The Genesis of the Medical Field: France, 1795-1870

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ABSTRACT

What characterized the medical field in France in 1795 as it emerged from the reconstruction of medical and scientific institutions consequent to the abolition of the Ancien Régime was that it had already been differentiated into three distinct spaces constructed around distinct institutions. These spaces respectively produced clinical medicine, social medicine, and what were termed the sciences accessoires (i.e., sciences auxiliary to medicine). The medical field—the product of a set of closely interrelated scientific and social determinants, all concerning the functions assigned to hospitals of producing medical knowledge, training physicians and selecting an elite through a system of competitive examinations—was dominated by hospital physicians in the clinical space. That domination worked to preserve the field’s autonomy, since the spaces of social medicine and auxiliary sciences overlapped those of other fields and developed through the construction of hybrid rather than specifically medical knowledge and practices; i.e., knowledge and practices in those two spaces could be mastered by other professional groups. However, it was through the development of those dominated spaces that medicine was able to extend the variety and types of its own practices and assume an active role in preventing disease, reducing mortality and pushing forward knowledge of life, thereby increasing its authority in French society.

This study originated in an observation I made in connection with sociology of medicine and Pierre Bourdieu’s field theory. Bourdieu constructed his theory on analyses of many, extremely different fields (designer fashion, the fields of science, religion, law, art, academia, politics, the economic field), but he never directly focused on medicine. Moreover, existing studies on the medical field done from his theoretical perspective (including some of my own) have tackled the subject in terms of particular issues: health policy (Pinell 1992; Dargelos 2005; Pierru 2007), mobilizations by patient advocate and other associations (Pollak 1991; Pinell 2002), the construction of specialized spaces (Monet 2005; Guirimand 2005), changes in the composition of the medical elite (Weisz 1988), professional habitus acquisition (Thouvenin

(1) Rather than attempting an exhaustive list, which would make no sense here, I will simply cite some of the texts I have found particularly enlightening: articles on the designer fashion and science fields (Bourdieu and Delsaut 1975; Bourdieu 1976), which I read when still in the process of my own discipline switch to sociology; texts on the political field (Bourdieu 1981, 1984); lastly, Bourdieu’s Collège de France lectures on Manet and the development of a painting field.
2005; Gaubert 2006) and others. These authors apprehended aspects of medical field structure and operation without producing an analysis of the field as a whole; they went no further than to sketch in field features that would meet the needs of their particular research. Limited theoretical construction of this kind is surely related to the complexity of the medical space, which encompasses several activity areas, each itself highly differentiated: hospital medicine, private medical practice, public health, biomedical research, pharmaceutical research and production. The complexity of this particular field—i.e., the one that produces legitimate knowledge of and practices in response to disease and, more broadly, health deterioration—is also discernible in the variety of research topics handled and the reality levels at which those topics are situated: general and specific populations, individuals, organisms, organs, tissues, cells, molecules, but also environmental and behavioral factors, micro-organisms, etc. This in turn explains the pronounced heterogeneity of the types of knowledge and practices produced. To facilitate the exposition, and in reference to Max Weber’s “salvation goods,” I will designate that knowledge and those practices “health goods.” Lastly, the medical field in France is the product of a long history rich in conceptual, practical and institutional changes, changes that are still being updated to varying degrees; it is also characterized by a strong production-space-differentiation dynamic and by increasing interpenetration between it and many other social spaces.

The cumulative effects of the research already done on the medical field have made it possible to flesh out our outline of what an overall or global analysis of that field would be (such an analysis itself being akin to a horizon). But it seems to me that the time has come to tackle the task more directly, to shed a different light on this research object than that afforded by the “medical profession” approach. In an earlier study on nineteenth-century clinical specialization of French medicine (Pinell 2005), I was led to reject the way sociologists of professions handle this question, and to analyze clinical specialty development instead as a process of field expansion through differentiation. I showed that the factors determining the appearance of a new specialty are highly variable and never operate alone, meaning there is no reason to give priority to any one factor; that each emerging specialty constructs its own area of application and encounters its own boundaries as a function of its power relations with other specialties (already in existence or themselves under construction); and that researchers need to study this overall process if they are to get beyond the exclusive frame of clinical medicine. In fact, I demonstrated that to account for the medical field we needed to analyze

(2) Regardless of whether such deterioration concerns duly identified diseases or takes the form of symptoms.

(3) The differences between these levels are more than differences of scale; they pertain to distinct conceptual worlds that we have no reason to think of as harmoniously complementary.

(4) This runs contrary to the credo of most sociologists of professions, who think that service to the given group’s professional interests is the primary determinant of all cases of specialization. For a critique of the argument that professional issues and stakes are the decisive factor in medical specialization, see also Weisz (1994).
relations among clinical space, social medicine and the newly emerging biological medicine—in other words, to take into account the entire field.\(^5\)

This article returns to what I undertook in that study of medical specialization, but here the aim is to analyze the genesis in France of a space I will call “the field of modern medicine.” The research object is justified by the specificity conferred on French medicine by the Revolution episode. In pre-Revolutionary history of the French medical field, two interlinked developments were under way: slow emancipation of medicine from the Church,\(^6\) and firm, steady reinforcement of its ties to the state.\(^7\) Between 1790 and 1794, all Ancien Régime medical institutions were abolished,\(^8\) definitively severing connections between medicine and the clergy: bishops lost their right to control university instruction\(^9\) and religious orders lost their control over French hospitals. Meanwhile, the new legislative conditions that came to frame field reconstruction redefined relations between medicine and the state. The state took over responsibility for organizing training for the main medical profession groups (physicians, pharmacists, midwives) and of certifying that training with diplomas; meanwhile, it granted the uniformly certified agents thus produced the monopoly over legitimate health practices.

The transformation of medicine in France during the Revolution and throughout the nineteenth century has been extensively studied in history of science and social history, and some of those studies are of extremely high quality—we need only think of the writings of Canguilhem, Foucault and Léonard. I have made much use of those works in constructing this analysis. But though sociological construction of medicine as a field is attentive, like those approaches, to the different ways of practicing medicine, it does something they do not; namely, it studies how health goods production is related to the positions of health goods producers, who may or may not be physicians,

\(^5\) The complexity of interdependencies among the different medical spaces could not possibly be grasped by sociologists of professions because their credo gives them no reason to move beyond case studies of the formation of this or that specialty in this or that country. A full overview and analysis of how medical specialties develop is obviously not relevant to them because as they understand it, all such phenomena are explained by one and the same principle. Under such conditions, specialization is merely ubiquitous reiteration of a single story.

\(^6\) On the subject of relations between medical and religious thinking, see Ch. V of Le regard de l’anatomiste (Mandressi 2003).

\(^7\) On the role that the state justice system had physicians play in witch trials involving religious groups, see Foucault (1994a); on the role the royal power had surgeons play to ensure control over childbirthing, see Gelis (1984) and Baud (2001).

\(^8\) From 1790 to 1794 a series of laws was passed abolishing nearly all the institutions that structured the area of health during the Ancien Régime; i.e., the guild-like organization of crafts and professions (“Le Chapelier” law), existing medical schools, surgery and pharmacy collèges, and general hospitals. The status of hospitals for the sick and hospices [“homes” of various sorts] changed when the clergy’s property was confiscated and religious orders banned from those institutions.

\(^9\) The monarchy had never really managed to abolish the pope’s authority over French universities (bishops represented the pontiff). With the exception of Strasbourg, where the university was Protestant, universities were controlled (quite flexibly) by the Catholic Church, and teachers as well as students had to be Catholic. While a few exceptions might be made for Protestants, Jews were forbidden admission (Taton 1986).
and to the structure of relations among those producers. In this way it also enables researchers to get beyond problematics that analyze medicine exclusively in connection with physicians, and to integrate not only medical auxiliaries (without whom medical power would not be what it is; see Abbott 1988) but also all actors—scientists, engineers, religious personnel, state agents, administrators, important public figures—in the field and engaged in ongoing relations of collaboration and/or competition with physicians.

Once we agree to apply the notion of genesis to the field of modern medicine, it makes sense to take 1795—the year the state opened three new “health” schools, thereby initiating reconstruction of the field—as period starting point. The choice of endpoint, unfortunately, can only be somewhat arbitrary. It seemed necessary to me to include early developments in biological medicine; that is, a medical approach aimed at scientifically studying physiopathological mechanisms and disease causes by way of laboratory experimentation. Meanwhile, the breadth and importance of scientific and institutional change under the Third Republic(11) seemed to me to justify choosing 1870 as the period endpoint. I have made use of articles and books by historians, of course, but also a variety of other sources. On the Paris Faculté de Médecine [medical school] in the nineteenth century I used a work by Prévost (1900) that lists all faculty for each chair, i.e., senior professorship, and Françoise Huguet’s 1991 work, which presents basic biographies of all teaching physicians, finding additional information in the Index biographique des membres et des associés de l’Académie de médecine (1985) and biographies of its members, as well as biographies of physicians and savants in various nineteenth- and twentieth-century medical encyclopedias. On social medicine I used the journal Les Annales d’Hygiène Publique et de Médecine Légale; on the pharmacy profession, Le Journal de Pharmacie et des Sciences Accessoires, and on biological medicine, Le volume jubilaire pour le cinquantenaire de la Société de biologie (1899).
A Differentiated Field

The construction of a new medical order began with the creation in 1795 of three public schools for health studies, located in Paris, Montpellier and Strasbourg—a development that definitively unified the professions of physician and surgeon—and a reorganizing of the hospital world that turned the hospital as mere sick house into a place dedicated to medical science, teaching and treatment (Ackerknecht 1986; Foucault 1963). In 1802 the Consulate introduced the internat competitive examination for admission to in-hospital physician training, thereby launching a system for selecting the medical elite, and in 1803 it passed a law defining medicine as a liberal profession and setting the conditions under which it could legally be practiced. In 1820 the Académie Nationale de Médecine was founded, and in 1823 these new measures and institutional arrangements were completed by the creation of a national-level competitive examination, the agrégation de médecine, qualifying candidates (all of whom were necessarily already medical school-certified physicians) to become associate professors of medicine. These reforms were also extended to the pharmacy profession. The law of April 18, 1803, gave the state the monopoly on pharmacist training, modeled organization of it on the medicine triad (in this case: écoles supérieures de pharmacie, hospital pharmacy, the pharmacy trade) and instituted regulation of pharmacist practices and pharmacist-physician relations. The law officially separated medicine-related institutions from pharmacy-related ones while defining the two professional groups’ respective functions, thereby legislatively framing a new division of labor: while each group was to be autonomous in matters of research and training, physicians were (in principle) the only professionals permitted to diagnose and prescribe; pharmacists could do no more than fill physicians’ prescriptions. However, pharmacists were given the monopoly on sale of medicinal remedies, a practice from which physicians were barred.

These institutional changes, which occurred at a time when medical thought and practice were being transformed throughout Europe, soon led to the development of anatomo-clinical medicine. The new medicalization of hospitals created conditions favorable to the affirmation of a new paradigm, in which disease was circumscribed to its specific location in the body; a new clinical approach was then founded on this paradigm. The development of anatomo-clinical medicine in France was thus correlated with the restructuring of medical space into three interlinked institutional areas: public

(12) The three new health schools became "facultés de médecine" in 1808, a training arrangement that was later supplemented by the opening of "secondary" medical schools in large cities and the creation of eight military teaching hospitals (Faure 1995).

(13) In 1815, a competitive internat examination was created for students wishing to become hospital pharmacists.

(14) Articles 32 and 36 of the law of April 18, 1803.

(15) See Foucault (1963). For a critical approach to Foucault in which the birth of anatomo-clinical medicine is viewed from a longer-range, more fully European perspective, see Keel (2001).
hospitals, private medical practice, and medical schools. But the institutional recomposition of the medical field in France also granted space to social medicine, which had appeared in the second half of the eighteenth century (Foucault 1994b; Faure 1997) and differed from clinical medicine in the political nature of its aims and its approach to disease in terms of “populations” (Lécuyer 1986). Chairs in hygiene were created in all three of the new health schools, and hygiene and housing salubrity councils were set up in Paris and later in the main provincial cities. Another discipline created to respond to social demand was forensic medicine [la médecine légale], first taught in Paris as early as 1795. The focus here was of course not disease but providing medical information that would be useful to the police and judiciary in handling criminal cases. Lastly, the emerging medical field developed new relations with the natural sciences, which also started coming into institutional being in 1795. The new health schools taught “medical” physics, chemistry and natural history, as well as pharmacy. The fact that medical schools now had chairs in these “auxiliary sciences” worked to institutionalize the third space, common to the medical and scientific fields, the space that produced knowledge and technical tools that the faculté de médecine deemed useful to medicine and therefore wished to present and transmit to future physicians. In this way, the faculté de médecine, an institution belonging to both the medical and academic fields, was itself (i.e., its chairs or professorships) subdivided into three spaces corresponding to clinical medicine, social medicine and the auxiliary sciences. Each of these academic subspaces is analyzed below in conjunction with its corresponding professional and institutional space.

The Clinical Medicine Space

The new clinical medicine comprised various types of activity, one of which was producing scientific knowledge of disease. That work was conceived as defining morbid entities, describing the lesions associated with them, identifying clinical types and establishing classifications. Clinical scientific practice was founded on post-mortem anatomo-pathological investigation, in vivo symptom observation, and systematic recording of symptom frequency in connection with a given lesion. In anatomo-clinical medicine, the question of disease etiology was not included in the task of defining pathological entities but relegated instead to the world of theoretical speculation (Foucault 1963). In other words, to acquire scientific authority, a clinician had to have contributed to describing and classifying diseases, and he had to win recognition for such contributions. Indeed, the most common way of making a name for oneself was to identify a syndrome or disease or establish a classification which would then bear one’s name.\(^{16}\)

\(^{16}\) A point that posthumous tributes never failed to stress.

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But the activity of producing clinical knowledge on disease could not be dissociated from the entire set of tasks performed for and with sick persons: diagnosis, treatment, follow-up, advice and moral support. The symbolic value attributed to the abilities implied by each of these distinct tasks varied by type of knowledge involved. Diagnosis was the only activity that required applying new scientific knowledge and discoveries—indeed it required the greatest mastery possible of them so as to limit the risk of error. However, being able to apply scientific knowledge meant having a kind of know-how that could only be acquired at the patient’s “bedside” and could only be enriched through experience. To the required mastery of complex techniques involving various senses (touch, hearing, sight, smell) was added what physicians called “the clinical sense”; i.e., mastery of examination procedures and the ability to sort out a complex case and apply clinical reasoning so as to move quickly toward the correct diagnosis.\(^{17}\) But medical authority was not founded to any significant degree on therapeutic ability. The fundamental healing principle at the time was still *vis medicatrix naturae* (the healing powers of nature),\(^{18}\) an understanding widely shared by the elite (Ackerknecht 1986). Disease redefinition and tissue lesion description had no effect on the art of healing. Treatments hardly evolved from what they had been in the preceding period, except on two counts: a method was devised for evaluating therapeutic practices\(^{19}\)—this helped eliminate treatments that did more harm than good (Bollet 1973)—and pharmacists were able to fine-tune the first chemistry-produced medicines. It was only in “la grande chirurgie” [major surgery],\(^{20}\) reserved to a minority of hospital surgeons, that value was attached to therapeutic practices, and this was due to the technical competence those practices required.\(^{21}\) The activities of providing advice and moral support, meanwhile, primarily pertained to private practice.\(^{22}\) They did play an important role in that they worked to limn the moral image of the physician\(^{23}\) and to create a tie between the (paying) patient

\(^{17}\) Though clinicians were not necessarily conscious of the fact, clinical reasoning derives from Bayesian reasoning (Thomas Bayes’ conditional probability theorem was published in 1763); see Grenier (2004).

\(^{18}\) The curable/incurable opposition was a response to the qualitative difference between diseases susceptible to spontaneous healing and diseases that never go away because they prevent *vis medicatrix naturae* from operating. One of many acute remarks on the need to be extremely cautious in applying therapies was made by Louis: “Talent in dissecting naturally leads to perfection in the art of operating, but perfection in surgery consists in abstaining from operating.” (quoted in Vayre 2004).

\(^{19}\) It was in hospitals that the numerical method could actually be applied: statistical evaluation of a given treatment was possible due to high hospital patient numbers.

\(^{20}\) At the time, the term “surgeon” was used only in hospitals and medical schools, though all *faculté de médecine* graduates (*docteurs*) could perform surgical acts (cauterizing, bleeding, delivering babies, reducing fractures) and any *docteur* had the legal right to perform any kind of operation.

\(^{21}\) At a time when there was neither anesthesia or antisepsis, technical competence of the sort required agility, sang-froid, and speed of execution. But it was above all the surgeon’s virtuosity that was valued and touted, rather than the therapeutic effectiveness of his work, for mortality during and after major surgical operations was quite high.

\(^{22}\) These tasks were much more cursory at the hospital and usually fell to auxiliary staff.

\(^{23}\) Biographers always emphasize the “exceptional human qualities” of the “great doctor” they are paying tribute to. These qualities are shown above all to patients, for the same figure may also be described as harsh with co-professionals, irascible with students, even simply a misanthrope.
and his or her practitioner, making it possible for a long-term relationship to develop. These activities implied the use of “relational” abilities of a sort acquired apart from anatomo-clinical medicine. Furthermore, the patient-doctor relationship took on special importance in the dying process. Here doctors had to show they were disposed to perform the “emotional work” of accompanying the dying patient and his or her family. The development of this “accompaniment” function proved important in physicians’ construction of their position in society, and it put them in direct competition with priests (Carol 2004).

The Hospital Sub-Space

Early Revolutionary reform of French hospitals brought about several interrelated changes. Hospitalization conditions improved. Simultaneously, hospitals and hospices specialized in caring for particular populations (women in childbirth, children, the insane, persons with venereal diseases, etc.) were created, a change which amounted to reorganizing hospital space as a whole and helped end the crowding and lack of privacy that had reigned in the larger hospitals. In its new role as scientific anatomo-clinical medicine production pole, the hospital space was also assigned teaching functions. Midwifery schools were set up in maternity hospitals; students there got their initial experience assisting women who had come to deliver—under the supervision of a “chief surgeon-deliverer” (Beauvalet-Boutouyrie 1999). The reform also specified that all medical students were to engage in clinical “bedside” learning, but in fact only a student elite composed of successful internat examination candidates received full practical training of this kind. The internat competitive examination played a fundamental role in structuring the clinical space as it was

(24) More importantly, the need to use these skills in private practice forced the physician to play two distinct games and roles. He had to be both a competent clinician who knew how to practice an applied science whose purpose—determining the disease in question—led him to consider the patient as little more than an objectifiable body or body pieces, yet at other moments during the same consultation to engage in an intersubjective relationship with the patient-client, adjusting his behavior to that client’s social position; lastly, he had to handle the difficulties of mastering both perspectives and shifting from one to the other.

(25) Compared to the strict division of hospital labor described by Strauss et al. (1992), the nineteenth-century private practitioner was truly a “one-man orchestra,” with a great variety of tasks to perform.

(26) Large beds for three or four patients were gradually abandoned and the single-patient bed became general practice (Pastoret 1880).

(27) The demand for in-hospital training sessions far exceeded capacity and such training proved unrealizable; the troops of “ordinary” medical students [i.e., who had not passed the internat] had very little opportunity to observe patient treatment at all before they themselves began to practice (Vergez-Chaignon 2002).

(28) To select the medical elite, the Consulate government chose the “meritocratic” model initially set up to determine admission to the prestigious state engineering schools. A national system of competitive examinations for hospital positions and titles was put in place. The first such examination, called the externat, could be taken by medical students as early as their second year and approximately 40% passed it. This gave as yet strictly limited access to clinical training, but it did allow successful candidates to take the internat, passed by barely 10% of a given
the key reference in the hierarchical ordering of docteurs en médecine [rough equivalent of PhDs in medicine]. Passing the internat examination made one eligible to take the clinicat examination (leading to the title of chef de clinique), the last stage before the médicat des hôpitaux examination, which in turn was what enabled a practitioner to acquire the title of chef de service [rough equivalent of hospital ward director]. This extremely selective series of examinations gave successful candidates the opportunity to accede to symbolically dominant positions in clinical space, which were also the most lucrative. Though hospital physicians were not paid for their in-hospital activity, their reputation enabled them to develop a private clientele among the social elite and earn substantial revenues from that practice. The idea of selecting an elite through a competitive examination that would open the way to hospital positions was also applied to pharmacists, for whom a pharmacy internat was set up, enabling the selected few to pursue careers as hospital pharmacists. In contrast to arrangements in medicine, non-hospital pharmacists could become senior professors in pharmacy, but the internat also came to play an increasingly important role in producing the pharmacist elite. (29)

Attributing these new functions to hospitals polarized the hospital space and accentuated the division of labor in it, in accordance with the overall logic of an opposition between medical-scientific activities and patient assistance. At one pole were “generalist” hospitals (the most prestigious of which had chairs in clinical medicine); at the other, hospices for populations not requiring medical treatment (orphanages, old-age homes); the intermediate positions were occupied by specialized hospitals and homes, the latter for “incurable” and persons with “chronic” disorders. To understand the power relations obtaining between physicians and other hospital agents it is important to take into account how the space was structured, as those relations varied by a given hospital’s position within the space. At the individual hospital level, the reform instated two management bodies—a collective administrative board (le conseil d’administration) and a medical authority: le médecin-chef or chief physician. This meant that chefs de service [hospital ward directors] came to be recognized as the locus of authority at the medical-scientific pole, while at the assistance pole, where medical intervention was marginal, the dominant body was the

(29) Georges Weisz (1988) notes that the proportion of former hospital interns among pharmacist members of the Académie de Médecine rose continuously during the nineteenth century.

(30) When hospitals became legal entities, the matter of organizing and managing them was entrusted to town administrative councils, which in turn were each to name an administrative committee made up of local notables (law of October 7, 1796). The City of Paris constituted a special case, however. To reorganize a space encompassing a great number of hospitals whose overall functioning was deemed chaotic, the Consulate government set up the Conseil Général d’Administration des Hospices Civiles and charged it with managing hospital institutions (law of January 17, 1801) as well as the Secours à Domicile [home assistance] and Bureau des Nourrices [wet-nurse center] (law of April 19, 1801).
This way of structuring the space also affected the occasionally difficult relations between physicians and nuns, who continued to be present in French hospitals. The nuns had dominated the hospital institution up to the Revolution, and they were therefore in the strongest position to contest medical authority. They were still in charge of patient surveillance and treatment organization, and in some cases they also managed hospital supplies and supervised the work of a subaltern, “lay” nursing staff; the physician had no authority with them since the only authority they recognized was that of their religious order, incarnated by their mother superior. The confrontation between nuns and physicians reflects two distinct conceptions of the hospital: for physicians it was a place of science, training and treatment; for the nuns, an establishment whose primary vocation was (charitable) care of the deserving poor. Conflict intensity varied by region and proportion of Catholic physicians. It was greatest in Paris, where the medical-scientific pole was strongest. And at the end of the nineteenth century it led to excluding nuns from Assistance Publique hospitals.

All research on the situation of hospital patients has shown that, in the institutional hierarchy just presented, they were dominated twice over: as patients vis-à-vis the physician and as poor people vis-à-vis the various representatives of the dominant classes (administrative council members, physicians, nuns). But there is another side to relations between the hospital and the poor that does not seem to have attracted the attention of historians or sociologists. The data available on bed numbers (100,000 for all of France in 1788; 200,000 at the end of the nineteenth century) and on how often the issue of insufficient space came up suggest that each year hundreds of thousands of poor persons sought hospital and public home services. This means that the relationship between the French

(31) The medical/administrative power balance in specialized hospitals and homes depended on the degree to which physicians invested themselves, and that investment in turn depended on the clinical interest of patient disorders. Until the mid-nineteenth century patients in old age homes were primarily cared for socially rather than medically. This changed when a clinical approach to diseases of the nervous system began to be developed, as the elderly offered an extremely varied range of cases. As chief physician at La Salpêtrière, Charcot reorganized the hospice, sending the able-bodied elderly to the Vésinet home and keeping only patients with neurological disorders. The medicalized hospice at La Salpêtrière later became a hospital (Pinell 2005).

(32) Nuns were evicted from French hospitals in 1793, then given permission to return by the Chaptal decree of January 1802. After 1815 and throughout the Restoration, they were encouraged to return—in great numbers—to work in hospitals, orphanages and small rural establishments engaging in “education, charity and pharmacy” activities (Léonard 1992).

(33) This explains a propensity to apply admission selection principles founded on Catholic moral values (prostitutes and filles mères [unwed mothers] were turned away), principles that may have worked to preclude an all-medical approach (Léonard 1992).

(34) Admission figures—available for no more than 20 hospitals and homes overseen by the Conseil Général des Hospices de Paris but including all the most important ones—show hospitalization days doubling between 1810 (41,004 admissions), and 1835 (83,837 admissions). That increase corresponds to Paris population growth: 500,000 inhabitants in 1801, one million in 1835. But the data do not include the activities of state charity centers, a number of smaller homes or any establishments not managed by the Conseil des Hospices. They therefore may be taken to indicate that a considerable proportion of poor Parisians turned to the hospital for health care. Complete data on the mentally ill is missing for Bicêtre and La Salpêtrière (Riché and Riquier 2000).
urban poor and modern medicine, which of course could not include private consultation (or only very exceptionally) as the poor could not afford it, was constructed through poor people’s use of the hospital, and that individuals internalized this relationship during the socialization process (particularly if they had been treated in the hospital as children). This situation moves us beyond the classic sociology-of-professions blueprint wherein the development of the medical profession is always to be understood in terms of expert service supply for clientele demand, an analysis that fails to take into account another dimension that is just as essential: the fact that medicine was constructed conjointly on the basis of a non-market relationship between a public institution whose agents derived considerable symbolic benefits from their work with patients and poor hospital users, for whom that institution constituted one of the rare resources available to them for combating illness.

**The Sub-Space of Private Practice (la médecine libérale)**

A Professional Group With Many Fine Hierarchical Divisions

In defining the conditions for legal practice of medicine, the law of 1803 achieved a compromise between acknowledging the right to practice freely and framing health care practices. It required practitioners to satisfactorily complete diploma-certified training and established a distinction between legal and illegal medical practices. However, it did not grant the monopoly on medical practice to *docteurs en médecine* [PhDs in medicine], of whom, in any case, there were too few, but recognized additional practitioners, who were given the title of *officier de santé* (health officer). (35) Their training was shorter and primarily practical. *Officiers de santé* were relatively low-qualified medical agents who could officially perform only “simple” procedures (Léonard 1978). (36) While the *officier de santé* degree only allowed its holder to practice within the département it had been conferred in, (37) the title of *docteur* entitled its holder to practice throughout France with no restrictions other than those implied by the Hippocratic oath. The law recognized the *docteur*’s right to practice therapies of his own choosing without having to reveal either the nature of the treatment or his diagnosis of the disorder, all in the name of professional confidentiality, a genuine cornerstone in the structure of physicians’ rights and duties. (38)

(35) This corps was founded during the post-Revolution wars to compensate for the dearth of physicians.

(36) Faced with a complicated case, they were required to ask a physician for advice.

(37) The *officier de santé* title was conferred after an oral consultation with a *département*-level committee of “recognized” certified physicians (Léonard 1992).

(38) This was therefore entirely unregulated private practice. Peer oversight, which Freidson sees as the foundation of professional autonomy, was introduced in France only much later (creation of the Conseil de l’Ordre des Médecins in 1940).
The division of professionals into docteurs and officiers de santé went together with differentiation within the docteur world, differentiation generated by the internat competitive examination. While a gulf separated “ordinary” physicians from those who could identify themselves as former hospital interns, there were also extremely fine hierarchical divisions among the latter, determined by the value of the hospital and academic titles obtained and the symbolic value of the institutions that had conferred them. In addition to the hospital title hierarchy—interne, chef de clinique, médecin or chirurgien des hôpitaux, professeur agrégé [i.e., docteurs who had passed the national-level agrégation competitive examination for teaching medicine] and professeurs titulaires [permanent senior professors of medicine]39—there was the symbolic hierarchy of cities where the internat examination could be taken and hospital internships done. At the top of that hierarchy was Paris.40

For the period under study, there was a strong correspondence between position in the medical hierarchy, place of practice and clientele’s social status. Officiers de santé treated country people, many of whom paid in kind as they were without financial resources. “Ordinary” docteurs [i.e., with a doctoral degree in medicine but without the experience of a hospital internship, as that was only available to students who had passed the internat competitive examination] treated the urban petty bourgeoisie.41 The medical elite treated the urban upper classes, and the dominant group within the Paris elite treated the families of the country’s rulers.42 In other words, in direct contrast to the hospital situation, relations between physician categories and social classes were homologically organized. The medical hierarchy was reflected in significant income differences (a scale of 1 to 10, according to Darmon 1988) and professional group social heterogeneity, ranging from the petty bourgeoisie fairly close to the working classes (officiers de santé) to the wealthy grande bourgeoisie (the Paris medical elite). Most physicians belonged to what can be defined as a bourgeoisie of local notables (Léonard 1992).43 While the elite made a very fine living, the mid-strata of the profession often

39 It is difficult to obtain precise data on the change in degree of selectiveness that went with each change in official status. Taking off from data assembled by Prévost, we can say that 33 (one-third) of the total of 98 chefs de clinique des hôpitaux de Paris from 1830 to 1880 became professeurs agrégés and 17 (less than 20%) became professeurs titulaires.

40 While a passing score on the internat examination had local value only (it only opened the hospital doors of the given city), the title interne de Paris increased the prestige of a physician setting up in private practice anywhere in the country. On the other hand, being a former interne des hôpitaux in a provincial city only increased a physician’s prestige if he meant to practice in the city he had done his internship in. The second axis accounts for the hierarchy of local elites overall, while the only elite that could be considered national was the Paris elite, precisely because it was composed of physicians from all regions of the country.

41 It was this group that constituted “neighborhood doctors” in major cities.

42 According to available biographical information (Huguet 1991), nine professors at the Paris Faculté de Médecine worked as doctors and surgeons for the Emperor Napoleon and his family; eight served the families of the Restoration monarchs Louis XVIII and Charles X.

43 Position homology between physicians and their clients went together with a degree of social proximity, at least in the upper, middle and petty bourgeois classes. It is reasonable to suppose that during the period studied this social proximity was crucial to physicians’ developing a stable clientele. Taking this factor into account leads to minimizing the importance granted to
had to supplement income from medical activity with marital resources. But it was also through marital strategies that physicians attained and maintained their position as notables, since the marriage tie in turn worked to tie them to the local bourgeoisie.

Medical Ethos, Competitive Struggles and Charlatanism

While granting certified physicians the monopoly on medical practice (and outlawing uncertified practitioners), the law of 1803 outlined the contours of a professional ethos that combined technical skills and a moral sense (Foucault 1963), an ethos of which the medical elite soon became vigilant guardians. The physician was an expert who must use his skill to serve the patient; he must take utmost care not to act in any way that would harm that patient, and he must scrupulously comply with the confidentiality rule (which also applied to answering any inquiries from the public authorities). While his practice deserved fair remuneration, he was to determine his fee on the basis of the patient’s financial possibilities, and it was a physician’s duty to treat the indigent for free. These values—skill together with devotion and personal disinterestedness in relations with the patient client—were of great symbolic importance, as they were what distinguished the practice of medicine from charlatanerie.

In a context where the struggle to acquire a monopoly over the management of health goods meant there were too few certified physicians to meet the population’s needs, the issue of illegal practitioners cannot be analyzed exclusively in terms of competition between socially legitimate professionals and illegals. Of the latter there were many, of various sorts, especially in rural France. In addition to guérisseurs there were all the persons engaged in more or less illegal medicinal drug trading—remedy concocters and sellers, “spice sellers,” herbalists (Faure 1993).(44) In “clerical” regions, members of religious orders also engaged in such practices and were often granted local permission to sell their remedies and to consult with and visit patients, not to mention local priests, a number of whom continued to practice medicine and pharmacy as they had in the Ancien Régime and to deliver their stamp of approval to the many cults around holy healers (Léonard 1978). But were such dealers the real target of the medical elite’s attacks on charlatan incompetence and swindling, given that the physicians in direct competition with what have been presented as physicians’ strategies for convincing their patients of their superiority over any other sort of “healer,” for what were called “healers” (guérisseurs) generally belonged to the lower classes and were in any case too socially remote from the middle and upper ones ever to become their preferred health practitioners.

(44) Denunciation of remedy makers and other “spice sellers” was a recurrent theme and took up much space in texts by pharmacists. Several times a year Le Journal de Pharmacie et de Sciences Accessoires, a scientific journal edited by pharmacists and first published in 1815, related attempts to obtain legal sanctions against such tradespersons, apparently without success. The problem was that medicinal plants have other uses; the dealer had only to cite one of those.
illegal practitioners, i.e., the officiers de santé, were the very ones whose heads the medical elite were demanding? The elite themselves had no competition to fear from illegals (and urban physicians do not seem to have been much affected by that problem). In fact, their preoccupation was to redefine the professional group (i.e., restrict it to docteurs en médecine) and to strengthen its adherence to the dominant value system. The main thrust of the discourse on illegals was to stigmatize all physicians who might tarnish the image of medicine by incompetence or love of gain (Pinell and Steffen 1994). This theme strengthened Malthusian demands to reduce the “medical plethora” through tighter selection at the training level—demands put forward in response to every attempt to lower the intensity of competition among physicians—as it was that “plethora” that was deemed responsible for individual physician excesses and abuses. (45) It was as if protecting the group (its income and image) by limiting internal competition was actually much more important to group members than the notion of a médecine libérale that would fully meet the population’s needs. It was as if letting poor people who could not get hospital care turn to illegal practitioners were a lesser evil.

The Academic Sub-Space

In opening three new health care schools, the French Republic had chosen to limit the number of training establishments in order to promote high-quality guidance and supervision, but in doing so it produced a significant imbalance between the capital and the provinces. The Paris Faculté de Médecine immediately accounted for more than half of all medical students, and this proportion was maintained throughout the century (Darmon 1988), despite the construction of “secondary” medical schools in ten provincial cities. For the most ambitious (and best informed) students, becoming an intern in a Paris hospital was the most efficient way to join the medical elite. (46) That the attractiveness of the capital was largely due to the prestige of its internat reflects the singular nature of the Paris Faculté de Médecine within the French university system: a state institution dominated de facto by a local one. Not only did hospitals select and train the medical elite, they were also the “address” of the most prestigious professorships, called chaires de clinique. Significantly, the distinction between the so-called medicine and surgery theoretical chairs and chaires de clinique corresponds to the medical

(45) This aim was realized to some degree: from 1830 to 1870 medical demography stagnated (Pinell and Steffen 1994).
(46) Over the period studied, Paris Faculté de Médecine professors trained after 1795 were much more likely to come from the provinces (73%) than those who had obtained their doctoral degree during the Ancien Régime (47%). The proportion of Académie de Médecine members was even higher. A sample constructed using the Academy biographical index and made up of 68 members of the Academy’s medicine and surgery sections (academicians who died between 1850 and 1870) showed 50 “provincials” and three foreigners for a mere 15 native Parisians (22%).
school/hospital location difference. The fact is that “theoretical” professorships were “waiting” positions: two-thirds of their holders ultimately obtained a chaire de clinique and there were very few moves in the opposite direction. Lastly, hospital institution domination was manifested in teaching physician recruitment: hospital physicians and surgeons were the only candidates with any chance of passing the agrégation de médecine or agrégation de chirurgie competitive teacher-qualifying examinations, though there was no official text restricting candidates to chefs de service. As products of elitist competitive examination logic, hospital physicians who had become professors of medicine considered their trajectory the only legitimate one, and since they were the ones controlling admission to teaching positions as well as number of chairs and who they went to, they could quite efficiently reproduce their corps’ domination over medical schools. The particularity of the situation in medicine is also reflected in the fact that since the vast majority of teaching physicians were hospital physicians, they were also private physicians (with high incomes) rather than state civil servants like French university teachers. The originality of this has not attracted historians’ attention, though it is one of the rare cases in France where the university as training authority is not controlled by state functionaries. In other words, in this hybrid institution belonging to both the academic and medical fields, the particular social characteristics of clinician-professors worked to anchor state facultés de médecine in the medical field and autonomize it from the academic field. This in turn means, as we shall see further on, that what maintained ties between medical schools and the world of public education (i.e., of “classic” civil servant academics) was the mediation of a few auxiliary science professors.

Analysis of physician-professors’ scientific, institutional and social trajectories enables us to see how these dominant positions were obtained. Accumulating clinical capital implied writing scholarly works, acquiring a

(47) From 1823 at the Paris Faculté de Médecine there were nine clinical practice chairs (four in medicine, four in surgery, one in obstetrics) and between 10 and 12 theoretical chairs. Courses taught either knowledge of the human body (anatomy and physiology before the latter discipline changed its name to experimental science) or knowledge deemed useful either to clinical medicine (two internal pathology chairs and one in therapeutics and “medical matter” [i.e., treatment components]), clinical surgery (two external pathology chairs and one called “operations and apparatuses”) or obstetrics (a chair called “delivery and diseases of parturients and newborns”).

(48) Of the 49 professors who held theoretical chairs from 1795 to 1870, 21 became titulaires of a clinical practice chair while only one teaching clinician left that position.

(49) Clinical medicine’s domination of the academic space in quantitative terms is reflected in the fact that four-fifths of all professor chairs went to clinical practice. Consequently, clinicians had a large majority when it came to decisions that would commit medical schools, such as creating a new chair or appointing a new professor.

(50) Works that enriched semiology, described newly discovered pathological entities, developed new classifications; they might be synthetic overviews or descriptions of new operating methods. Nine of the ten clinical space professors were members of the Académie de Médecine and one in three also belonged to the Académie des Sciences—figures that make clear the medical authority this set of professors had acquired.
reputation as a hospital practitioner (reputation based on diagnostic skill), and possessing authority, as shown by one’s having access to ever higher institutional positions. This last feature brought into play the different varieties of social capital an agent could accumulate; i.e., inherited capital\(^{(51)}\) or the social capital acquired through hospital experience and private practice with a clientele, assuming its members occupied positions in the economic, political and/or social elite. To all this must be added the factor of “chance”: being in the race at a time when positions were opening; having bet on the “right” support, the right “patron” (one whose authority remained intact), and managing to keep that support until one passed the *agrégation* examination or applied for one’s first chair; having the support of the powers-that-be at a critical moment.\(^{(52)}\)

The Space of Social Medicine

**Hygiene**

Defined by the Institut de France as “physiology applied in the administering of life and to the art of preserving health,” hygiene was understood as medicine in the service of society. It was hygiene’s responsibility to fight diseases that could become epidemics.\(^{(53)}\) Intervention type varied by whether the disease was “contagious,” in which case it was understood to be caused by interhuman transmission of a “virus,”\(^{(54)}\) or “infectious,” in which case the body had been penetrated by “miasma.”\(^{(55)}\) Populations contaminated with a contagious disease were quarantined or the population at large was vaccinated (e.g., against smallpox). The battle again infections, on the other hand, involved preventive actions in urban or rural areas to reduce miasma breeding grounds. The only point these actions had in common was that they were decided administratively or politically—i.e., they implied intervention by state or local authorities.

\(^{(51)}\) While professors at the Paris Faculté de Médecine were mostly of mid-level bourgeois background, one-fourth of them came from a family of physicians (usually of provincial origin); this shows the weight of specific cultural inheritance. The 25% figure should be related to the proportion of physicians in the tax-paying population, which at the time was below 5 in 10,000.

\(^{(52)}\) In 1822-1823, the government closed the Paris Faculté de Médecine, ousting overly “Bonapartist” or “Revolutionary” professors and replacing them with physicians favored by the royal court and who were themselves in favor of the new anti-liberal laws. Those physicians were in turn “purged by the regime that emerged from the Revolution of 1830” (Mac Auliffe and Prévost 1902).

\(^{(53)}\) That is, diseases quickly affecting a high number of individuals in the same area (Piquemal 1993: 38).

\(^{(54)}\) At that time and until Pasteur’s discoveries, a virus was defined as “an organic substance, scab, pus or serum, produced by disease and which, when inoculated correctly into a healthy person, reproduced the disease it proceeded out of” (Piquemal 1993: 38).

\(^{(55)}\) Miasmas were invisible particles produced by the decomposition of organic matter; the postulate was that miasma caused infectious diseases. This notion was central to medicine until it was disqualified by Pasteur’s germ theory.
The quarantine measures used had been inherited from Ancien Régime responses to plague; they pertained primarily to ports. The program was to construct special hospitals and lazarettos, to be put under naval and especially police surveillance. The smallpox vaccination campaign, on the other hand, had to be organized at the scale of the country as a whole; social medicine actors had to convince people to get themselves inoculated and enroll high numbers of agents to perform that task. The general aim was to mobilize private physicians, docteurs en médecine and officiers de santé as well as midwives, and put them to work on public health tasks so as to organize partial medical control over the population at large. (56)

The battle against miasma was first and foremost a matter for urban “salubrity” councils. They carried out numerous investigations on slaughterhouses, unhygienic workshops, drains and sewers, open-air market sites, etc., producing reports on all sorts of infections together with recommendations in matters of public health surveillance and equipment (Lécuyer 1986). Those recommendations pertained to economic activities (industry, crafts, businesses), the organization of urban space (sewers, moving cemeteries from town centers to the outskirts, laying out wider avenues to get air circulating), collective institutions (hospitals, prisons, schools) and urban housing. Hygiene institutions developed in accordance with the activities to be practiced in them. In this space physicians were only one professional group among others, though the main one; they collaborated with mathematicians, (57) civil engineers, (58) pharmacists and chemists. (59) Chemists worked to find substances that would disinfect buildings or clean sewers by abrasion, also on the dangers of “pollution” in several industries. Public hygiene institutions were in direct contact with state authorities, the police prefect and high public administration officials.

(56) The problem raised by smallpox vaccinating lay in the difficulty the public authorities had keeping vaccinators committed over the long term, especially since the state was pressuring the départements to keep remuneration for this service as low as possible. This led to a considerable fall in vaccinations: 750,000 persons vaccinated in 1812; 462,000 in 1820; 253,000 in 1830 (see Darmon 1986 and Fuire 1995).

(57) Such as André-Michel Guerry (1802-1866), author of Essai sur la statistique morale de la France, awarded the Prix Montyon de Statistiques in 1832. For the Paris Conseil de Salubrité Guerry established a table of weather variations as related to the diseases for which patients were admitted to Paris hospitals.

(58) Such as Pierre-Simon Girard (1763-1835), who wrote a report on the capital’s canals and the problem of drought in the city with the aim of treating those problems (Biographie Universelle Ancienne et Moderne, Vol. 16; http://fr.wikisource.org.).

(59) Among chemist members of the Conseil de Salubrité were such figures as Jean-Pierre D’Arcet, Jean-Pierre Barruel and Antoine Germain Labarraque. D’Arcet, general commissioner at the mint, did studies of caustic soda and potash, which alloys opened the doors of the Academy of Sciences for him in 1823. Jean-Pierre Barruel (1780-1838), director of the chemistry laboratory at the Paris Faculté de Médecine and member of the Academy of Medicine, produced many reports for the council on poisoning causes and how to preserve for-sale foodstuffs. Labarraque, a pharmacist and chemist, invented a new disinfectant in 1825—l’eau de javel (bleach)—that was used to purify Seine water.
Other types of studies began to be done in connection with reports on city salubrity. Statistics bureaus became a source of data on mortality, birthrates, physical population parameters; these in turn made it possible to study mortality differentials by social class,\(^{(60)}\) studies whose full import became clear during the 1832 cholera epidemic. They showed that residential density by square meter was a better explanation of the comparatively high mortality rate among the poorer classes than classic explanations in terms of climate, weather or industry-caused infection (Delaporte 1990). These findings worked to increase the number of on-site studies exploring the physical and moral living conditions of workers and marginal groups (abandoned children, prostitutes). As in any emerging scientific field, methodological questions were of primary importance (Lécuyer and Brian 2000). The “savant’s” relation to the information he used (Should he produce his own statistical data or could he do secondary analysis on existing data?), how to interact with the “terrain” under study (direct observation or use of informants), the issue of sample construction, what comparison criteria were to be used—all these questions came up for debate. In fact, what was at issue was how to define the scientific legitimacy of social research.

Hygiene-related studies were heterogeneous both in terms of topic and the knowledge and techniques applied in them. Research of this kind implied collaboration among professional groups; it therefore involved combining specific issues,\(^{(61)}\) While what was at issue for each group made sense without taking into account the others, the work of combining those issues presupposed the existence of a shared socio-political purpose; i.e., handling a sanitation problem likely to affect the health of the population at large and therefore a potential trigger of social disorder. The way profession-specific issues and interests were combined varied, of course, by problem to be resolved, but socio-political concerns were always involved. Indeed, they were what unified hygienist studies. But whether or not the measures recommended by the specialists were actually implemented depended on what the public authorities decided, so the success or failure of hygienist aims was ultimately determined at the level of the political field (Murard and Zylberman 1996).

The relations obtaining between the Conseil de Salubrité and the Paris Faculté de Médecine appear paradoxical. Chemistry and pharmacy professors had an active part in those relations, but hygiene professors did not.\(^{(62)}\) As
explained, the hygiene chair was a “waiting” position or compensation for clinicians, and it was not until mid-century that an active hygienist was appointed to the Conseil de Salubrité. (63) The hygiene chair, then, played only a minimal role in structuring the milieu. In 1829, however, a new journal was launched, *Les Annales d’Hygiène Publique et de Médecine Légale*, and this did represent a major event in the structuring of the space, for the journal soon became a hub of professional exchange and publication for anyone in the country interested in hygiene. Bernard-Pierre Lécuyer’s pioneering study (1986) gives a detailed sociology of journal contributors, his aim being to demonstrate the considerable degree to which the medical elites contributed—a conclusion that analysis of the medical field has worked to correct somewhat. While a large proportion of the most active *Annales* hygienists were physicians, there was little overlap with the clinician elite and what overlap there was concerned very specific sectors. Alongside major non-clinician researchers (e.g., Parent-Duchatelet, Villermé and Benoisiston de Chateauneuf) there were some hospital physician contributors, but they were head physicians of homes or institutions for the mentally ill (“aliénés”). (64) The other physician contributors were civil servants working in the navy, army, prisons or cemetery police, or members of a municipal- or département-level conseil de salubrité. Lastly, the academics who wrote for the journal were either pharmacy school, science, or veterinary school teachers. The hospital-based academic elite was absent from the journal, which is consistent with the disinterest in hygiene reflected in their using the hygiene chair as a waiting position.

**Forensic Medicine (la médecine légale)**

Bernard-Pierre Lécuyer clearly demonstrated the political and social aims of the journal’s chief editors and their understanding of social medicine as an applied science in the art of governing. But he left in shadow the journal’s forensic medicine component, despite the fact that *Annales* editor-in-chief Dr Charles Marc, in his introduction to the first issue, offered a clear explanation for the decision to link the two disciplines: though public hygiene and forensic medicine were distinct, it made sense to combine them in the same journal because both responded to demands from the public authorities and magistrates, “who seek the lights of the physician, chemist and physicist every day” (Marc 1829: x). Forensic medicine was well represented on the *Annales* editorial committee; it was the subject of half the journal’s articles.

(63) Apollinaire Bouchardat, a pharmacist (intern, then head pharmacist at the Hôtel-Dieu, a major hospital in central Paris) who later became a physician. Alongside his hygienist activities, Bouchardat did experimental research of the sort promoted by Claude Bernard on relations between glycosuria and diabetes.

(64) Esquirol, Leuret and Pariset, members of the journal’s editorial committee, were head physicians respectively at the Charenton, Bicêtre, and La Salpêtrière homes. Bière de Boismont was head physician at a mental asylum. Bouchat, a physician at the Nantes hospice, and Cazauvieilh, a physician at the Oise hospice, also published studies on aliénés.
Most of these contributors were forensic physicians called upon to present analyses of cadavers in criminal cases and give expert testimony on the psychic states of perpetrators; there were also a few jurist and toxicological chemist contributors.\(^{65}\) The journal promoted scientific exchange, offered a forum for discussion and debate, and worked to construct the figure of the crime specialist as a professional well endowed with academic degrees and scientific capital (Chauvaud 2000). It became an instrument for ensuring the legitimacy of a “médecine des prétoires” [courtroom medicine], legitimacy that had long been on the decline because “practiced under the title of officier de santé by a swarm of ignoramuses” (Marc 1829: xxxiv-xxxv). In fact, in 1828 the discipline was still young. The need to develop it began to be felt when it became clear that judiciary investigation into criminal cases involving violent death required medical examination of the body. In 1795, a combined forensic medecine-history of medicine chair was created, but its successive occupants demonstrated no particular competence in forensic medicine. In 1816 the position was redefined to become a combined forensic medicine-mental medicine chair.\(^{66}\) Mateo Orfila, who taught forensic medicine, was the first genuinely specialized professor, but when the 1823 reform created an autonomous forensic medicine chair, Orfila was transferred to the medical chemistry chair. However, the new position was filled by such recognized pathologists as Nicolas Adelon, later Auguste Tardieu. Forensic medecine professors’ activity in the courts and morgues and in running the Annales turned the Paris chair into an intellectual development pole for the discipline (in direct contrast to what occurred in academic hygiene studies).

The fact that hospital physicians who treated the insane were abundantly published in the journal is a relevant indicator of the hybrid nature of the medical specialty that was beginning to emerge around madness. These physicians’ interest in questions of expert forensic testimony and how society should organize treatment of the mad were responses to demands from the public authorities (Castel 1976), and the specialized space in which they intervened was constructed as a hybrid one in which clinical and social medicine could work conjointly, especially after the law of 1838, which institutionalized asylum medicine and defined and attributed a legal status to mad persons. At the time, département-level mental asylums were performing the two indissociable functions of medically treating mental health problems and policing mad persons (i.e., committing them). The law of 1838 placed

\(^{65}\) Analysis of ten volumes of the journal affords a fairly complete panorama of contributors. Production was dominated by a few figures: Dr Marc; the chemistry professor Orfila and his chemist laboratory director Barruel; Alphonse Devergie, a hospital physician, chef de service at the Hôpital Saint-Louis; also the aliénistes Esquirol, Ferrus and Leuret. The journal translated articles by foreign forensic medicine professors (among them Robert Christinson of Edinburgh) and published private practitioners’ accounts of criminal cases they had testified in. The jurist Collard de Martigny, deputy public prosecutor at the Vosges Court of Assises, was a regular contributor.

\(^{66}\) The chair existed only from 1819 to 1822; the titulaire in mental medicine, Antoine Royer-Collard, was forced into retirement as politically suspect.
asylums under prefect oversight, the prefect being the representative of the state at the local département level. This meant that alongside public hospital institutions for the insane and private medical practice, a third institutional sector was now established, in which the functions of medical treatment, knowledge production and maintenance of the social order were all indissociably combined. Cut off from the rest of medicine in three ways—the specificity of mental disorders (no lesions), the rural location of individual institutions, the gradual assertion of an approach to madness that called for separating the mentally ill from the rest of society—the new asylum sector came to occupy a dominated position within the medical field, particularly disparaged because asylum director physicians were state civil servants without any hospital titles (Pinell 2005).

The “Auxiliary Science” Space

The opening of écoles supérieures for training pharmacists and the creation of “auxiliary science” chairs in French medical schools marked the initial institutionalization of a space that would come to be shared by the medical and scientific fields. The theoretical courses offered at pharmacy schools and in the medical school “auxiliary science” sector were very similar. Through the professors occupying these new chairs, ties began to be established with the corresponding scientific disciplines and the institutions that structured them; e.g., the Muséum d’Histoire Naturelle, the Facultés des Sciences, the École Polytechnique, the École Centrale des Arts et Manufactures, the Collège de France, to cite only the most important. One characteristic of this shared space was extensive circulation of agents among the various institutions. This was likely to begin in the initial training period (agents in this space often trained in two, even three disciplines) and continue throughout agents’ professional careers.

The boundaries of the auxiliary science space were particularly vague and shifting. There were no existing definitions of medical chemistry, medical physics or medical natural history, and nothing in their intrinsic properties provided a clear image of the matters to be studied in those sciences or what questions they were related to. The Academy of Medicine was the primary authority when it came to recognizing a research study as being “of interest to medicine.” It conferred recognition and renown through a series of subtle gradations: awards, distinctions, being elected a “corresponding member” and lastly, being elected a permanent member. As in all hybrid spaces, agents might hold a position temporarily and later move out of the space, as a

(67) Pharmacy schools were much smaller than facultés de médecine; the faculty was limited to a director and three professors, except in Paris, where there were four chairs and a deputy director.
function of how their scientific and institutional trajectory was evolving. Two types of production can be identified: “fundamental” research, which improved understanding of living creatures (and was therefore a potential source of medical progress), and studies likely to have medical applications (such as chemical analysis of a given plant and isolation of its active principle). This distinction corresponded to different positions in auxiliary science space. Auxiliary science professors at the Paris Faculté de Médecine (i.e., 14 of the 18 professors counted for the period 1795-1870) and hospital pharmacists were at the “fundamental” pole, while “applied” pole researchers were likely to be pharmacy school teachers with ties in some cases to industrial production and might even be pharmacists without a university position who had financed their research themselves. It was to this research that clinicians owed an increasing number of their medications—that is, therapeutic materials that required more precise handling than the plants they were extracted from and that, because they were specific to legitimate medicine, helped differentiate physicians’ treatments from those of illegal practitioners.

The auxiliary science space was dominated by Paris Faculté de Médecine professors, several of whom held several different institutional positions simultaneously. These agents’ trajectories were very different from those

(68) This was the case for two “authorities” in chemistry, Michel Eugène Chevreul (1786-1889) and Anselme Payen (1795-1871), whose research won recognition from the Academy of Medicine (and was presented in medical school courses) but whose entire institutional careers unfolded outside the medical field. On Chevreul, considered a founder of glyceride chemistry, see the Wikipedia biography and Marcellin Berthelot’s “Notice historique sur la vie et l’œuvre de Michel Chevreul” (Académie des Sciences), available online at hdelboy.club/Chevreul.htm. On Payen, who discovered the first enzyme (diastase), see the Wikipedia biography.

(69) The four others, a pharmacy professor and three medical physics professors, taught their courses without conducting research in their disciplines.

(70) Such as Joseph Proust and Théophile Pelouze (see Wikipedia biographies), pharmacists at La Salpêtrière, or Jacques Personne (Mehu 1880), pharmacist at the Hôpital de La Pitié, later at La Charité. The first two became members of the Institute, the third of the Académie de Médecine.

(71) Joseph Pelletier, who isolated emetine, strychnine and caffeine, was professor at the Paris École de Pharmacie (Caventou 1842), as was Joseph Bienaimé Caventou; they co-discovered quinine (Bergeron 1899). Both were members of the Académie de Médecine; Pelletier also belonged to the Académie des Sciences.

(72) Pierre Jean Robiquet isolated codeine (Pariset 1840) and Henri Leroux, salicylic acid. Robiquet ran the first factory for producing chemical products for pharmaceutical use; Leroux had his own pharmacy. Both taught in pharmacy schools, Robiquet in Paris, Leroux in Strasbourg. Both were members of the Académie de Médecine.

(73) Claude-Adolphe Nativelle, exemplary figure of the scientist working outside the university, isolated digitaline. He had difficulty gaining recognition for his discovery, but when he did it won him honors from the Académie de Médecine (Chast 1995).

(74) Thirteen of the 14 professors counted from 1795 to 1870 had at least two professor positions outside the Paris Faculté de Médecine; four had at least three. Louis-Nicolas Vauquelin, medical chemistry professor, also taught at the Muséum d’Histoire Naturelle, the École des Mines and Polytechnique; Nicolas Deyeux combined his pharmacy chair with positions as hospital administrator and École Supérieure de Pharmacie professor. Deyeux’s successor Jean-Baptiste Dumas taught chemistry at the École des Arts et Manufactures, which he co-founded; then at the École Centrale (1832-1843). In 1832—the same year he earned his doctorate in medicine—he took over the chemistry chair at the Sorbonne from Gay-Lussac. Dumas was already a renowned
of their clinician colleagues. While clinicians were “products” of the faculté de médecine and hospital internships, auxiliary science professors were graduates of écoles supérieures de pharmacie or the Muséum d’Histoire Naturelle, and/or France’s prestigious engineering schools. They became physicians late in their careers, after attaining institutional positions outside medical school. Their chairs in medicine were added on to previously obtained positions of power, thereby extending their sphere of influence to several disciplinary areas. Moving into a field where authority was based first and foremost on clinical capital, these professionals found themselves at the center of networks linking the Paris Faculté de Médecine to the most prestigious scientific institutions, and this in turn compensated for the fact that, though they were medical professors, they had no hospital titles. The number of professionals concerned was of course very low (four or five, as against 19 to 21 clinicians), and they remained a dominated group within the Paris Faculté de Médecine, but they did manage to control recruitment for chairs in their own disciplines and to ensure compliance with their disciplines’ quality criteria (except perhaps in physics). The “waiting chair” phenomenon was not really operative in the auxiliary sciences, since clinicians found it in their interest to have colleagues who brought strong scientific capital to the medical school. Furthermore, auxiliary science professors were more likely than their clinician colleagues to serve as senior university administrators, and they worked more closely with the ministry of health. It was through auxiliary science professors that the French medical school institution, strongly pulled toward the hospital by clinicians, came to have stronger ties with the university as well.

chemist, member of the Institute and the Académie de Médecine and recognized authority in the academic world when he became a professor at the Faculté de Médecine. The pharmacology professors Eugène Soubeiran and Jules Regnauld, like the hygiene professor Bouchardat, show virtually identical career trajectories: internat in pharmacy, hospital pharmacist, pharmacy school professor, medical studies, professor at the Paris Faculté de Médecine. By contrast, only four of the 62 clinical medicine professors counted taught outside medical school at one time or another in their careers.

(75) Medical chemistry and pharmacy chairs were unquestionably at the center of the densest institutional networks, and they were the ones who ensured connections with the hygiene space, via their participation in the Paris Conseil de Salubrité, and with forensic medicine while Orfila was titulaire of the chemistry chair.

(76) Antoine-François Fourcroy, the first chemistry professor at the Paris medical school, played a key role in the 1795 reform due to his status as Conseiller d’État, as did Jean Antoine Chaptal, a physician and chemist at the Montpellier medical school. On Fourcroy’s and Chaptal’s state advisory roles see Dhombres and Dhombres (1989). Orfila remained in his position 30 years, was elected director of the Paris Faculté in 1830 and thrice reelected. Appointed by Louis-Philippe to the Conseil Royal de l’Instruction Publique, Orfila launched the creation of secondary medical schools. Charles Adolph Wurtz, another chemistry professor, elected head of the Paris Faculté de Médecine in 1866, was also active in making laboratories a permanent feature of medical schools, and combined this activity with his work on the Commission d’Inspection Générale des Lycées. Dumas became inspector-general for science education (Huguet 1991). From what I could determine, seven of the 18 auxiliary science professors counted between 1795 and 1870 also held positions in university administration and secondary education, as opposed to only two of the 72 clinical practice professors.
The Birth of Biological Medicine

The Mutation of Physiology

At the end of the eighteenth century, physiology was still in the grip of the “anatomical prejudice that goes back as far as Galen’s *De usu partium* [On the Usefulness of the Parts of the Body], according to which the mere inspection of an anatomical detail permits the categorical deduction of its function” (Canguilhem 2008: 6). There were strong ties between the two disciplines, and physiology was far from autonomous vis-à-vis anatomy. Research topics and the professional careers and positions of professors at the Paris Faculté de Médecine point to strong interlinkage between the two disciplines, with anatomy “overseeing” physiology. Those professors were all hospital surgeons who had begun their medical school careers as *assistants*, then prosectors; they wrote works in both anatomy and physiology, distinguishing little between the two. Up until the late 1850s, physiology was subordinate to anatomy in French medical schools—at precisely the time that experimental physiology was developing “next door” and asserting the specificity of its research objects and methods.

As in any emerging discipline or research area, the pioneers of new physiology were not a homogeneous group in terms of trajectories and institutional positions, though they were all physicians. The two most outstanding figures, Pierre Flourens and François Magendie, represented two distinct, complementary approaches to experimental physiology, the first close to the natural sciences and species comparisons, the second maintaining ties with clinical medicine and aspiring to push it forward. While Flourens’ trajectory was situated outside the hospital-university world, the beginning of Magendie’s was no different from other Paris academic “physiologists.” But Magendie was in open conflict with the tenured chair, and in 1813 he resigned, thus ending his academic career. His break with the world of Paris medical physiology, which was of course due in some degree to his research...
orientations.\(^{(80)}\) was a crucial moment in his scientific and professional trajectory. His departure from the Faculté de Médecine left him free to explore the implications of an approach that differed greatly from anatomicist physiology. Convinced that it was worthwhile to work with purified active substances, Magendie pulled closer to chemist-pharmacists.\(^{(81)}\) As he saw it, purified substances were not only better therapeutically, but they constituted a more reliable tool than plant medicines for experimenting on animals (Chast 1995). In this activity Magendie was a major innovator, opening new research avenues by combining scalpel work and toxin use in his experiments.\(^{(82)}\) However, he did not break with clinical medicine, and alongside his personal research he began a hospital physician career. The originality of this combined position—hospital physician and recognized scientist—gained him entrance to the Collège de France in 1831, where he took over the chair of medicine. The fact that Magendie was chosen to succeed such outstanding anatomo-clinical medicine figures as Récamier and Laennec says much about the changes under way: the primarily descriptive approach used in anatomy had run its course and, correlatively, the life sciences were on the rise. But in pursuing his objective of founding medical pathology on experimental physiology, Magendie’s categorical empiricism and his rejection of any and all theoretical construction of physiopathic phenomena proved a limitation. His objective was ultimately attained by his disciple and successor in the Collège de France chair of medicine, Claude Bernard. The French medical school system’s recognition of physiology as an autonomous experimental science materialized with the appointment of François Longuet—initially a pupil of Magendie’s, then a collaborator of Flourens’, neither an anatomist nor a hospital physician but a laboratory man—to the chair of physiology in 1858. The way had been laid for this development ten years earlier with the creation of the Société de Biologie.

The Société de Biologie

Making use of the institutional positions they occupied at the Muséum d’Histoire Naturelle and the Collège de France, the pioneers of experimental physiology constructed their discipline by distinguishing themselves from faculté de médecine anatomists on the one hand and various competing

\(^{(80)}\) As an anatomy assistant he had studied the toxic action of plant medicines on the nervous system (including nux vomica, from which strychnine was later extracted) and describing its mechanisms.

\(^{(81)}\) Collaborating with Joseph Pelletier, with whom he discovered and isolated emetine (1817).

\(^{(82)}\) This enabled him to link his name to a major discovery in physiology of the nervous system: in 1821, after confirming Charles Bell’s work on the role of ventral spinal nerve roots in motricity, he brought to light the sensory function of dorsal roots (the Bell-Magendie law).
approaches based on theoretical speculation on the other. But their conception of the discipline, its methods and techniques was strongly marked by the particular "objects" of their own research studies: namely, physiology of nerves and study of the neurovegetative system controlling respiratory, digestive and circulatory functions. Meanwhile, other means of approaching physiological phenomena came into existence due to the invention and improvement of microscope observation techniques. Elsewhere, research into life organization at the cellular level began to develop through studies on plants, animals and single-cell organisms.

In this context, marked by both further development of the auxiliary sciences and the new development of experimental physiology, by studies of cellular organization and clinicians’ increased interest in those approaches, the 1848 founding of the Société de Biologie worked to bring men and disciplines closer. On the initiative of its first president, Pierre Rayer, chief de service at the Hôpital de

(83) It is reasonable to interpret the contentious exchanges between Magendie and Broussais and between Flourens and Gall as struggles to determine whose definition of physiology would be the legitimate one. While Magendie and Broussais agreed that medicine founded on physiology should resolve questions of causation left unanswered by the anatomoclinical approach, they disagreed on what physiology and physiopathology themselves should be. Magendie wished to construct experimental science step by step on a solid foundation of empirical studies, whereas Broussais’ "physiological medicine" was a theoretical system that paid no attention to facts—for which Magendie vehemently dismissed it. Meanwhile Flourens, in critiquing Gall’s phrenology, was attacking a theory based on what was understood to be the anatomical logic of correspondences between brain zones (objectified in skull shapes) and specific mental functions. Through laboratory studies describing the effects of experimentally induced brain lesions on the behavior of rabbits, Flourens invalidated the results of Gall’s theory.

(84) As Canguilhem pointed out, the central position occupied by the nervous system in Claude Bernard’s thinking—he saw nervous system disorders as the main causal category of disease—prevented him from understanding or accepting either Rudolf Wirschow’s cell theory or Pasteur’s bacteriology (Canguilhem 1989).

(85) That is, when experimentalists did not vehemently criticize their use, as Magendie did for revealing mere "artefacts."

(86) René Henri Dutrochet’s studies led him to outline a cell theory, then to describe osmosis phenomena; Alfred Donné’s studies of the cellular composition of blood led him to microscopic study of fatty tissue cells and the protist responsible for trichomoniasis (trichomonas vaginalis). Dutrochet (1776–1847), a physician from a noble émigré family, conducted research in the family home, outside of any institution, while maintaining scientific contact with the Académie des Sciences (to which he was elected in 1828) and the Muséum d’Histoire Naturelle (Achard 1935). Donné (1801–1876), chef de clinique at the Hôpital de la Charité, taught microscopy to select groups of trainees. After failing the competitive agrégation examination several times, he was appointed honorary professor of microscopy at the Paris Faculté de Médecine (Degos 1995).

(87) The idea of the society’s founders (two young surgeons and the naturalist Charles Robin) was to hold regular meetings in Paris "where all physicists, chemists, naturalists and physicians interested in life phenomena could come and mutually enlighten each other on such phenomena" (quoted in “Société de Biologie, repères chronologiques,” Archives of the Institut Pasteur, www.pasteur.fr/infosci/archives).

(88) Rayer was already an experienced clinician when he agreed to serve as president of the Société de Biologie. Though as a Protestant he had been prohibited from taking the agrégation examination, he nonetheless became a member of the Académie de Médecine (1823), then of the Académie des Sciences (1843), and he was Louis-Philippe’s personal physician. In addition to his clinical work, Rayer conducted research on livestock diseases, and in 1850, working with his externe Casimir Davaine, he managed to identify the presence of a specific micro-organism, bacillus anthracis, in sheep with anthrax disease. Rayer later became the personal physician of Napoleon the III, who then appointed him professor of medicine; he used the full weight of his influence to have a histology chair created for Charles Robin at the Faculté de Médecine (Rogé 1867).
la Charité, and Charles Robin, an agrégé in natural history, the Society set out to offer agents belonging to different spaces in the medical field a single structure in which to exchange ideas and results. A study of Society members from 1848 to 1870 provides sufficient material to sketch the matrix of biological medicine, as the information allows for identifying the various groups involved in the rapprochement between medicine and the life sciences. Nearly half of Society members (57 of 120) held important positions either in the major life sciences institutions or the hospital-university pole of the clinical sub-space. The 31 members of the life sciences group were either physicians (17) or non-physicians (14) and belonged to a wide range of institutions: Faculté de Médecine, Collège de France, Muséum d’Histoire Naturelle, École de Pharmacie or university science departments. All 27 members of the hospital-university group were hospital clinicians (five of them surgeons), 19 of whom were or would be Paris Faculté de Médecine professors. Most of the hospital clinicians (19 of 26) joined the Société de Biologie at the start of their career, during or just after their internat; specifically, those who occupied the most visible positions after 1870: Charcot, Vulpian, Broca and Bouchard. While Society membership composition suggests clinicians’ increasing interest in the life sciences and laboratory research, it just as clearly shows that this interest was to be found first and foremost in a generation whose members were seeking academic positions. Joining the Société de Biologie meant positioning oneself as a physician open to the life sciences and experimental research and concerned to regenerate clinical practice, which was declining due to overly strict adherence to anatomo-clinical precepts.

But the two groups did not contribute equally to the scientific research presented at the Society and published in its journal. Clinicians seldom contributed; most lectures and articles came from “scientific” members. The figure of Claude Bernard, society vice-president, stands out. Bernard published numerous articles, including what became his renowned epistemological and programmatic text, L’introduction à l’étude de la médecine expérimentale (1865). The experimental medicine that Bernard presented himself as founding was, he explained, the third and last stage of an evolutionary process in which medicine, having escaped the clutches of “magic” thinking, would now be able to move beyond what it was at present—a combination of descriptive science and empirical approaches to therapy—and become an “applied” branch of the life sciences (Bernard

(89) Study based on a list of society members from its founding through December 31, 1899, included in its 50th-anniversary volume (1899). I counted all members who had joined before 1871 and identified the institutional trajectory of each hospital clinician from time of joining to the year 1870.

(90) No institutional membership was detected for the remaining 63 members.

(91) In this group we find Dumas, Moquin-Tandon, and Richard, all auxiliary science professors at the Paris Faculté de Médecine; Magendie, Claude Bernard, and Brown-Sequard (the last-named succeeded Bernard in the experimental medicine chair); Balbiani, Marcellin Berthelot, Ranvier and Marey, all professors or future professors at the Collège de France; Becquerel, Chevreul, Duménil, Geoffroy Saint-Hilaire, Flourens, Serres, Bouley, Gréhalf, and Valenciennes, professors at the Muséum; Chatin and Milne-Edwards, professors at the École de Pharmacie.
Bernard’s 1867 appointment as Society director amounted to that body’s recognition of the intellectual supremacy of experimental medicine. But experimental medicine was a program whose institutional conditions of possibility were far from having been met. The approach Bernard recommended of moving back and forth between the research laboratory and the clinical hospital ward presupposed inter-institutional arrangements and operations that proved difficult to put in place given the structure of the medical field. Indeed, at the time that structure was developed, the aim of relations between the hospital space of clinical practice and the auxiliary science space was to improve knowledge of life and therapeutic instruments, not to interfere with clinical definitions of disease. The aim of experimental medicine, on the other hand, was to attribute to the life sciences—first among them physiology—a dominant conceptual role in redefining pathology, and thereby to reconfigure relations between the two spaces. For the generations that were to become the post-1870 clinician elite, the Collège de France professor Claude Bernard was a major scientific reference (a near-mandatory one), but this recognition obviously did not imply recognizing clinical practice to be subordinate to laboratory work. The enthusiasm of the tributes paid to the great scientist (like that of tributes later paid to Pasteur) was directly related to the fact that he had remained a figure outside the hospital-university world; it had little effect on experimentalists’ place in what remained dominant medical institutions. While Bernard’s rise to the top was a means for young hospital-physician professors to assert themselves—a means of making their immediate elders in positions of power appear “old-fashioned”—it did not affect, or if so only marginally, the social gulf between the academic-clinical elite and experimentalists (often physicians themselves) working in university or hospital laboratories. The Société de Biologie was indeed the “womb” of French biological medicine in that it fostered hospital clinicians’ acclimation to the life sciences, but it was not the only one. Contrary to Bernard’s hopes, the radical changes of the post-1870 period proceeded less out of experimental medicine than the further elaboration of a scientific approach used by a chemist specialized in crystallography—Louis Pasteur. Facilitated by the existence of the Société de Biologie, positive medical reception of Pasteurism was what ultimately cleared the way for the rise of biological medicine.

(92) Bernard himself was never able to apply his approach because, in contrast to Magendie, he had no hospital position and always remained a laboratory man.

(93) For an analysis of the obstacles to collaboration between hospital clinicians and laboratory physicians as related to the structure of the field, see Pinell (1992).

(94) See George Canguilhem’s brilliant analysis (1989) of the path leading Pasteur from his discovery of the specificity of organic crystal molecules to his rejection of the theory of spontaneous generation, then to his discovery of germs and their role in infectious disease.
My aim here has been to contribute to sociohistorical analysis of the process by which the field of modern medicine was constructed in France. My focus is the genesis of that field, its structuring into three interdependent spaces, and I have analyzed the emergence of biological medicine as the initial rearranging of those spaces. The structuring of the field into three interdependent spaces is crucial to understanding the relations that came to develop between this new field and neighboring social spaces. It was in clinical medicine that the most autonomous of “health goods” was produced, both because its way of characterizing diseases was strictly *medical* (it did not borrow from any other area of knowledge) and because the state recognized clinical medicine’s characterizations of disease as the only legitimate ones, thereby granting physicians the monopoly on legitimate medical practice. (95) However, that autonomy was only relative since, by way of the university, the state was in charge of training physicians and conferring the degrees required to practice medicine. But though the state fixed the rules of the game and controlled instruction, it did not intervene in knowledge content. Moreover—and the French case is interesting on this point—the creation of a training program for the elite outside state medical schools but within the hospital—the *internat, clinicalet, médicat* system—generated a paradoxical situation where the institution ultimately came to be headed by agents whose power derived from titles and professional positions acquired outside the university. This singular situation, which reinforced the autonomy of the clinical space, at first facilitated the rise of French medicine by putting the professional (hospital) group that was renewing the conceptualization of disease in a dominant position. But it became a problem when anatomo-clinical knowledge began to show its limitations and a new approach, involving a *rapprochement* with biology, began to emerge. To account sociologically for the genesis of biological medicine in France, it is necessary to analyze relations between clinical medicine and what I have called the space of the auxiliary sciences. The relations between medicine, pharmacy, chemistry, physics and the natural sciences that developed primarily within this hybrid space were decisive on several levels. On the one hand, it was in that space, through relations among agents who were not all physicians, that all knowledge and know-how auxiliary to medicine (medically relevant) was defined. On the other hand, the fact that the hybrid nature of this space was incarnated in auxiliary science professors working in medical schools (that is, through the academic trajectories of that set of agents) and that those professors each occupied several positions of power in the academic field, worked to render *it* autonomous vis-à-vis clinical medicine. This meant that even though the hospital elite dominated clinical work and the *faculté de médecine* institution (together with the Académie de Médecine) and therefore dominated the medical field as a whole, the balance of power within auxiliary science space prevented that elite from imposing its definition of what was relevant for medicine.

(95) The state reserved certain practices for physicians only (clinical examinations, diagnosis, implementing a therapy strategy) while granting them exclusive supervision of work performed by auxiliaries (midwives, nurses, pharmacists).
medicine on producers in the other sciences. The paradoxical autonomy of the auxiliary science space created favorable conditions for the development of experimental physiology, a discipline whose role would prove decisive in the creation and establishment of biological medicine. In return, the mediation of relations between clinicians and “experimentalists” that the existence of two distinct spaces gave rise to meant that attending Société de Biologie meetings and presentations was a way for young hospital clinicians to acquire training and “biological culture” of a sort that then distinguished them from the dominants in place in their professional space. The use of such “outsider” strategies in the generational struggle (Bourdieu 1976) made it possible for the hospital clinician milieu to acclimate itself to a biological medicine approach, thereby counteracting the danger of intellectual conservatism inherent in a virtually flawless elite-reproduction mechanism.

The space of social medicine was likewise hybrid. There the production of health goods depended on collaboration between physicians and other professional groups, but its specificity lay in its raison d’être, which was to respond to state demands. Though clinical medicine fulfilled social functions by taking charge of the sick and making treatment available to the poorest segments of the population in the form of hospital care, those functions in no way affected its autonomy, precisely because it was in fulfilling those social functions that clinical medicine constructed its specific area of competence. However, the disciplines of hygiene, forensic medicine, and treatment of the mentally ill had to adjust their production to state demands—i.e., to protect populations from epidemics, advise judiciary decision-makers on the basis of scientific knowledge, define the place of mad persons in society—as this is what they had been created to do. And yet the very development of a space structured by the institutions specific to these distinct disciplines and organized around a journal created a framework in which the initial state demands could be translated into relevant medical questions, and this in turn enabled those disciplines to maintain some degree of autonomy from the public authorities. However, that autonomy was in turn limited by the fact that since state demands were in all cases informed by social norms and values developed outside of medical reasoning, social medicine approaches to helping “administer society” necessarily integrated those social norms and

(96) It would be interesting to compare this with the much more recent introduction of another category of “auxiliary sciences” into medical training—i.e., the human and social sciences. In the near-total absence of agents incarnating the space’s hybrid nature (i.e., combining academic positions in human and social sciences with medical training and experience), France’s teaching hospital clinicians have taken control of training in numerous teaching hospitals. It is they who choose what subjects will be taught and who will teach them; some have even attributed the status of science to their “personal reflections.”

(97) However, domination of the field by hospital clinicians who were spending a considerable part of their time outside the hospital treating private patients proved an obstacle to the development of connections between hospital medicine and laboratory research (Jamous 1967; Pinell 1992).

(98) For example, by conceptualizing the state demand to combat epidemics within the framework of existing medical theories, hygienists were the ones to define the risk factors (e.g., miasma breeding grounds or human living conditions) whose effects had to be controlled, and to determine measures to this end—measures that the public authorities could then adopt (fully, partially) or reject.
values. (99) Relations between the spaces of social and clinical medicine were different from social medicine’s relations with the auxiliary sciences. Ties with the latter were strong; numerous chemists and pharmacists intervened in matters of hygiene and forensic medicine. With clinical medicine, relations were complex. On the one hand, medical treatment of mental illness was constructed as a hybrid specialty combining clinical and social medicine, but the effect of this was to marginalize (and devalue) the mental asylum sector to a particularly high degree. On the other hand, hospital-university physicians were more interested in forensic medicine than hygiene, as the skills required for it were closer to the ones they themselves used; (100) hygiene’s concerns and methods remained alien to them. (101) But while hygiene was (and continued to be) a relatively negligible discipline in the eyes of the elite, it was also an important component of the activity of private physicians, especially in small and mid-sized cities (vaccination, epidemic surveillance), and this in turn strengthened those physicians’ social role and their position as notables (Léonard 1992).

The approach applied here has made it possible to account for the complexity of the social processes through which the field of modern medicine was constructed in France, how its areas of intervention came to be distinguished from each other, how it integrated new approaches to disease and how its structure could evolve while continuing to reproduce domination by the hospital clinician elite. The issue of relations between a professional group and its clientele, its competitors and the state, an issue at the core of sociology of the medical profession, is not absent from this study but it is not central, as it represents only one component in analysis of the field construction process. Lastly, this analysis seems to me to render highly debatable Freidson’s claim (1984) that the late nineteenth century was the moment in which medicine underwent its most radical transformation—becoming a consultation profession—and that the content of that transformation was improvement in disease therapies. I will leave aside his unfounded affirmation that treatments became significantly more effective in the late nineteenth century (the mid-twentieth would be a more accurate date) (102) and his at very least simplistic vision of

(99) Beyond the case of mental health medicine, whose ideological dimension has often been pointed out, this tendency to integrate dominant social norms and values is quite visible in studies by Villermé on the dangers of overcrowding in slums: slums were understood as both miasma breeding grounds and a factor that “depraved” the poor, that depravity in turn understood to be a cause of physical weakness (Delaporte 1990). It should also be pointed out that when expert witnesses were called upon to answer questions of criminal responsibility, they did so as if the notion of responsibility made medical sense—an understanding whose validity is far from clear.

(100) Any clinician might be called upon to testify in a legal case, and had to be able to mobilize his knowledge of anatomical pathology as well as a clinical ability to explain injuries or poisoning.

(101) A symptom of clinicians’ lack of interest in hygiene is that they long used the hygiene chair as a waiting position.

(102) Mastery of anaesthesia and the introduction of antisepsis and asepsis did bring about a “revolution” in surgery in the late nineteenth century (Pinell 2005; Rabier 2004), but the impact of Pasteurism on medical treatment itself was much less powerful. Infection-caused mortality did decrease during the first half of the nineteenth century, but this was due to a complex interweaving of many factors (improved living conditions, progress in hygiene, the impact of anti-tuberculosis measures), not to any general new therapeutic effectiveness, as that only became manifest with the invention of antibiotics.
“the physician of yesterday” (working before the supposed improvement in therapeutic treatments), and move to the heart of the matter: Freidson’s entire line of argument is based on “understanding that physicians (like traditional healers) had always been primarily seen as healers (professionals of healing).” This characterization is contradicted by the analysis offered here of clinical capital and the (limited) place allotted to treatment. Conceiving of doctors as “professionals of healing” makes no sense for the French medical field in the nineteenth century, where, on one hand, a physician acquired reputation on the basis of scientific competence and diagnostic skill as well as on the “human qualities” used to relieve and comfort suffering patients and accompany the dying, and, on the other, he acquired social power at the local level through hygiene-related interventions. And though therapeutic skill has obviously assumed much greater importance today, the relevant question is how the new issues and interests that arose in connection with improved medical treatment worked to modify the structure of the field and the composition of medical capital.

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(103) When Freidson draws a parallel between the doctor of “yesterday’s medicine” and a Zande witch doctor, explaining that both tried to impress clients in the same ways (esoteric language, curious dress), he seems not to see the abyss separating Diafoirus (though we tend to forget it, this character in Molière’s Le malade imaginaire was a caricature meant to amuse the royal court) from nineteenth-century physicians.


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