of the powerful French cultural influence, especially to the Mediterranean countries having Latin culture, Romance languages, and Roman Catholic religion, as well as to their former colonies.

Analyzing the diffusion of European-born higher education models outside Europe, Shils and Roberts (2004, p. 179) comment on what happened in Latin America:

> The specific French impress on Latin American universities was to remain strong and very visible until well into the twentieth century; British and North American influences had much less impact, and less still had the German model of the research university.

Let us go back to the hypothesis whose conceptual relevance and heuristic validity are at issue in the present essay: In Brazil, higher education structurally and systemically retains, conserves, follows, reproduces, and promotes the key guiding concepts of the Cabanis Reform.

A panoramic examination shows that this hypothesis is consistent with the historical evidence compiled and presented and discussed in chapter 11, as well as with the arguments developed in the present essay. At this point, we can consider the reform of higher education proposed by Cabanis as indeed an embryo of medical teaching in Brazil (directly influencing ideological patterns of intellectual leaders, institutional structures, and curriculum matrices), suggesting that a similar pattern can apply to other Latin American countries.

Upon a closer look at Brazil's higher education institutions, particularly at the universities, and mainly focusing on medical education, one can verify the effective presence of the Cabanis Reform in the following features: (a) career-aligned education, (b) provided by autonomous institutional units, (c) with linear-progression curriculum; (d) biased towards disciplinarity; (e) interventionist training; (f) oriented by analytical pedagogy; (g) separated by professions; and (h) tending to specialization. By and large, the "empire of the faculties," characterized by autonomous faculties and schools, direct-entry of students into career courses, rigid course curricula taught by *titulares* [full-professors], *lentes* [lecturers] or *catedráticos* [chair-professors], *magister* [master] lectures, and diplomas serving as professional licenses, is still there, often in disguised form.

As also discussed in chapter 11, regarding structural features (a), (b), and (c), with a few exceptions, the higher education system of Brazil is still founded on faculties, diplomas, disciplines, classes, and contents. Offered by faculties and schools, which operate in almost complete isolation within universities, or by independent institutes, undergraduate and graduate courses and training programs are normally specific in scope and separated by professional career.

As for the remaining items, concerning educational matters, we find greater variation in curricula, teaching programs, pedagogical strategies, and disciplinarity-specialty orientation. To approach the direct and indirect influence of the Cabanis Reform in such a rich context of diversity extrapolates the objectives of this essay and, therefore, is an open avenue for further original research. The scope of such a research program should include case-studies to investigate peculiarities, variants, and specificities of such a cultural adaptation. On methodological grounds, this can be achieved through documentary and ethnographic approaches of everyday practices of teaching and learning. This implies

assessing how (in what formats, modalities, types, operations, processes etc.) and why Brazil's model of health education (and, by extension, higher education in general) has become so Cabanisian and Bonapartist, from both a structural and functional point of view.

Having presented the historical trajectory of the agents-in-context, highlighting the case of Brazil (again, chapter 11), might explain how the organic elements of the Cabanis Reform were incorporated into the current structure of higher education in post-colonial Latin America. Indeed, in Brazil, the Cabanis Reform came first, being immediately assimilated in the institutional mimicry observed during the initial organization phases of the faculties of medicine, established by the Regency and consolidated along the Second Empire (Nava, 2003). Furthermore, other direct effects of Cabanisian thought can be seen as philosophical inspiration and clinical reference, particularly in the inaugural theses of the Faculdade de Medicina da Bahia. Additionally, due to their being incorporated into Comte's philosophy, some of Cabanis's ideas therefore influenced the Brazilian higher education regime through the positivism doctrine, which contributed to block, politically, the many proposals for installing universities in the country for the entire nineteenth century (Almeida-Filho, 2019).

Now, let us consider the oblivion factor. By the end of nineteenth century, Georges Cabanis was justly celebrated as one of the leading thinkers of the European continent, as recognized by Lucien Lévy-Bruhl (1899, p. 416) when invited to present French modern philosophy to the Anglo-Saxon scholarly audience: "Cabanis has been widely read, and still deserves to be, were it only for the abundance and the choice of the facts he brought together, the justness of most of his reflections, and the pleasing elegance of his style."

Regarding education, the contributions of Georges Cabanis and his fellow Idéologues have not been properly recognized, notwithstanding the wide reach and transformative power of their proposals and initiatives. For Lecoutre (1996, p. 896), "their name is never mentioned in the histories of the pedagogical doctrines, and they are not distinguished despite the great originality of their words." This might have happened because, having so much to do and so many reform projects to advance, they left no formal treatise systematically setting out their general pedagogical conceptions.

In particular, Cabanis's legacy as a thinker about pedagogical issues and as a reformer of education has been almost totally forgotten, as he is not even mentioned in any major reference about history of education in general. More strikingly, his name is absent from the history of French universities in particular (Brockliss, 1987; Charle & Verger, 1994). The only exception seems to be Antonie Luyendijk-Elshou's analysis of the reform of medicine in nineteenth-century Europe, her contribution to Walter Rüegg's monumental project *A History of the University in Europe* (2004). In that paper, Georges Cabanis is praised, together with Philippe Pinel, for including medical education in the agenda of Idéologie, being responsible for two main changes: "the hospital as a centre for medical teaching" and, more importantly, "the decision to give the medical profession a protected and liberal status" (Luyendijk-Elshou, 2004, pp. 545-546).

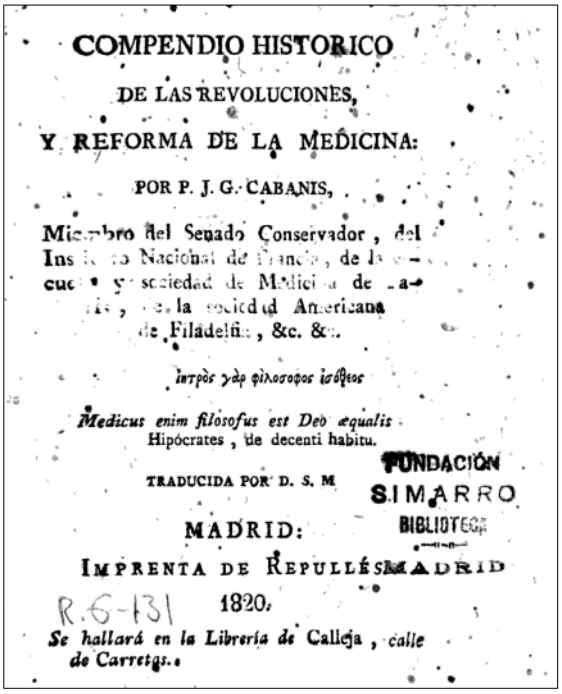
For what reasons have Cabanis's major contributions to education been forgotten, even repressed, and why are they still so thoroughly ignored? Why have the achievements of our médecin-philosophe-pédagogue gone into almost complete historical oblivion?

This profound amnesia may be understood by three complementary explanations, which may result—*in potentia*—in interesting research hypotheses about vectors of ideological historical processes that deserve further investigation. The first of these explanations is internal to the French context, and external in geopolitical terms; the second and third explanations are related to Cabanis's intellectual legacy in academic spheres.

One: Cabanis's writings, as well as the many applications of his thought, were the target for political repression and systematic censorship. As discussed in chapters 4, 8, and 9, the group of Idéologues suffered harsh repression first led by Napoleon Bonaparte during the French Empire, then by the restoration governments that followed. Particularly regarding the sensitive issue of education as a condition for democracy, the overt political repression happened in parallel to an active effort, mainly performed by Fourcroy, towards cleaning up the Cabanis Reform and adjusting its features to the political control of the authoritarian government of Napoleon Bonaparte (1806-1815). Despite its acceptance and applause within liberal intellectual circles, Cabanis's work was persecuted by the restored House of Bourbon (1815-1830) and by the residual Bonapartism of the Second Empire (1852-1870), as well as by the Catholic Church and related conservative religious movements in France and in Mediterranean countries and their colonies overseas.

The first edition in Spanish of the *Coup d'oeil* [*Compendio Histórico de las revoluciones y reforma de la Medicina*], published in 1820, was censored by the Catholic Church, and its distribution and reading were pushed underground for decades. The translator signed using only the initials [D.S.M], certainly to protect himself from residual inquisitorial instances then still active in the Iberian Peninsula. The Italian version of the *Rapports du physique et du moral de l'homme* [*Rapporti del Fisico e del Morale dell'Uomo*], also published in 1820, conceded anonymity to both the translator and the publishing house, and did not reveal the site of publication, probably to escape Vatican censorship.

In Brazil, a Portuguese translation of Cabanis's clinical note *Sur les affections catharrales* was submitted to a *Comissão de Censura* [Commission of Censorship] before being authorized for printing in 1812 or 1816 (Iglesias-Magalhães, 2017). Neves (1999, p. 678) analyzed the official correspondence of the censors and found that they were particularly concerned about works linked to the Enlightenment "school of Baron d'Holbach, Diderot, Helvetius and company (including Cabanis, surely), which challenged the eminently liturgical society, typical of the Old Regime, especially the one in which the Portuguese-Brazilian world was included." Prior to Independence (attained in 1822), during the final years of Brazil as a Portuguese colony, the clergy, the colonial government, its bureaucracy, and the juridical system, all feared the rationalist, secular principles representative of the French revolutionary thought.



COMPENDIO HISTORICO

DE LAS REVOLUCIONES,

Y REFORMA DE LA MEDICINA:

POR P. J. G. CABANIS,

Miembro del Senado Conservador, del Instituto Nacional de Francia, de la Academia y sociedad de Medicina de [illegible], de la sociedad Americana de Filadelfia, &c. &c.

ἰατρὸς γὰρ φιλόσοφος ἰσόθεος

Medicus enim filosofus est Deo æqualis.
Hipócrates, de decenti habitu.

TRADUCIDA POR D. S. M.

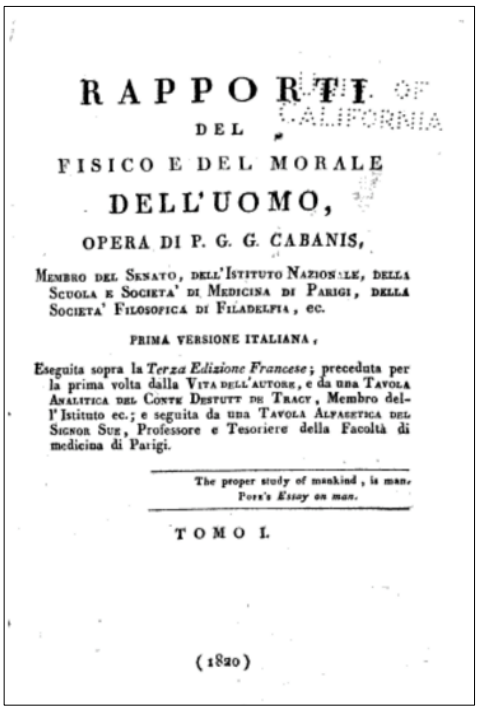
MADRID:

IMPRENTA DE REPULLÉS.

1820.

Se hallará en la Librería de Calleja, calle de Carretas.

Figure 26. Facsimile front page of the first Spanish edition of Cabanis' s *Coup d' Oeil* [*Compendio Histórico de las revoluciones y reforma de la Medicina*]. https://books.google.com.br/books?id=Q_rteWyLqF0C&pg=PP7&lpg=PP7&dq=Compendio-Historico-De-Las-Revoluciones-Y-Reforma-De-La-Medicina&source=bl&ots=rXbn1Tif6H&sig=ACfU3U3ggildsN_GYS1KopcN4D3lQa8t8w&hl=pt-BR&sa=X&ved=2ahUKEwiv7fSbzPrxAhVElJUCHYJ3DmoQ6AEwCnoECAkQAw#v=onepage&q=Compendio-Historico-De-Las-Revoluciones-Y-Reforma-De-La-Medicina&f=false



RAPPORTI

DEL

FISICO E DEL MORALE

DELL'UOMO,

OPERA DI P. G. G. CABANIS,

Membro del Senato, dell'Istituto Nazionale, della Scuola e Societa' di Medicina di Parigi, della Societa' Filosofica di Filadelfia, ec.

PRIMA VERSIONE ITALIANA,

Eseguita sopra la *Terza Edizione Francese*; preceduta per la prima volta dalla Vita dell'autore, e da una Tavola Analitica del Conte Destutt de Tracy, Membro dell'Istituto ec.; e seguita da una Tavola Alfabetica del Signor Sue, Professore e Tesoriere della Facoltà di medicina di Parigi.

The proper study of mankind, is man.
Pope's *Essay on man.*

TOMO I.

(1820)

Figure 27. Facsimile front page of the Italian first edition of the *Rapports du physique et du moral de l' homme* [*Rapporti del Fisico e del Morale dell' Uomo*]. https://books.google.com.br/books/about/Rapporti_del_fisico_e_del_morale_dell_uo.html?id=mly0AAAAIAAJ&redir_esc=y

Two: The importance, pertinence, depth, and timing of Cabanis's physiological and clinical contributions, summed up in the *Rapports du physique et du moral de l'homme*, blinded researchers and prevented them from focusing upon the *Coup d'oeil* and the valuable pedagogical insights and proposals therein contained, eventually missing the opportunity of recognizing Cabanis's role as a leading thinker and education reformer. Indeed, in its original formulation, Cabanis's thought has a peculiar dialectic, which discreetly contains a historical irony that might have determined not only the earlier wide diffusion of his ideas, but also several waves of forgetfulness in the scientific and academic spheres (Hervé, 1905), along the years of formation of the hegemony of Western Eurocentric cultural matrices.

Three: Wilhelm von Humboldt's institutional work as a quasi-minister of education for the Prussian Kingdom, which occurred almost at the same time (and in opposition to) the Bonaparte Reform, as discussed in chapter 9, overshadowed Cabanis's contribution for the renewal of higher education in the post-Enlightenment era. The so-called Humboldt Reform supposedly brought the German universities to a new level, following the model of the University of Berlin, created by von Humboldt in 1810.

In a now famous memorandum, von Humboldt ([1810] 1997) proposed an institutional design for *Höheren Wissenschaftlichen Anstalten* [Higher Scientific Institutions] that became known in history of education as the Humboldtian research university. This new model fostered academic autonomy, defined as freedom for research, teaching, and learning, and was based on the notion of general education (Bildung), with a primacy of scientific training vs. professional training (Anderson, 2004). Instead of the analytical pedagogy typical of the French enlightenment, inherited from Cartesian disciplinarity, the Humboldtian model promoted an organic pedagogy—inspired by Kantian enlightenment thought. The seminar (a learning encounter of graduate students to discuss scholarly papers with a researcher-teacher) was the method of choice for pedagogical activities, and the laboratory the locus for pursuing research-learning integration. Unlike Cabanisian priority to faculties and isolated schools, the Humboldtian model was based on universities as an organizational model, under the idea of the unity of sciences (Hofstetter, 2001).

Despite recent historiographic critical accounts denouncing such a supposedly foolproof narrative as a *post-hoc* political and ideological construction (Paletschek, 2001; Ash, 2006; Morozov, 2016), the visibility and shining of the *Mythos Humboldt* may have eclipsed the contribution of Cabanis for the shaping of higher education in modern societies.

The Cabanis Reform was a sectoral institutional process that, directly and indirectly, resulted in broad and deep changes in the higher education regime, eventually causing a chain-reaction-like restructuring of the French system of education in general. Through a process of accommodation that lasted several decades, this reform seized the seven-century-old institution known as the university and reduced it to a mere connection between symbolically valued and politically empowered independent entities: the faculties. That a topical, local transformation could turn into a widespread rupture, embraced even by movements that at first opposed it, is certainly due to what Foucault (2004) would later refer to as biopolitics, in one of its most powerful regional modalities: medical power (Clavreuil, 1975). This observation is not limited to the situations and historical contexts that followed the French Revolution and its offsprings, in Western countries.

The Flexner reform, another sectoral reform of medical education that happened in North America a century later, was intended to complete the cycle initiated by the Humboldtian reform, but it led to profound renovations in the entire university system worldwide (Almeida-Filho, 2010). Consequently, the emerging research-oriented university became the standard for academic excellence and the main promoter of the economic growth and cultural transformations of industrial capitalism (Readings, 1996). Once again, the centrality of health

care practices regarding the constitution of modern Western societies and their secular institutions is, in some way, highlighted as a historical trend.

In Brazil, the different cases of institutionalization of higher education and medical training, which were influenced by French culture, philosophical schools, and academic traditions, have been the object of social-historical studies which produced valid information and accumulated knowledge. However, such studies await methodical compilation, systematic organization, and contextual analysis regarding dominant educational practices. The question, then, is not whether the model of health training and medical practice in Brazil replicates the French model, but instead to what extent (and in what forms) such structural changes, which were innovative in the early nineteenth century in post-revolutionary France, have become conservative in the education system of Latin American countries in the early 21st century.

In conclusion, from a neo-Foucauldian interpretation, the reform of higher education in post-revolutionary France put forward by Georges Cabanis and his intellectual brothers and followers can be regarded as a political response to the cultural crisis of Enlightenment-era Europe. Therefore, more important than investigating origins and ancient roots (certainly repressed in the official discourse) is to go archeogenealogical. Comparative studies of organizational structures and regulatory frameworks of higher education institutions are recommended for an in-depth assessment of this political-institutional dimension, to generate typologies and topologies that can describe the different formats created by the Cabanis Reform that are still relevant to the university we have today.

Careful analysis of so many anachronisms, inertias, latencies, repressions, and appropriations in the field of education, even more evident in the subset of medical education, can provide better understanding (though limited and partial) of the profound contradictions of the Brazilian university. This will allow us to explore remnants, hidden signs, blurred tracks, and the impact of occurrences that belong to a distant past, producing concrete, live, active elements, in different cultural, geopolitical, and historical contexts, in *Oropa, França, Bahia*.[158]

In contemporary Brazil, Humboldtian traits (vaguely assumed, but widely self-promoted) can be found in a small number of higher education institutions, although restricted to research efforts and post-graduate studies. Fleeting but strong Flexnerian traces are also present in scattered training settings, particularly in initiatives of specialized evidence-based clinical practice. Several isolated experiments pursue innovation for training health professionals,

[158] "Europe, France, Bahia"—this strange topological incongruency comes from old Bahian slave chants, dating back to the early nineteenth century. Poet Ascenso Ferreira (1895-1965), one of the most important voices of Brazilian modernism—whose work was often inspired by popular culture—used this line to honor other modernist poets from the Northeast. Heitor Villa-Lobos (1897-1959), the most famous Brazilian classical composer, inspired by the folk songs he collected in the Reconcavo of Bahia, used this verse in his *Cantilena* (1938) [https://www.youtube.com/watch?v=fZ4qYwXUceA]. Essayist and educator Narcimária Luz recently took it as the ground-breaking clue for her analysis of ethnic-racial relations in the history of the *Escola Normal da Bahia*, from a decolonizing perspective, in dialogue with a neo-Foucauldian archaeogenealogical approach (Luz, 2009).

such as the now popular "problem-based learning," claiming to be part of a supposedly Freirean emancipatory pedagogical approach.[159]

After nearly one century of formal existence, the Brazilian university is still attached to the mindset of the Bonapartist restoration, mediated by the influence of positivism during the First Republic. In several aspects, despite many attempts to shift paradigms in a few pilot institutional experiments, the university has been defined by symbolic authoritarianism in addition to intellectual conservatism, implying a resistance to creativity and fear of new explorations. A cultivated traditionalist bias and the consequential aversion to uncertainty are barely hidden in its latent and denied historical roots, only made visible when these conventional universities reject creative innovation and resist their renewal as a learning institution. All this happens within a regime of higher education that is part of an organic institution, well integrated into today's unfair and unequal economic, social, and political context.

From these roots and throughout its entire history, the Brazilian higher education system has become even more elitist and alienated from the people's needs, in spite of the implementation of social inclusion programs in several public universities during the past decade. As part of our country's social reproduction system, the public university unfortunately acts more as a keeper, if not a promoter, of social inequality.

The private for-profit sector today dominates the current higher education scenario of Brazil (similar to what is happening in other Latin American countries). For this reason, educational demands for social inclusion and for training specialized human resources to promote sustained economic development remain unattended. Slots in better-quality public universities and in courses of greater social prestige were—and still to a great extent, are, despite compensatory affirmative action policies—aimed almost exclusively at a privileged minority. As a result, in Brazil, well-to-do people are trained in public universities that disregard the public character of the state. These social segments (middle and upper classes) are engaged in individualistic family and personal projects, in a predatory relationship with the public institution of education, often perverse. Students from the elite classes relate to the public university as if it were their personal or family private property, the place where they guarantee a professional future as their personal or family project, with no construction of solidarity or feelings of belonging to the university supported by the state.

For the reasons considered in this text, we can conclude that, despite all self-declared good intentions, the university in Brazil has failed its Cabanisian (as in Cabanis's original political project) mission of social justice, cultural integration, political advancement, and human development. Dialectically, because it has reinforced a pattern of elitism, individualism, rigidity, fragmentation, and specialization, Brazil's higher education system remains overtly

[159] Paulo Freire (1921-1997) was a Brazilian pedagogue and thinker considered the founder of critical pedagogy, influencing generations of teachers and intellectuals worldwide. His books *Pedagogy of the Oppressed* (Freire, 1973) and *Education as Practice of Freedom* (Freire, 1972) are considered classic texts of contemporary pedagogical theory.

Cabanisian (and Bonapartist, in its corrupted version) in curricular structure and institutional organization. In-depth, thorough investigation of such contradictory (perhaps unconscious) processes may provide a new *coup d'oeil*, a glimpse into the connections between this elitist and exclusionary university and the ideological, political, and institutional historical forces responsible for reproducing inequalities, privileges, and social inequities in our country. Hopefully, better knowledge of such hidden processes, repressed memories, and perverse effects—their roots and correlations—might eventually enable us to start questioning, challenging, and overcoming the passive complicity and active participation of political groups and institutional agents who have made the Brazilian university what it is today.

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