

Medicine and the Spanish *Novator* Movement: Ancients vs. Moderns, and Beyond

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«However much they say that Medicine is much despised in Spain,
I believe that it is quite the same in that country as in all the others,
And that learned men may be found everywhere, as well as others who are not».
(GUILLAUME DESNOUES, 1706)

THE MAIN PURPOSE OF THIS PAPER is to synthesize and assess recent research on the development of medical knowledge and practices in the reign of Charles II of Austria (1665-1700) and the first part of that of his successor, Philip V of Bourbon (1700-1724). In doing so, we shall provide an outline of the state of research on the question. At the same time, we also intend to raise questions that still remain to be studied as well as to look at possible upcoming developments in this area of research. The latter aim can only be accomplished by reversing a four-decade-old, broad interpretative scheme that, in our opinion, needs reassessment in a way that enables it to answer new questions articulated in light of recent historiography and research.

As is widely known, presently the hegemonic account of history of science in Spain during the period upon which we are focusing essentially stems from the one developed by José María López Piñero in the 1960s and 1970s. His excellent knowledge of the most innovative, worldwide historiographic approaches of the time, the solid empirical grounds that he built his work upon, and the seductiveness of an intelligent and efficient exposition allowed, for the first time, a convincing basis for a new interpretation of the history of science in early modern Spain. Beginning with López Piñero's work, the history of Spanish science finally seemed to move away from the barren situation brought about by the prolongation, during the first decades of Franco's regime, of the so-called «controversy on Spanish science» (*polémica de la ciencia española*) and its characteristically old-fashioned historical reminiscences, of little interest to those who were beginning to connect with the international historiographic trends of the 1960s.¹ Traditional categories and commonplaces were banished within this new account, such as Spain's cultural «tibetization» following the Renaissance splendour, the imperial

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¹ Nieto-Galán (1999). pp. 73-94.

decline and its linked tale of artistic and intellectual waning at the end of the XVII century, as well as the supposed scientific rebirth during the Enlightenment thanks to the French influence and the efforts of the enlightened people, preceded by the solitary figure of Father Feijoo combating obscurantism and superstition.

López Piñero's interpretation² was directly tied to contemporary international historiographical trends, and the Scientific Revolution of the seventeenth century played a central role in that analysis.³ The fruitful debates of the day, situated within a diffusionist perspective, revolved around chronological and disciplinary clarifications. Without questioning the reality of the Scientific Revolution, arguments focused on its underpinnings, significance and consequences, or about the causes explaining its emergence in some countries and its failure in others. Thus, López Piñero's account convincingly and coherently explained how, after a period of «collapse and decadence», which ruined, within three or four decades, the «advanced position achieved by Spanish science during the XVI century», the «*novator* movement», emerging in the last third of the XVII century, attempted «to overcome the Spanish absence from the starting point of the Scientific Revolution» and intended to connect with «modern European science» through the launching of a «renovation programme» which «denounced the causes of the backwardness» and suggested measures to solve it. Although most of the proposals were not carried out, due to resistance from the institutional, academic and clerical environment, the «*novator* movement» was undoubtedly the first attempt towards the scientific renovation and modernization of the country and reopened «the scientific communication with Europe» that had been interrupted since the imposition of the counter-reformist measures of the last decades of the sixteenth century.

This reading allowed many other historians of Spanish medicine and science to find convincing interpretative schemes and to propose other new and enriching contributions.⁴ Moreover, it held the undeniable appeal of being in tune with opinion trends –dominant inside and outside the strictly academic milieu– which were particularly disapproving of the Franco regime's meager official culture, concerned about the country's huge democratic short-

² He began to suggest it in: López Piñero (1962). Then it matured with the publication of: López Piñero (1969); and it ended up prevailing, inside and outside the discipline, ten years later, with the coming out of: López Piñero. (1979).

³ The detailed historiographic study: Cohen (1994), frees us from providing more references. On the other hand, in his definitive exposition of the subject, López Piñero (1979), p. 470, was critical with respect to the «traditional image» that was represented, in his view, by, among others, Hall's and Kuhn's books, and echoed the «deep crisis» experimented by the model of the Scientific Revolution they were defending, referring the reader to «the debate this problem has caused, through his collection: (1962–)». A decade later, he put forward, together with Víctor Navarro and Eugenio Portela, a synthesis of his then own viewpoint: López Piñero; Navarro; Portela (1989). Yet, as it is well-known, the debate did not stop there. For its continuation in the nineties, it is essential to start from the plurality of proposals included in the volume: Lindberg; Westman (eds.) (1990); up to the appealing synthesis: Shapin, S. (1996); and the studies compiled in: Osler (ed.) (2000). A recent proposal on the validity of the concept of «Scientific Revolution» can be found in: Findlen (2005).

⁴ Navarro (1985). Barona (1993). López Pérez; Rey Bueno. (2001), pp. 279-346.

ages, and committed to a collective endeavour of «connection with Europe» as the only hope to put an end to the enormous deficiencies the Spanish situation exhibited in almost all social and cultural contexts. Consequently, it also managed to raise support from other fields of the history of ideas and cultural history as they were then carried out within the community of both Spanish historians and foreign hispanists.⁵ In fact, the best proof of the impact and fruitfulness of López Piñero's narrative is perhaps the fact that historians of literature, philosophy, law or culture in general resorted for the first time to schemes, concepts, labels and descriptions coming from the historical-medical and historical-scientific fields. And they have continued to do so to the present day with a certain degree of confidence, contributing numerous clarifications and far from negligible results.⁶

In his works on the introduction of modern science and medicine in Spain, López Piñero endeavoured to establish, against the thesis of Marañón and the supporters of a rigid secular and dynastic periodization,⁷ that the scientific renovation did not start with Feijoo's work or with the Bourbons' arrival. Instead, López Piñero placed its origins in the last decades of the seventeenth century, when a group of physicians, mathematicians and natural philosophers known at the time by the contemptuous label of *novatores*, openly broke away from traditional ideas and chose, from the explicit consciousness of Spain's scientific backwardness, to join the modernity movement

⁵ There is abundant evidence of the assimilation López Piñero's interpretative scheme by historians from other disciplines. An excellent sample may be found in the special issue, dedicated to *novatores: Studia Historica. Historia Moderna*, 14 (1995), including the following articles: Antonio Mestre, *Crítica y apología en la historiografía de los novatores*, pp. 45-62; Mariano Peset y Pascual Marzal, *Humanismo jurídico tardío en Salamanca*, pp. 63-83. Pedro Álvarez de Miranda, *La época de los novatores, desde la historia de la lengua*, pp. 85-94, and François López, *Los novatores en la Europa de los sabios*, pp. 95-111.

⁶ Enriching contributions can be found in: Weruaga (1993), especially in pp. 43-90. Ollero (1993), especially in pp. 419-458. Within the field of the history of philosophy, the most important contribution came from two monographies: Sánchez-Blanco Parody (1991) and (1999). More recently: Pérez-Magallón (2003), has achieved to suggest a general, pondered and exhaustive view of the period's Spanish culture, including detailed critiques of some aspects pertaining to the common interpretations, yet from the standpoints, tools, sources and traditional analysis of the history of ideas; one of the most decisive categories of his reformulation is, in addition, «national identity», which bold application to the studied context is surprising. From the history of medicine *sensu stricto*, the most recent example of an entire assumption of López Piñero's historiographic standpoints, while shedding light on some new aspects, yet completely lacking an interpretative review, is: Rodríguez-Sánchez (2005), who also intends to focus on «an image of our scientific renovation (1687-1727) from Thomas S. Kuhn's Theory of Science», as it states the subheading of the work.

⁷ Throughout decades, the history of medicine in Spain regarding the period roughly comprised between 1650 and 1750 was determined by an historiography suffering from the proposals in: Marañón (1934). Speculating about the everlasting question of the «Spanish decline», Marañón located the first indications of «enlightened renovation» in father Feijoo's works. On the other hand, this narrative, seduced by the fetishism of the figure 1700, established, within the coincidence of the change of century and the arrival of the Bourbons, the beginning of a period of renovation and Europeanization, essentially consisting in the gallicization of the intellectual elites, which would end up bringing with it the beginning of the Enlightenment, more or less achieved in the second half of the XVIII century. See: Granjel (1979).

then developing in northern Europe.⁸ Already at the beginning of the eighteenth century, the *novator* movement faced the consequences of its traumatic appearance on the country's cultural scene, such as its weakness before institutional and intellectual resistance, its scarce social support and its peripheral status. The process of renovation and opening-up was thus the result of a home-grown impetus, prior to the French arrival. Such an impulse generated a movement reproving Spain's backwardness and calling for (even at the protonational level, according to some authors) «modernization» as the path to take. The *novatores* provided themselves with new institutions and renewed some already existing ones. They managed to get access to the works of foreign authors and, in some occasion, were able to take advantage of trips abroad as a means to learn and import novelties. Through these resources, the *novator* movement fought, within the field of medicine, against university-stagnant medical scholasticism, seeking the substitution of the prevailing medical system –Galenism– for more modern ones, such as the iatrochemical or the iatromechanic systems, then spread in a hegemonic way all over Europe. The medical *novatores'* leitmotiv was the controversial doctrine of the circulation of blood, enunciated by William Harvey in his famous book *Exercitatio anatomica de motu cordis et sanguinis in animalibus*, in 1628. Proclaimed by supporters of renovation as the «rising sun of medicine», the circulation of blood was seen by the most recalcitrant or «intransigent» Galenists (e.g., Matías García, Cristóbal de Tixedas) as a genuine danger, capable of distorting medical dogmas. Some «moderate» Galenists (e.g., Andrés Gámez, Joan d'Alòs), situated between the two factions, were able to accept certain corrections in detail that did not contribute to the collapse of Galenism without giving up the traditional assumptions of their knowledge. On the other hand, the fragility of the *novator* movement led them, sometimes *malgré eux*, to set up more or less relevant partnerships with some figures belonging to the «extra-academic scientific subculture» (e.g., Juan de Vidós, Buenaventura Angeleres), thus further unsettling the traditionalist forces. Between 1687 and 1700, the first phase of the *novator* movement had taken place under such coordinates. From 1700 on, new figures, led by Diego Mateo Zapata and Juan Muñoz y Peralta, replaced the previous central characters (e.g., Juan Bautista Juanini, José Lucas Casalete, Juan de Cabriada) and, above all, achieved the creation and royal backing of the first modern scientific institution in Spain: the *Regia Sociedad de Medicina y otras Ciencias* [Royal Society of Medicine and other Sciences], in Seville.

In this interpretation (reflecting the historiography of the '60s and '70s), the *novator* movement was but the expression of Spain's integration into the late stages of the Scientific Revolution, despite the weaknesses and lim-

⁸ It is worth remembering that the first proposals in this sense came from the history of Spanish philosophy, on both sides of the Atlantic Ocean: Ceñal (1945) and, above all: Quiroz-Martínez (1949); also: Mindán (1959). Strictly within the historical-medical field, we must not fail to notice a pioneering study: Peset Llorca (1960).

itations that formerly confirmed the «Spanish absence at the starting point» of that phenomenon.

This interpretative scheme was built upon the attempt to find answers to a series of questions which, to a large extent, underlay all historiographic approaches of the time in which they were formulated. Some of these questions were explicitly articulated: what were the causes of seventeenth-century Spain's backwardness, who were the most noteworthy characters, which environments picked up the novelties, what were their paths of diffusion, why did the renovation not succeed, and so on. Others, in turn, were implicit in the way they looked at the Spanish historical-scientific past: questions about the scientific culture of Spain and its place in Europe, projections into the past of other Spanish «scientific instances of backwardness», especially those from the nineteenth and twentieth centuries, within a chronological scheme of forward and backward movements in the «national» scientific culture, as compared to that of other hegemonic contexts; and, lastly, an image of the scientific activity as a substitute for the lack of scientific innovation, as a result of a one-way process of the diffusion of science from the producing centres to the peripheries assimilating those new scientific achievements.

The path used to seek answers to these questions was, almost exclusively, the analysis of Spanish medical writings printed during the period. The usual method consisted in reviewing or rediscovering existing sources in order to fit the works and their authors into the respective interpretative categories, labelled as «intransigent Galenism», «moderate Galenism», «extra-academic scientific subculture», «*novatores*», «iatrochemists», «iatromechanics», «eclectics», «anti-systematics», «sceptics», etc. In this sense, the period's printed production of Spanish medicine, mostly assignable to the literary genre of polemics, was extraordinarily useful when introducing the process of renovation, among other reasons because of their explicit portrayal of the confrontation between tradition and renovation, typical of the rhetoric of medical controversies of the time.

In our view, it is precisely this rhetoric of medical controversy that gives rise to one of the first limitations that this scheme has generated. For the account structured around it seems to us confined by the rhetoric of those who wrote and argued about the medical controversies of the time.⁹ Other disadvantages stem from the problems derived, on the one hand, from the reductionism caused by the limitation to a single kind of source – printed texts – and, on the other, from the uselessness of certain established categories to compare the Spanish situation, artificially considered as unitary (or binary, e.g., «we versus the others»), with other local European contexts. In other words, there is a feeling among historians nowadays that it is no longer meaningful to dwell upon the relationship between Spain and European scientific culture in terms of movements forward and backward, exclusions and incorporations, failures and accomplishments (many times considered as such merely because it was stated to be so in the period's polemical writings);

⁹ Pardo-Tomás (2004), pp. 127-135 and 413-416.

nor to insist upon reading only the printed scientific literature of the period; nor to do so only in terms of the dialectics of tradition versus renovation. Any attempt to overcome these obstacles must allow a revitalization of the historiographic image of this period, avoiding clichés that, even though they may have been useful when generated, may result in fruitless sectarian or local discussions, hindering the establishment of a more plural and open dialogue within the terms the most recent international historiography is employing to approach the study of science and medicine in seventeenth and eighteenth century European society.¹⁰

The first requirement is a reconsideration of the expression «*novator* movement.» For, as an historiographic category, that expression, due to its relative consolidation throughout the last decades, may lead those using and reading it to a feeling similar to seeing a mirage. In its most fossilized version, the utilization of the expression seems to suggest that in the period studied – the last decades of the seventeenth century and first decades of the eighteenth century– there was, in the field of medicine and its milieu, a coordinated and perfectly organized group, almost like a «party», mostly composed of physicians, surgeons and apothecaries, but also of members of certain religious orders, who shared the same aspirations, the same programme and above all their own distinct intellectual assumptions. The mirage would then consist in seeing the «*novator* movement» as a homogeneous group of professionals committed to scientific renovation and the connection with Europe, as opposed to an establishment characterized by its resistance to novelties, and confronting the alleged «Scientific Revolution» taking place beyond the Pyrenees, not on this side. In addition, in the effort to outline and shape this movement – spurred on by the unavoidable historiographic itch to arrange and classify– the specification of the chronological limits has been, on the one hand, undertaken with a startling precision (1687 for the beginning and around 1725 for the end), pointing out two phases, before and after 1700, as if the War of the Succession, for instance, would not have happened anywhere; and, on the other, to fit any author of any printed work into two or three classifying labels, such as «*novatores*», «iatrochemists» or «sceptics», differentiating them from those others –moderate or intransigent Galenists– who either did not bear the needed credentials to deserve such denomination or confronted the former by means of printed criticism.

The «*novator* movement» is, thus, a historiographical label, created in a given moment because it was useful to outline a general view that endeavoured to free itself from the fruitless *polémica de la ciencia española* [controversy on Spanish science]; yet, nowadays, it has become, in a certain way, an artefact taking for granted conclusions which, from our point of view, are misleading if not mistaken. Among these may be included an obstinate array of topics which, paradoxically, derive from that «dead end» *polémica*: Spanish backwardness, disconnection with Europe, reflection on the alleged glorious «national» past, etc. But, above all, the confusion is sometimes used

¹⁰ Pardo-Tomás (2004), pp. 171-175.

to hide the many things we continue to ignore about the period in question, or to avoid incorporating more recent discoveries and interpretations.

First, we believe it would be extremely useful to remove the Spanish component from the account as a whole. The obsessive Spanish nationalist theme (comparable only to the competing nationalist obsession) still burdens the kind of questions presently being formulated, especially on problems of identity, for which we seek answers in a gradually more imagined past. So intractable is the obsession that our historiography often seems impermeable to new points of view that, in recent years, have begun to renew other bordering fields.¹¹

Second, it seems unavoidably necessary, in the present stage of historiography, to put aside the diffusionist narrative characteristic of the 1960s, regarding the so-called Scientific Revolution and the processes of reception of the theories that supposedly introduced scientific modernity in all «national» European societies. That narrative, it seems to us, introduces a troubling anachronistic territorial taxonomy.¹² Such a scheme is intended to explain the production and circulation of scientific knowledge through a simple and radically unidirectional perspective of the process of knowledge transfer between a production centre and its passive recipient periphery; it establishes an array of comparison parameters based upon very problematic historical concepts, such as scientific «advancement» and «backwardness»; and usually limits its analysis to the identification of the moment when certain ideas «turn up» and are subsequently «spread».

Third, we must link the analysis of scientific activity to appropriate parameters according to the actual historical record. Thus, in our opinion, future investigations should be aimed at the location of concrete spaces where scientific and cultural practices were developed within diverse local contexts; at showing the wide-ranging connections among these practices; and at the analysis of communication, assimilation, appropriation and re-elaboration of ideas, theories, discourses and practices through a network of contacts and exchanges that is richer, more complex and more interesting than what the dominant view has thus far told us.

The perspective we would like to adopt here intends not to offer a conclusive alternative to the one currently circulating, but only to make the current narrative more open to new questions raised by recent historiography. Our intent is to identify elements of a more plural and heterogeneous reality that was itself the result of processes linked to their own rhythms and

¹¹ Although, paradoxically, it should be exactly the contrary. In fact, the influence of the history of science –of the way it has been traditionally narrated- on the configuration of distinct national historical narratives in the West, has been and still is decisive, as Jan Golinski observed some years ago in reference to the analysis included in *Telling the Truth About History*, by Joyce Appleby, Lynn Hunt and Margaret Jacob: «They suggest how central the «great story» of the history of science has been to the historical consciousness of Western culture since the eighteenth-century Enlightenment, when histories were first written that recounted the development of scientific knowledge as part of a wider vision of cultural and social progress. In these narratives, readers were encouraged to see the history of science as a drama in which they were both audience and participants.»: Golinski (2000).

¹² In a sense, they were still in debt with that scheme: Porter; Teich (eds.) (1992).

adjustments and, above all, marked by a distinctly local context, thus not easily fitting the anachronistic «national» scale which seems to be taken for granted in the usual interpretations. Thus, while it is true that, inertia and stagnation took place within certain centres or institutions during the seventeenth century, it is also true that in certain circumstances quite the opposite took place, such that by the end of the century, the cultural milieu and the spreading of certain scientific practices were experiencing renewal and dynamic change. In the case of medicine, this state of affairs generated, among other things, diverse medical controversies embodied in polemical writings that were often bitter, spirited and nearly ubiquitous, in a previously almost unheard-of manner.¹³

Our approach in this paper intends to offer a more complex view that assumes a multi-centric geographical perspective and delineates a map showing the specific urban spaces where such events took place and their areas of influence, where their leading characters dwelled, and what relations amongst them were likely to have developed. Within this peninsular map, it would be worthwhile to locate, on the one hand, the axis Seville-Madrid, with the background of the main Castilian universities (Alcalá, Salamanca and Valladolid) and, on the other, the triangle shaped by the three capitals of the Kingdom of Aragon (Barcelona, Saragossa and Valencia). Of course, other important axes could be added (Coimbra-Lisbon, for instance, or Salamanca-Coimbra), as well as other centres, such as Granada, Cordova, Cadiz and Santiago within the Crown of Castile; or Tarazona and Palma in the Crown of Aragon. However, we agree that, on a hierarchical scale, the former are the most important.

While rejecting a «national» scale as artificial and anachronistic, we should also bear in mind that all knowledge (including scientific knowledge) is local, in the sense that it is produced in a given space and local context. Naturally, this should not lead us to lose sight of the European background, which is essential in suggesting comparisons and charting significant personal and intellectual relationships. It is thus a matter of fitting the cases in question into the framework of scientific culture in the Europe during the period of absolutism and the Republic of Letters, which, in both its Catholic and Protestant sides, shared, as it had done for decades, a programme aimed at overcoming the split in confessional areas and moving on to fields of knowledge that were unproblematic from a religious point of view.¹⁴

On the other hand, as has been stated, there is the small scale, that is, each of the «spaces» where knowledge and practices related to medicine were developed in diverse local contexts and concrete situations that were not always identical. Cultural practices relating to reading, writing, and publishing texts as well as travel and ways of establishing relations with people within and outside the local context, must be systematically considered along with those practices more closely related to natural philosophy and medicine, such as anatomical demonstrations (including both human dis-

¹³ Martínez-Vidal; Pardo-Tomás (2003), pp. 107-135.

¹⁴ Bots (1977). Fumarolli (1988). Waquet (1989). Daston (1991). Bots; Waquet (eds.) (1994). Álvarez Barrientos; López; Urzainqui (1995). Waquet (1997).

section and animal vivisection), natural history, collecting, botanizing, the preparation of herbaria, *juntas de médicos* [medical meetings], medical consultations, and so on. This is the range of subjects we consider the object of primary historical analysis and, to a large extent, pending to be approached.

An important task is to situate those local spaces of scientific and medical practice within a European historical context, avoiding a priori assumptions about assumed hierarchies, supposed «peculiarities», traditional criteria pertaining to taxonomies of centres and peripheries, or simplistic schemes regarding the creation and spread of scientific ideas. An alternative way would be, for instance, to undertake the analysis of cultural practices associated with the construction and circulation of knowledge.¹⁵ In the case of medicine, the subject of our discussion, we should attend to such practices as dissection (human and animal), collecting and growing plants, visiting patients and discussing their cases, publishing (including making decisions about what, how and where to publish), attending and taking part in *tertulias* [debating circles], academies, *juntas*, meetings or public debates, travelling, writing, reading, and much more. All these practices took place within spaces (whether institutional or not, public or private) which must be located, retrieved and studied, because, to a large extent, we do not yet know them. In addition, those practices allowed actors to weave networks of relations and exchanges with other physicians, surgeons and apothecaries, with patrons and patients, and with students and practitioners, giving all active roles. Consideration of such roles and relations is essential for the understanding of how scientific knowledge was constructed and appropriated at a given time.

A clearly delimited subject (which we consider for analysis elsewhere) concerns medical controversy, a subject that we approach by means of the examination of the many printed leaflets and books that have survived. Of course, we must not forget that such controversies were also held within and beyond printed literature: in classrooms, theatres, gardens, monasteries, hospitals, halls, market places and courtyards, and even in such private and modest environments as patients' bedrooms. They also took place during lessons, readings academic sessions, *juntas* and *tertulias*, or by means of speeches, oral discussions, and informal conversations; or in posters, leaflets, prescriptions, bills, consultations, letters and memorials.

In the following pages, we will try to put forward a more complex view than has hitherto been attempted. We will adopt a geographical perspective and attempt to draw a map, naturally incomplete, showing specific urban spaces where such events took place, as well as the leading characters and their likely relations.

Barcelona

If the period to be study had to be delineated according to the specific coordinates of Barcelona's local context, the year 1673 might be suggested as

¹⁵ Secord (2004).

a starting point. It was then that an important reform of the anatomical theatre, established long before, was inaugurated as a consequence of the need to serve an ever-increasing audience of physicians and surgeons.¹⁶ The closing date for this period might be 1726, the year of the death of Joan Salvador i Riera, one of the most interesting leading characters of Barcelona's medical-scientific culture at that time. Of course, other milestones might also be considered, but by selecting these dates we are attempting to show that, during the long half-century that frames our suggestion, significant processes for the understanding of the conditions of medical practice and its related knowledge took place.¹⁷

These conditions have been reconstructed by Alfons Zarzoso¹⁸ from the career profiles of university physicians, surgeons and apothecaries within Barcelona's urban milieu. The profiles include professional training, medical care tasks in the *Hospital de Santa Creu* [Holy Cross Hospital], university chairs in the *Estudi General*, charitable professional practice, patronage, family political positions, economic and social status both within and outside the respective trades, access to health care responsibilities in municipal (*Jurats*, *Vuitena del Morbo*, *Mustaçat*) or Catalan (armies, navy, proto-physicians, visits, inspections) posts and, obviously, their written, whether printed or not, production.

The evolution of these institutional and intellectual mechanisms, characteristic of Barcelona's context, created conditions for the development of an array of scientific practices distinctive of the so-called Republic of Letters, including the establishment of exchange relations (of ideas, experiences, books and natural objects) that emerged as the result of debating circles and epistolary relations as well as the formation of libraries, natural history collections and herbaria, and the practice of botanization and plant growing, anatomical dissection, animal vivisection, etc.

Indeed, printed texts by authors such as Francesc Morelló, Cristòfol de Tixedas, Joan d'Alòs, Joan Solà or Jacint Andreu have been the object of studies illustrating the main themes of the intellectual debate within the academic setting:¹⁹ the circulation of blood, the characterization of some pathological processes, the nearly endless controversy on therapeutic strategies and the composition of medicines, etc. The significance of this debate and its particular features (in contrast to the polemical confrontations found in much of the literature produced in Saragossa, Seville or Madrid) is unmistakable and must be an essential component of a richer and more complex scene yet to be unveiled.

Our research continually reveals, for instance, the existence of groups of physicians, surgeons and apothecaries well connected with other centres

¹⁶ Martínez-Vidal; Pardo-Tomás (1996); Martínez-Vidal; Pardo-Tomás (2005), aquí pp. 268-272.

¹⁷ For the immediately preceding period, see: Martínez-Vidal; Pardo-Tomás (2006).

¹⁸ Zarzoso, A. (2003). Zarzoso (2004a), pp. 108-126.

¹⁹ See the editions of some of these texts, such as Ramon Ferran i Sans' Catalan translation, carried out under the direction of Màrius Petit i Guinovart: Alòs, d' (1994). Uriach; Morelló (1996).

such as Naples, Montpellier, Paris, Leyden or London. Here it is sufficient to point out examples such as the hospital ward protophysician Francesc Morelló and his Italian relations; the field trips of the three Salvadors (Jaume, in 1670-1671, and his sons, Joan and Josep, in 1704-1705 and in 1718-1719, respectively); Tournefort's two stays (in 1680 and 1687) at the Salvador residence; Joan d'Alòs' relation with Juanini and with Tournefort; the correspondence between the Salvadors and Magnol, Petiver and Boerhaave, among others; the scientific expeditions to the Balearic Islands; the atmosphere of *tertulias* during the stay of the English and other Austrian allies in the court of the Archduke Charles of Austria in Barcelona; and the Jussieu brothers' trip (1716-1717), introduced and accompanied by the Salvadors.²⁰

Such examples suggest, at the very least, that these scientific practices were maintained in spite of the military conflict of 1704-1714 and its consequences, which were so prevalent in the city. Indeed, the final outcome of the War of Succession and the subsequent decisions on the part of the Crown had a grave effect on the institutional, legal, military and political situation in Barcelona. But, in relation to the subject of our discussion, the period after 1716 (date of the Royal Decree of *Nueva Planta* [New Foundation] for Catalonia) was characterized much more by the absence of a clear and well-defined judicial framework for the exercise and control of health-care professions than by the supposed substitution of the Catalan legal system for the Castilian one. This tangible situation was the result of the institutional structure that emerged after former was abolished but before the latter was consolidated, a system that did not manage to put into effect the regulations that it decreed: medical education and the recognition of Cervera's university degrees, the maintenance of certain situations in the surgeons' and apothecaries' colleges in Barcelona, the endless jurisdictional conflicts with the lieutenant protophysician for Catalonia, etc.²¹

There is no question that scientific practices and institutions were preserved, despite the traumatic closure of the *Estudi General* and the abolition of the powerful *Col·legi de Doctors en Medicina* [College of Physicians], at least during the two decades following the end of the war. Examples of continuities in the insitutional structures include two former professors of the *Estudi*, Francesc Fornells and Francesc Roig, who kept their positions as physician and chief surgeon, respectively, in the Hospital de Santa Creu up to the 1740s, when their relatives Bonaventura Milans and Carles Vicent Rossell, educated at Montpellier, were appointed first and second physicians of the hospital.²² In regard to continuities in scientific practices, it is significant that the various medical systems of the period were not only preserved but legitimized by the last generation of professors of the *Estudi*, as illustrated in the *Tractatus de peste*, by Josep Fornés (Barcelona, 1725). Other examples include the continuation of anatomical activity in the theatre, where

²⁰ Pardo-Tomás (2007).

²¹ Zarzoso (1996).

²² Zarzoso (2004b).

«the lectures, anatomy operations and corpse dissections that were carried out were part of the teaching and training of practitioners of surgery both within and outside of the hospital,» as Alfons Zarzoso has shown through his exhaustive research in the documents pertaining to the consultations of the *Real Audiencia* [Royal Court].²³

In fact, Zarzoso's recent research has resulted in a genuine revolution in our knowledge of Barcelona's 'medical world' of that period. According to his analysis and following his methodological proposals, it will be necessary, for instance, to study in depth such subjects as the formation of private and institutional libraries and the circulation of those books; the strategies for the cohesion, legitimating and social promotion of physicians, surgeons and apothecaries before, during and after the war; the production of manuscript and printed texts; the epistolary correspondence between physicians, surgeons or apothecaries and their clients and patients, etc.

Saragossa

Even though we lack an investigation of similar scope to the those we have for Barcelona, there is no doubt that to a great extent the assertions in the previous paragraphs are also applicable to the case of Saragossa. The contributions of Asunción Fernández Doctor, among others, enable us to outline a reasonably good scheme of the institutional and professional undertakings in Saragossa during the last quarter of the seventeenth century and its complicated post-war transformation during the first quarter of the eighteenth century. Consequently, we can observe the most important similarities and differences with respect to the cases of Barcelona and Valencia, as regards the evolution of the guilds of medical doctors, surgeons and apothecaries, as well as the relations between those guilds and the *Hospital General de Nuestra Señora de Gracia* [Our Lady of Grace general Hospital], the Aragonese protophysician and the university.²⁴

At the same time, owing to López Piñero's works, we know a great deal about the main medical controversies that took place in the printed literature, particularly in the 1680s and the 1690s, including those authored by Vidós y Miró, Casalete, Elcarte, San Juan y Campos, San Juan y Domingo and Tomás Longás.²⁵ Once again, anatomy, Galenists' and chemists' opposing therapeutic strategies and debates concerning certain concrete pathological manifestations were among the chief theoretical matters captured in print. In addition, we must not fail to notice that *Nueva idea physica natural*, by Juan Bautista Juanini, one of the most significant printed treatises of the period, was published in Saragossa in 1685 precisely because, among

²³ Zarzoso (2003), p. 42: «les conferències, operacions d'anatomia i disseccions de cadàvers que es portaren a terme van formar part de l'ensenyament i de la formació dels practicants en medicina i cirurgia de l'Hospital i dels anomenats de fora casa».

²⁴ Fernández Doctor (1996).

²⁵ See different works included in: López Piñero (1976).

other reasons, of the close ties the surgeon from Milan had with the city, since he had lived there as a member of Juan José of Austria's circle. This was a courtly environment with a cultural liveliness that is essential to understand in order to fully appreciate the peculiarity of the local context of Saragossa and its connections, inside the peninsula (it is enough to think of Juan de Cabriada's father and his link to Tarazona and Valencia) and outside as well. In this sense, it is necessary to explore the existence of a fruitful exchange maintained throughout the entire period between Saragossa, Toulouse and Montpellier, which we only know a bit through what was leaked in print; for instance, the relations between Spanish authors and François Bayle, Raymond Vieussens, Jean Joseph Courtial and Jean Saguens.²⁶

It is also worth pointing out that Juanini played a role as a link between Barcelona (Joan d'Alòs), Saragossa (José Lucas Casalet) and the courts in Madrid (Antonio Doré, Lucas Maestre, Matías de Llera) and Lisbon (Matías de Lucas).²⁷ It is fundamental to remember, for instance, that Casalet, a professor at the University of Saragossa, was one of the authors of the endorsements appearing in the famous *Letter* by Juan de Cabriada (Madrid, 1687), which is far from strange when bearing in mind that, a short while before, Casalet had supported Cabriada in Saragossa in the latter's graduation as medical doctor.²⁸ Juanini's biography, which we now know better thanks, among others, to Jesús Cobo's research, raises the need to study in depth the group of physicians from Saragossa who were part of the courts of Charles II and Philip V and their maintenance of an exchange network between the court and the Aragonese milieu.

Regarding the medical environment in Saragossa, the news mentioned by the Sicilian physician Federico Bottoni in his *Evidencia de la circulación de la sangre* (Lima, 1723) is well known. Even though it is not possible to confirm his presence in Saragossa, his testimony is first-hand. Bottoni points out that at the end of the seventeenth century –he does not specify an exact date– Francisco San Juan y Campos taught the doctrine of the circulation of blood «to wide acclaim» in the anatomical theatre at the University of Saragossa, where it «was established as an essential principle». The recurrent practice of anatomical dissection in such theatres was fully established under the 1659 statutes, which prescribed the carrying out of eighteen anatomies a year – a substantial number – to include «six universal ones and twelve particular ones», and laid down high fines for cases of negligence.²⁹ We also know that Nicolás Francisco San Juan y Domingo, the latter's father, had published a medical topography, entitled *De morbis endemiis Caesar-Augustae* (Saragossa, 1686), which Emili Balaguer and Rosa Ballester consider to be the first work of this genre edited in Spain.³⁰

²⁶ For the case of Juanini's relations with Toulouse and Montpellier, see: Cobo Gómez (2005), pp. 183-189.

²⁷ Cobo Gómez (2005), pp. 113-175 and 190-191.

²⁸ Fernández Doctor (1994), pp. 185-187.

²⁹ Martínez-Vidal; Pardo-Tomás (2005), pp. 272-277. Martínez-Vidal (2006), pp. 362-282.

³⁰ Balaguer Perigüell; Ballester Añón (1980), pp. 345-62.

According to Bottoni's account, the practice of *cirugía infusoria* [infusion surgery] –however restricted to the introduction of medicines in the vascular tree– was carried out since 1690, when Tomás Longás successfully administered a medicine, intravenously, to a typhus patient in Borja. Undoubtedly, this technique continued to be practiced from then on and its application was carried out by physicians, surgeons and apothecaries alike, such as father Rodríguez, a Cistercian monk from the Monastery of Veruela, illustrates, in his *Dissertaciones físico-mathematico-médicas* (Madrid, 1760). Several instances of the practice are also reported in Tarazona, Huesca, and Loporzano. It is significant and thus worth noticing that those practices were also executed outside Saragossa. It seems that this is the case of an enduring group of physicians, surgeons and apothecaries, between Tarazona and Veruela, bearing ties reaching Borja, Ágreda, Corella and even Valencia.³¹

It is also worth mentioning other connections with scientific practices related to the apothecaries' field and developed in other Aragonese centres (Huesca or, once again, Tarazona) and in Madrid, such as the ones that can be glimpsed in Juan del Bayle's courtly adventure, regarding which increasing evidence has been provided owing to Mar Rey's contributions;³² or through the local printed production, from Juan de Vidós (1674-1699) to Juan de Bercebal (1713), as well as from patrons such as the Lastanosa, or characters such as Atilano Tomás Manente, whose scientific profiles need to be further investigated. However, in this field –as it is the case for most of the ones so far mentioned–, progress has been hardly sufficient in the last quarter of the century. We believe that it will be necessary to continue unearthing new sources, for, in the present state of research there is an urgent need to widen the range of known sources.

Valencia

Working from an institutional and professional scheme quite similar to that used for the cases of Barcelona and Saragossa, the case of Valencia naturally bears its own special features. First of all, the weight of the so-called medical school of Valencia, founded in the sixteenth century, continued to shape its institutions to a large extent: the faculty at the *Estudi General*, the College of Physicians and the *Hospital General*, surgeons' and apothecaries' colleges, etc. Some details (even bearing in mind that suitable sources have not been sufficiently studied) seem to indicate that the decades of stagnation and paralysis could be less than what, in principle, might be thought. The continuation of practices such as anatomical dissection, botanizing, the study of medicinal plants, etc., seems, in the case of Valencia, even more important, above all taking into account that there was, in this context, a higher development than in other places. This different starting point

³¹ Martínez-Vidal (1992), pp. 46-60.

³² Rey Bueno (2000).

helps to explain, among other things, the maintenance of a high number of medical professorships, the attraction of students (in spite of the detection of periods in which enrolment was evidently lower) and the public prestige that, for instance, was successfully argued before the *Consell* of the city as a reason to help finance artist-engraver Crisóstomo Martínez's trip to Paris and to enable him to be able to complete his anatomical atlas with the resources available there.³³

What is known about Martínez's stay in Paris, including what we can glean from his letters to the *Estudi* professor Gil de Castelladas, continues to be an important incentive for the search for new sources (library inventories, epistolary correspondence, notarial documentation, etc.) that might help to deepen our understanding on the exchange of medical knowledge and practices in Valencia during the last quarter of the seventeenth century and the first quarter of the eighteenth century.

The continual practice of human dissection in the *casa d'anatomies* of the hospital, which we know through various testimonies, including the works by Matías García (notwithstanding his anti-circulation standpoint), should be the object of further exploration. In particular, we need a more pluralistic and comprehensive approach to the milieu of surgeons in Valencia, including the mechanisms for training surgeons, the construction of professional careers, and so on.³⁴ It cannot be by chance, for instance, that the printed production of a surgical theme seems hegemonic in the city between the 1660s and the early eighteenth century.

With respect to another of the above-mentioned aspects, what has thus far been shown about the re-foundation of the *hort* [botanical garden] for the professorship of materia medica and the figure of Gaudenci Senach³⁵, should also stimulate research on other sources allowing us to unearth documentary testimonies about other similar scientific practices within the scene of private gardens, apothecaries, naturalistic collecting and circles debating medical or philosophical themes related to the knowledge of the natural world. The need to wait for «late» re-editions –that is, duly expurgated by the Inquisition– of Laguna's translation of Dioscorides, all of them from Valencia, or what we keep discovering about the evolution of the botanical garden created in Burjassot by Juan de Ribera, or Zapata's testimonies on the figure of Jaume Cervera, his «master of natural philosophy», about his public discussions, both in Valencia and Alzira, as well as concerning the circulation of manuscripts, may serve as stimulating examples of such practices, still nearly completely unknown at the present time.³⁶

We also need in-depth studies of what seems to be, increasingly, the consolidation of «the courtly temptation» reflected by the professional careers of some physicians from Valencia. Setting Zapata aside (since he was a student in Valencia subjected to special circumstances that prompted him to

³³ López Piñero (2001).

³⁴ Martínez-Vidal; Pardo-Tomás (2005), pp. 264-268.

³⁵ López Piñero (1992).

³⁶ Pardo-Tomás (2004), pp. 249-254 and 441-442.

opt for a career in Madrid), the trail of anatomists, physicians or surgeons such as Roque Buendía, José Arboleda, Vicent Gilabert, Antonio Usón, etc., leaves a trail leading directly to Madrid from the university centres of Orihuela, Gandía or Valencia. We may mention, in addition, the cases of Miguel Marcelino Boix y Moliner or Fulgencio Benavente, who seem to have taken that step towards the Castilian plateau even before obtaining their degrees in their native land. In some way, therefore, Andrés Piquer's trajectory (a figure clearly belonging to a period subsequent to the one we have herein marked out) had a background that must be explored in detail.

It is unquestionable that the consequences of the Royal Decree of *Nueva Planta* which, began in Valencia as early as 1707, meant a legal and institutional change, both in the *Estudi* and in the *Hospital General*, among other things because the municipal government underwent an irreversible loss of political power, financial autonomy and control over other institutions located in the city. But the «evils of war» are not always immediate or short-lived, sometimes expanding more than expected; or—in some respects—whilst they nearly fade away during the first stages, they nonetheless determine the evolution of certain families or centres of cultural activity throughout decades. We do not know yet in detail the fine print of these differences, in the case of Valencia; but thanks to Antonio Mestre's intensive research³⁷ on the figure of Gregorio Mayans, as well as to María Luz López Terrada's and other authors' efforts to make an inventory of the editorial production, the scientific etching, the instruments and spaces of practice, and the manuscripts, we get to know to a good extent some partial, albeit essential, aspects.³⁸ For instance, regarding the subject of local medical printing, we know that when the first Mayans' edition of *El mundo engañado de los falsos médicos*, by Giuseppe Gazola, came out in 1721, an almost absolute stagnation, already lasting sixteen years, was brought to an end, while, in the year 1705, before the breaking out of the military conflict, three treatises had been published.

As Vicente Peset pointed out more than forty years ago, the same year, 1721, in which Gazola's work translated by Mayans came out for the first time, the medical faculty of the University of Valencia wrote a proposal defending the teaching of «modern medicine», notwithstanding its opposition to some precepts of the «old one». Beyond the well-known *querelle* between ancients and moderns that had been carried out for at least half a century, a re-reading of the document allows us to situate it in a local context that, until now, has remained practically unknown: the existence of hundreds of students attending «monasteries, trade guilds and some private homes» to learn medicine, instead of university classrooms. Valencia's professors recommended the introduction of advances, «especially regarding Pharmacy and Anatomy», in order to «draw students to this University» again. Trying to answer the questions this example, as other similar ones already mentioned, poses what might be a solid research programme for the future.

³⁷ Mestre, A. (1999). pp. 377-382.

³⁸ López Piñero (ed.) (1998).

Seville

Undoubtedly, Seville stands out within the peninsular scene, because, to a large extent, it was in this Andalusian city where, in May 1700, a scientific academy of an essentially medical character was founded: the *Regia Sociedad* which has unanimously been considered as the most visible institutional exponent of the renovation taking place in that period. From the doctrinal point of view, it backed an iatrochemical orientation, both in its conception of a bodily economy and in its support of the use of chemical medicines in therapeutic directions. As it is well-known, this society was truly the result of the royal protection granted –without avoiding the previous and inescapable court intrigues– to the *Veneranda Tertulia Hispalense* [Seville's Venerable Debating Circle] as the first chroniclers of the new institution labelled it. The fact is that the origin of the first peninsular scientific academy was one of those *tertulias* characteristic of the period, held at the Sevillian house of the physician Juan Muñoz y Peralta, who would be the first president of the *Regia Sociedad*. In spite of being present in all the works and synthesis devoted to the period in the last thirty years, oddly enough, the *Veneranda* and early *Regia Sociedad* are yet to be conveniently studied, in particular as regards its first working years. We believe that its creation and its first steps should be the focus of a more intense interpretative effort, as compared to what has been achieved thus far,³⁹ even if it would only be due to the fact that the Sevillian society was not just the forerunner for the creation of the Spanish Royal Academy, founded by the Marquis of Villena upon his return from Italy, but also for the creation of many other European medical and scientific academies.

Reasonably, in spite of the certain existence of a solid axis Seville-Madrid, it makes sense to ask why such an institution, which name resembles, not coincidentally, that of the Royal Society in London, was created in Seville as opposed to Madrid. In our opinion, it is necessary to resort, once again, to local keys (from Madrid and Seville) showing distinct and complex dynamics, in order to provide a minimally convincing answer.

First, it is essential to notice the fact that its foundation –the royal license recognizing and authorizing it– was dated on May 1700, that is, before the passing of the king Charles II of Austria. It was thus not a matter of a Bourbon foundation, even though courtiers surrounding Philip of Anjou upon his arrival in Madrid, in the winter of 1701, were eager to renew the royal patronage, as if it were a newly established institution and the young king would follow the policy of his grandfather, the Sun King Louis XIV of France.

Second, it must be borne in mind that Seville continued to be the actual metropolis of a colonial empire. Besides the *Reales Alcázares*, including their respective positions for physicians and surgeons, a fraction of the most politically influential Castilian aristocracy was based, or at least enjoyed an important seasonal ground, in the city. It was commonplace for the high nobility to benefit –sometimes in an exclusive manner– from the service, personal and for their families, of physicians and surgeons, who, in such a

³⁹ From the classical study: Hermsilla Molina (1970); Rodríguez-Sánchez (2005).

case, were appointed by means of «recommendation», either at the service of a viceroy travelling to America, or in Madrid, following their patrons' careers; both instances could make the access to the career of royal physician or surgeon available to them, and, sure enough, increased their opportunities to get hold of new patients. In addition, the nobles were keen on livening up the routine in their palaces with debating circles where attendants discussed literary, artistic, medical or natural philosophical themes.

Third, it cannot be overlooked that Seville, in addition to being the capital of the American empire, was the nerve centre of the peninsular south. Its nearby hinterland was stretched through the rich populations of Cordova, Osuna or Antequera, and extended as far as the city of Cadiz, which would dispute the primacy as head of sea traffic with Seville. Altogether, it was an exceedingly urbanized territory, where the concentration of university-trained physicians was extremely high within the period's European context. Furthermore, Seville had courses in medicine since the middle of the sixteenth century, although, it seems, they had little relevance.

In order to practice medicine and other health-related professions in the kingdoms of Castile, it was necessary to hold, in addition to a university degree, a license issued, upon examination, by the *Real Tribunal del Protomedicato* [Royal Court of the Protomedicate], which had its headquarters in Madrid, yet had mechanisms to delegate and issue licenses in other cities. As far as we know (bearing in mind that there is much that remains to be done in this respect), the arrival of university graduates to take the examinations in the court was an important event that constituted an excellent occasion to make a name for oneself, to establish contacts, or to become part of the networks of influence that closely bound courtiers to their places of birth or to the economic and social power that was the ultimate reason for their presence in the court. In the end, the appearance of «ratified» physicians (as well as others who were not), even if they held the degree of doctor, before the *Protomedicato* could become a permanent source of rivalry, reflected, for instance, in the polemical literature that so proliferated in Seville during the years of the *Veneranda* and the *Regia Sociedad*. Some of these controversies focused on questions relating to the use of certain therapeutic procedures or the prescription of special medicines. But the controversy, in addition to being present in printed books and leaflets, was constantly raised during the development of *juntas de médicos* by the patients' beds, where ideological, scientific and formal matters were discussed in front of «laypeople» who, ultimately, constructed public opinion regarding the those questions aired and debated in such gatherings.⁴⁰

For all these reasons, the *Regia Sociedad* was set up as an anti-establishment institution against the medical university staff, to the point that (as stated in its articles), in addition to its decidedly iatrochemical orientation, it excluded medical doctors from the University of Seville as potential members. The heated dispute between the two groups, both before and after 1700, which resulted in an attempt at the condemnation of all the Spanish universities, explains to a certain extent this antagonism. However, a proso-

⁴⁰ Pardo-Tomás; Martínez-Vidal (2002).

pographic analysis allowing us to better outline the network of contacts, relations, rivalries and supports behind this new institution, its establishment in Andalusian territory and its connection with the court still remains to be done. Similarly, the scientific practices carried out by the fellows of the *Regia Sociedad* beyond its statutory declarations should also be studied. Thus, for instance, activities in the anatomical theatre beyond the well-known presence of the royal dissector Florencio Kelli ought to be considered. Who carried them out and before what audiences? In the same way, we should enquire about the spaces, leading characters and tasks related to those «chemical experiences» that were ordained in its statutes. In this sense, it would be worthwhile to explore the practices carried out in their workshops and in the sessions of the academy attended by the apothecaries who were members of the *Regia Sociedad*. We shall limit ourselves to mentioning the figure of Juan Simón Fernández Lozano, who produced the particular –and, to a certain extent, «secret»– remedies Peralta used to ensure his success as first physician in Seville and, later on, in the court, as it is revealed in the intense epistolary correspondence they held.⁴¹

As we have pointed out elsewhere, the exhaustive biographical reconstruction of some of the leading characters of the Sevillian society, based upon very diverse sources –such as private libraries, epistolary correspondence, legal proceedings, professional curricula, and written works, whether published or not– would allow us to become acquainted with not only their ideological positions and sources of information, but also with their healthcare practices, clientele and networks of influence. The case of Juan Muñoz y Peralta should stimulate the undertaking of similar investigations.

Madrid

Throughout the seventeenth century, Madrid became consolidated as the seat of the court and the nucleus of the monarchy. Simultaneously, a considerable number of royal physicians was developed and given a hierarchical structure according to a strict set of rules. The *Protomedicato* stood at the apex of the pyramid, from where it mainly carried out tasks that included controlling professional practice (examinations and ratifications of physicians, surgeons and other practitioners), production of drugs, and prescription of medicines on the part of the apothecaries by means of inspecting their shops. The range of its jurisdiction was the Crown of Castile, which does not necessarily mean that its prerogatives would not come into conflict with those of other Castilian institutions. As it became clear during the symposium held in Valencia in June 1995, during the eighteenth century, as a consequence of the Decrees of *Nueva Planta*, this court entered, at distinct paces and against different resistances, the old dominions of the Crown of Aragon, although not in a complete or exclusive manner as it has been sometimes suggested.⁴²

⁴¹ Pardo-Tomás (2004), pp. 331-332 and 449-450.

⁴² López Terrada; Martínez-Vidal (eds.) (1996), 17-259; Campos Díez (1999).

The position of Royal Physician was highly sought by the professors of Castilian universities (Alcalá, Salamanca and, to a lesser extent, Valladolid), who saw in the court the natural culmination of their professional careers. At the time, Enríquez de Villacorta, chairman of *Prima* of medicine at Alcalá and president of *Protomedicato*, was the most genuine exponent of the Galenism pervading the University of Alcalá. The hegemony of his teaching, in the classroom as well as through his printed work, was practically undisputed. However, in the last third of the seventeenth century, what could be defined as the «viceroyal way», that is, the access of physicians – as well as surgeons – to the court by mediation of a former viceroy (in Italy, America and the Crown of Aragon) newly settling in Madrid, was reinforced to the detriment of the «academic way». This access route, which was partly overlapped with the «military way», constituted an alternative career from each and every point of view, as these physicians' course «caught» the uses and habits of other territories of the Monarchy, and, surely, their medical and philosophical ideas. The paradigmatic case would be that of physicians who had been living in Italy and had known first-hand the Italian medical circles, especially the Neapolitan milieu. The figure of Andrés Gámez, physician of the marquises of Vélez, viceroys in Sardinia and Naples, would be, undoubtedly, its prototype, even though it remains to be studied.

The change of dynasty did not substantially alter this system; in a way, it simply prompted the rise to its apex of a series of «foreign» physicians, surgeons and apothecaries, who were trusted by the monarch or the queen (Michelet, Burlet, O'Higgins, Legendre, Riqueur, Cervi).⁴³

In Madrid, the aristocracy held debating circles in their salons, some of which (such as the one that gathered at the home of the Marquis of Villena after the War of Succession), thrived to the point of becoming academies, organically constituted under the royal patronage. Some were noticeably interested in matters of medicine and natural philosophy. In addition to the ones convened around 1687 by Zapata, there were many others where «pieces of paper reaching the ends of the earth, whether hot off the press or scribbled by hand, are delivered in order to mull over matters», as an anonymous author wrote in 1698 in the context of the controversy over the uses of quinine.⁴⁴ As examples of the final milestone, we could point to the *Tertulia Literaria Médico-Químico-Física* [Medical-Chemical-Physical Literary Circle], founded in 1732 in José Ortega's apothecary, and the origin of the *Academia Médica Matritense* [Madrid's Medical Academy].⁴⁵ Unfortunately, either because of the difficulty of finding appropriate sources or the ephemeral character of such gatherings, we are left with scant traces, and the world of the debate circles in Madrid's aristocratic salons, at least as regards medicine and natural philosophy, is nearly uncharted. We are convinced that, upon investigation, some recurring errors related to the *polémica* could be eradicated.

⁴³ Pardo-Tomás; Martínez-Vidal (1996).

⁴⁴ Pardo-Tomás (2004), pp. 416-417.

⁴⁵ Puerto Sarmiento, F.J. (1992).

Yet, the debating circles were not the only spaces where medical knowledge and practice circulated. As it is well-known, Madrid was, around 1700, a densely populated city that harboured a mass of indigents who took refuge in its numerous hospitals, which are institutions that have been recently the object of new research on the part, among others, of Teresa Huguet.⁴⁶ The concentration, in Atocha Street, of the hospitals *General, de la Pasión* and *de Antón Martín*, together with the protection of these and other royal hospitals by the Council of Castile, consolidated a group of physicians and surgeons who were somehow equidistant between university and court circles, yet enjoying their own client networks, inside and outside the capital. At the above-mentioned *Hospital General*, a professorship of anatomy and an anatomical theatre were created in 1689 with the consent of the *Protomedicato*, thus proving the expressed wish of the court to facilitate improved training for physicians and surgeons, as well as the desire of putting Madrid at the same level than other European metropolises. The first professor to teach anatomy was, not coincidentally, from Catalonia: Francesc Feu, who was expressly brought to the court for this purpose. Upon his passing, in 1697, another two foreign anatomists succeeded him, Roque Buendía and José de Arboleda, both from Valencia. Arboleda's death in 1728 finally handed over the position to the man who had held the *futuro* [a supply teacher holding the prospect for the professorship] for many years, Martín Martínez, to the detriment of his rival, Vicent Gilabert, also from Valencia and a physician at the *Hospital General* in Madrid.⁴⁷

We will not expand here on the world of the apothecaries, their connections and their institutional achievements (Royal Apothecary, Chemical Laboratory, etc.), because contributions to this same volume by Mar Rey and Miguel López, who who know these topics much better, free us of that obligation. Yet, we would like to point out that, in a similar fashion to we observed above regarding the relation between Fernández Lozano and Peralta, the team formed by Félix Palacios and Zapata shows, once again, the rich and complex overlapping of interests that could be established between a physician and an apothecary in the context of the period's medical practice.⁴⁸

This was a context that, provided we had a better knowledge of it, would greatly clarify the origin, causes, development and background of the controversies, both printed and not printed. This climate of controversy must also be situated, albeit not exclusively, within the framework of all those courtly tensions, both the traditional ones and those generated by the new dynasty, such as, for instance, the short-lived but fierce controversy about antimony, as well as the eternal debate regarding fevers, which recurred during the second decade of the eighteenth century owing to the publication of Boix y Moliner's *Hipócrates defendido* (Madrid, 1711). If this author's work and the extent of the controversy it generated were studied in depth, the multiplic-

⁴⁶ Huguet-Termes (2003, 2004), pp. 271-286.

⁴⁷ Pardo-Tomás; Martínez-Vidal (1997) and Martínez-Vidal; Pardo-Tomás (2005), pp. 261-264.

⁴⁸ Pardo-Tomás (2004), pp. 317-332 and 449-450.

ity of standpoints within the period's medicine could be ascertained, even among those who could be labelled «*novatores*». The same thing might happen, in a corrected and amplified fashion, if the controversies generated by the publication of *Medicina Scéptica* (Madrid, 1722-1725) by Martín Martínez, whom Feijoo staunchly supported and defended, were to be explored. It is rather paradoxical that the idea that the *Teatro crítico* marked Spain's entrance to scientific modernity, as Marañón's old-fashioned scheme suggested, is still present in some recent publication.⁴⁹

It is thus evident that a considerable amount of research is still needed and a vast range of sources need to be included in order to answer all of those new questions. Much more «fieldwork» on specific local contexts needs to be done without abandoning the comparative, European perspective, in order to generate an interpretation about the continuities and ruptures in the cultural history of medical knowledge and practice, which should be the final aim of such an endeavour.

⁴⁹ Anderson (2000).