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Franco-British Interactions in Science since the Seventeenth Century
Textes réunis et présentés par Robert Fox and Bernard Joly

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This volume is dedicated to the memory of David Sturdy
(1940-2009)

A scholar of distinction whose humanity
and love of France enriched the world
of learning on both sides of the Channel

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The Baillières: the Franco-British book trade and the transit of knowledge

JOSEP SIMON*

Introduction

The study of international relations and the use of international comparative history are fruitful approaches allowing us to tackle what, in recent decades, scholars from various traditions have identified as one of the major problems afflicting the history of science: the loss of a « big picture » (Jacob 1999; Secord 2004; Kohler 2005). Three decades ago, Maurice Crosland and Crosbie Smith produced a rare and largely laudable example of an attempt to bridge national boundaries by analysing the « influence » of the « transmission » of the French *physique* into British natural philosophy, in the context of the emergence of physics as a discipline in mid-nineteenth-century Britain (Crosland and Smith 1978). Their valuable analysis has, nevertheless, significant limitations related to their conceptualisation of « transmission » and of « discipline » and, concomitantly, their selection of historical actors.

Recently, James Secord has suggested – as an approach aimed at solving the aforementioned problems – that the study of the « transit of knowledge » should be given a central position in the history of science,

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Echanges entre savants français et britanniques depuis le XVII^e siècle.
Robert Fox et Bernard Joly (éd.).

by conceiving science itself as a form of communication (Secord 2004). Therefore, Secord's proposal gives a central role to a process that has traditionally been considered secondary. Hence, it is sympathetic to the enlargement of the traditional set of actors considered in Crosland and Smith's paper, to embrace all those having a central role in communicating science. As I argue in this paper, booksellers are the most relevant historical figures in this context.[1]

Crosland and Smith's selection of actors is constrained by their focus on scientific elites. But, in addition, their paper displays a partial and limited picture of the Franco-British map of scientific knowledge. In nineteenth-century Europe, perhaps the major events contributing to the configuration of scientific disciplines were their introduction as propaedeutic subjects in the medical curriculum and their presence in the rapidly developing secondary school curriculum (Olesko 1991; Stichweh 1992; Simon 2008). This was especially important and happened early in France. It is outstandingly epitomized by the work of the Baillières, a French family of medical and scientific international booksellers.

Crosland and Smith's paper is particularly important in pinpointing the level of British interest in French science, manifested in the interest in science books produced in France. In fact, this interest was reciprocal. It extended to the study of systems of education and the place of science in them (Anderson 1973; Anon. 1868), and it was part of a wider phenomenon of mutual communication between the two countries (Gerbod 1991).

French booksellers in this period played a fundamental role in the international book trade, and the study of their agency is essential to an understanding of Franco-British scientific communication. Their international expansion was both a reflection of nineteenth-century patterns of migration and of French cultural influence; it was also a commercial strategy to sustain national businesses. The Baillières were arguably the most important international medical and scientific publishers and booksellers operating in mid-nineteenth-century Britain.

Hippolyte Baillière – the head of their London branch – trained in Paris, had an important role in communicating the French map of knowledge into Britain, through the publication in English of works defined by the French medical and scientific reading and teaching context. At the same time, his firm contributed to modifying the scientific map of knowledge in a distinctive British way, through the publication of books by British authors in fields such as industrial chemistry and imperial botany.

[1] In harmony with Jon Topham's historiographical proposal (Topham 2000).

In both cases, Baillière introduced French techniques into Britain, especially in relation to illustrations. The English Baillière also contributed to the communication of British science to France and Germany, through its association with the French Baillières and with German booksellers in the publication and distribution in France and Germany of works by British authors. In addition, the Baillières' international network, and in particular their Franco-British axis, had an important role in favouring communication between French and British men of science, through their own communication network.

In the first part of this paper, I briefly describe the configuration of Jean-Baptiste and Germer Baillière's publishing houses in Paris, and their decisive role in the development of medicine and science in France. I analyse the reasons and ways of the Baillières' international expansion, and I characterize the establishment of the Baillières' London branch and its professional and social status. In the second part, I focus in the study of the transit of scientific knowledge between Britain and France through a comparative analysis of the English and French Baillières' publishing lists, and of the mechanisms involved in their mutual exchanges. In this context, I study Hippolyte Baillière's contribution to the communication and configuration of the French map of knowledge and of French book techniques, and to the configuration and communication of the British scientific map of knowledge. Finally, I consider the role of the Baillières' network in the communication between British and French men of science.

These are the first results of a case-study that aims at contributing to build a more accurate and richer historiographical frame, avoiding artificial disciplinary and national boundaries, and introducing new historical actors, in order to work towards a « big picture » in history of science.

The Baillières and the international book trade in science and medicine

During the late eighteenth and early nineteenth centuries, some English booksellers corresponded with Continental booksellers and imported foreign books on a regular basis (Topham 1998; Zachs 1998). However, their trade was of the retail type, struggling to compete with foreign specialized wholesalers. Britain was the main customer – after Belgium – for French books, in a period when the international book trade acquired a new dimension in production, circulation, speed, and geographical expansion (Barber 1994; Barbier 1981). French interna-

tional booksellers had a prominent role in this market and they typically structured their businesses by establishing branches in at least three leading metropolises of the book trade: Paris, London, and Leipzig. Their businesses were often family-based, and their members had an international training, acquiring expertise by travelling and working in different countries.

For booksellers, a main reason to establish a foreign branch was to find new markets for remainders, in order to avoid overproduction, the most usual reason leading to bankruptcy (Martin and Martin 1985). In addition, they aimed to fight against piracy, a practice not forbidden by international treaties until mid-century (Feather 1994). In this context, in 1826 – a year of crisis for the French and British book trade – the firm J.-B. Baillière opened a branch in London (Régnier 2005; Norrie 1982; Brown 1982), eight years after inaugurating its bookshop in Paris. Its English catalogues contained in addition to his own publications, a selection of the major French books and journals in medicine and science produced since the late eighteenth century, as well as works in German, Italian, and Latin (Baillière 1828).

Having entered the book trade as an apprentice in Paris, Jean-Baptiste Baillière rose rapidly to a prominent position in the French trade and in financial and social circles: publisher of the Académie de médecine (1827), vice-president of the Cercle de la librairie (1847), member of the Conseil d'escompte de la Banque de France (1850) and – after his participation in the London Great Exhibition – the Légion d'honneur (1852) (Régnier 2005, 2006). In 1885, at his funeral service, his professional colleagues stated that: "This name will eternally last, because the books he published between 1818 and 1885 mark the progress of the medical and natural sciences during the two thirds of our century" (Régnier 2006: 116).

Jean-Baptiste and his brother Germer had a major role as medical and scientific booksellers, in a period in which Paris witnessed major international developments in hospital and laboratory medicine, especially through the development of pathological anatomy and experimental physiology,[2] and in science, through the constitution of chemistry and physics as independent disciplines. Their publishing lists generously represented the French tradition of hospital medicine and surgery,[3] and the major clinicians of their time, known as "the eclectics" for their combination of the use of observation, physical diagnosis, and numerical analysis, with chemical and physical experimentation and microscopy.[4] They also published the leading French microscopists,[5] and they acknowledged the role that the sciences had to play in medicine, by publishing a considerable number of works in chemistry[6] and by leading authors in experimental physiology.[7] Their authors in medical physics were in charge of the teaching of this accessory science at the Faculty of Medicine, and their physics textbooks targeted the secondary school market and the *baccalauréat-ès-sciences*. The establishment of this examination as a compulsory requirement for medical students from the 1820s drove the textbook market for decades. However, competition in the production of chemistry and physics secondary school textbooks was fierce, and other Parisian publishers had a more important role in this market. The medical map of knowledge in nineteenth-century France also comprised polemical subjects such as homeopathy and mesmerism, in which Jean Baptiste and Germer also made a major contribution.[8]

The French Baillières were able to play an especially influential role in the configuration of French medicine since they were specialized readers with an excellent knowledge of medicine, who selected authors, who advised them on medical literature, and, in many cases, suggested specific book projects to them, and in general, by their supervision of their work (Deleuze 2006). Moreover, J.-B. Baillière was involved in the production of monumental reference works involving the coordination of a large number of authors, by publishing numerous medical and scientific dictionaries and annual compilations, of which he was a leading French and international promoter. He also made an essential contribution to de-

[2] In the following, my framing of Baillière's publishing list in the context of French medicine is based on Ackerknecht, E. H. (1967). *Medicine in the Paris Hospital, 1794-1848*. Baltimore: The Johns Hopkins University Press.

[3] As represented by the works of Xavier Bichat and Jean Cruveilhier, and Guillaume Dupuytren.

[4] Gabriel Andral, Pierre-Charles-Alexandre Louis, Pierre-François-Olive Rayer, Jean-Baptiste Bouillaud, Pierre-Adolphe Piorry, and Armand Trousseau were Baillière's authors.

[5] Henri Dutrochet, Alfred Donné, Charles Robin, Natalis Guillot, and Casimir-Joseph Davaine.

[6] By leading figures such as Mateu Orfila, Apollinaire Bouchardat ,and Joseph-Bienaimé Caventou.

[7] Pierre Flourens, Claude Bernard, Paul Bert, and Charles-Edouard Brown-Séquard.

[8] The former published the complete works of Samuel Hahnemann, and the latter led the revival of mesmerism by publishing the works of renowned magnetisers such as J.-P.-F. Deleuze, Baron J. Dupotet de Sennevoy, C. Lafontaine and A. Teste.

fining the form of his publications, being especially renowned for the unrivalled quality and quantity of illustrations in his books (Ackerknecht 1967: 117, 70; Régnier 2005: 2, 4).

Although his training and professional experience took place in Paris and it is not known if he did any travelling, he had an expert knowledge of international medicine, as reflected in his list, that included translations of works by Italian, Portuguese, Spanish, Spanish American, British, and especially German authors. J.-B. Baillière could exploit the cosmopolitan character of Paris, an international centre for the book trade and the teaching and learning of medicine and science, especially during the first half of the century. A large concentration of foreign booksellers, teachers, and students constituting a dynamic economy of scientific production and consumption, in which British students and German booksellers had a prominent position (Ackerknecht 1967: 191-96; Caron 1991; Desmond 1989; Kratz 1992). In addition, Jean-Baptiste was especially active in the establishment of a network of international correspondents and of a family-based business network that, by the 1860s, had established bookshops and publishing houses in London, Madrid, New York, and Melbourne.

J.-B. Baillière's London branch was led by his brother Hippolyte, who had joined Jean-Baptiste's bookshop and trained in Paris. H. Baillière started to publish in London under his own name in 1839 putting together during the following decades a substantial English publishing list. In this year, according to Jon Topham's preliminary survey,[9] the Baillières' London branch could already be considered the tenth or eleventh largest London scientific publisher in terms of the number of books published (Topham 2000: 585). Their list was the fourth in « medicine and surgery» , only after Longman and Samuel Highley, and close to John Churchill. In 1844, Charles Darwin, advising the Swiss geologist Adolf von Morlot on publication opportunities in England, mentioned H. Baillière as one of the major possibilities, qualifying him as "one of the most spirited of scientific publishers" (Burkhardt and Smith 1988: v. 4, 51-2).

Like his brother Jean-Baptiste in Paris, Hippolyte sought patronage from medical and scientific institutions, being appointed bookseller to the Royal college of surgeons and the Medico-chirurgical society, selling books to the British museum and the Royal society (Mollier 1988), and publishing the journals of the Chemical society, the Botanical society of

[9] For the period 1837-8. My preliminary survey of the *Publisher's Catalogue*, only available until 1840, shows a similar pattern.

Edinburgh, the Liverpool and Manchester photographic society, and the Manchester literary and philosophical society. Many of his authors were recruited though his relation with these institutions.

Between 1839 and 1869, H. Baillière published around three hundred works, at a mean rate of nine works per year, the highest expansion of the firm's list occurring in the 1840s, with more than twenty works in certain years. Two thirds of H. Baillière's publications belonged to the field of "Medicine, Surgery, &c.", slightly more than a tenth to "Chemistry, Natural Philosophy, Astronomy, &c." and a tenth to "Geology, Botany, &c". Within medicine, "Mesmerism, Animal Magnetism, Somnambulism, Spiritism, &c." and "Homeopathy" had a significant presence, constituting more than a tenth of the medical references and half this rate, respectively.[10]

From 1830, Baillière's bookshop was located in Regent Street, one of London's most exclusive areas. His shop was used by French, German, and English gentlemen, to advertise their teaching services, and by medical doctors, to advertise their professional services and books.[11] In the 1840s, tickets were sold for mesmeric *soirées* conducted by French mesmerisers in nearby premises.[12] In the 1850s, tickets for French satirical theatre plays performed in the same premises were also available.[13] In addition, a significant number of London's medical and scientific societies met in Regent Street or in nearby areas.[14] It was certainly a good place to find the "medical and scientific gentlemen" alluded to by J.-B.Baillière in his early English catalogues (Baillière 1828: 4). Charles Darwin and Henry Fox Talbot visited H. Baillière's shop looking for French, English, and German scientific literature, and other English men of science visited the shop for the same purpose (Burkhardt and Smith 1988: v. 4, 100, 107, 313; 1989: v. 5, 135, 296; Baillière 1853).

[10] I use the taxonomical categories of H. Baillière's catalogues and of nineteenth-century book-trade publications such as the *Publisher's Circular*.

[11] *The Times*, 3 September 1836, p. 1; 8 September 1836, p. 1; 19 September, 1836, p. 1; 23 August 1836, p. 1; 16 June 1840, p. 2; 19 September 1842, p. 3; 20 November 1845, p. 10; 29 February 1843, p. 1, and 23 April 1851, p. 3.

[12] *The Times*, 26 July 1841, p. 1; 30 August 1841, p. 1; 19 March 1863, p. 18, and 12 September 1866, p. 1.

[13] *The Times*, 12 May 1858, p. 1.

[14] The Horticultural society, the Royal microscopical society, the Zoological society, the Medical society of London, the Chemical society, the London mathematical society, the Society of antiquaries, the Zoological society, the Royal astronomical society, the Royal photographic society, and the Royal society of arts all met near Baillière's shop.

Hippolyte lived and worked in this area, and participated in scientific meetings held in the vicinity of his residence. His involvement with the English photographic community is shown by his presence at meetings of the Microscopical society and by his loan of photographs from his collection to the important photographic exhibition organized by the Society of arts after the Great Exhibition (Anon. 1852). In his shop, he sold not only books and tickets but also French surgical instruments,[15] and several of the instrument-makers involved in the same social events as him inserted advertisements in his books. Thus, in this social context Hippolyte Baillière met scientific and medical authors, instrument makers, and scientific audiences, recruited authors, and negotiated advertisement policies. His role was double, as a promoter of British medicine and science, and as an expert in Continental, and especially French medical and scientific culture.

Hippolyte Baillière and the international communication and appropriation of science

Hippolyte Baillière's agency in the international communication of science was developed in four different ways. First, as an international bookseller in London he provided his customers with a regular supply of books published in France, as well as in other countries such as Germany. Secondly, he performed the appropriation of the French map of medical and scientific knowledge, and of French book trade techniques into the English context. Thirdly, through distribution and translation, he introduced in Britain the work of significant French and German authors in medicine and science, and vice versa. Fourthly, as a member of an international communication network, he served as a conduit between British men of science and their peers in France and other countries.

The early English catalogues of J.-B. Baillière were already encyclopaedic compilations of the major works in medicine and science produced in the Continent since the late eighteenth century. The works in physics by French men of science alluded to by Crosland and Smith were made available by the Baillière's network, expanded to medicine and the other sciences in France and in other countries. According to J.-B. Baillière, these were a selection of the "most interesting" works

[15] H Baillière's catalogue inserted in Waterhouse, G. R. (1846-48). *A Natural History of the Mammalia*. London, Paris and Leipzig: Hippolyte Baillière, J.-B. Baillière, and T.-O. Weigel

determined by *his* choice. At the same time, he compromised to provide with rapidity any book required by his customers (Baillière 1828: 4).

With the subsequent international expansion of the family's firm, the availability of Spanish, Spanish American, American, and Australian works was potentially strengthened. The Baillières' international network offered a safe way of communication of unprecedented speed. A parcel of books was received weekly from Paris in the London branch, and vice versa.[16] Decades earlier, international booksellers were only receiving monthly consignments.[17] The familial structure of the Baillières' network and relative independence assigned to the branches provided it with a stability that other international booksellers did not have.[18]

When H. Baillière started to publish in London under his own name, he could exploit, in addition to his own experience, the experience, support, and authors' stable of his brothers Jean-Baptiste and Germer. This had important consequences in the development of his own business. In fact, the orientation of the London publishing business was partially fashioned in the 1830s, by its first English publications under the label "J.-B. Baillière". This included translations of works by authors in the French Baillière's list, by émigrés established in London or Paris, and by British authors. The subjects covered were mainly anatomy, homeopathy, and chemistry. For example, in 1835, Baillière published in London two important works on pathological and physiological anatomy: a translation of a work by Pierre-François-Olive Rayer,[19] whose second edition was then available in Baillière's French catalogue, and Robert Grant's *Outlines of Comparative Anatomy*. The latter, was considered, in the *Medico-Chirurgical Review*, to be a landmark in the history of anatomy and physiology in Britain, leading the introduction of philosophical anatomy and the ejection of vitalism, considered to have already happened long before in the Continent (Desmond 1989: 197-98). Grant, the first holder of a professorship of comparative anatomy in Britain, dominated this field in the early 1830s. Since he was also a well-known *francophile* (Desmond 2004), he was a perfect match for Baillière's agency in the introduction of French pathological anatomy and physiology through the

[16] As expressed in the correspondence of men of science who used this network for their correspondence. See below.

[17] As expressed in the numerous catalogues of the international booksellers Bossange and Treuttel & Würtz.

[18] This was the reason for Treuttel & Würtz's loss of their London branch (Barber 1994b).

[19] Rayer, P.-F.-O. (1835). *A Theoretical and Practical Treatise on the Diseases of the Skin*. London: J. B. Baillière.

translation of works of his French publishing list, and his recruitment of British authors.

Baillière's other works in anatomy were two atlases, by a French and a German author respectively.[20] The well-known quality and quantity of J.-B. Baillière's illustrations were also acknowledged by English reviewers, who commented on its superiority and the inability of English publishers to produce illustrated works of the same quality and at the same cost (Anon. 1861; Anon. 1874). Thus, Baillière introduced in Britain new concepts and techniques in the layout of books, based in his experience in Paris.

Another characteristic of J.-B. Baillière's work as a publisher was the preparation of monumental dictionaries and annual scientific compilations. This pattern was also followed in the publication in 1837-9 of three volumes of a *British Annual, and Epitome of the Progress of Science*, edited by Robert Dundas Thomson, nephew of the chemist Thomas Thomson. The previous year, the former had edited the *Records of General Science*, assisted by his uncle, founder of the London *Annals of Philosophy*, no longer published since 1826 (Morrell 1972: 31). Hence, Baillière and the Thomsons found a common interest in working together in the configuration of a Franco-British pattern of annual science compilations.

One of the last works to be published in London with the label J.-B. Baillière was in fact a book by Thomas Thomson.[21] Baillière had promoted in Paris the publication of chemistry as one of the auxiliary sciences to medicine. There he had published the work of French authors, and of German chemists of the class of Liebig.[22] From London, he could exploit the empathizing context of the Scottish medical faculties, where chemistry was an important subject, and in Glasgow – as in Giessen – new generations of chemists were trained under Thomson's supervision (Morrell 1976). Like all the Baillières' books, the title-page of this work

[20] Lebaudy, J. D. (1835). *The Anatomy of the Regions interested in the Surgical Operations performed upon the Human Body ... in a Series of Plates, the Size of Life ...* London: J.-B. Bailliere; Weber, M. I. (1836). *Anatomical Atlas of the Human Body in Natural Size.* London-Dusseldorf: H. Baillière.

[21] Thomson, T. (1838). *Chemistry of Organic Bodies. Vegetables.* London, Paris, Leipzig, Edinburgh, Glasgow, Dublin: J.-B. Baillière, J. A. W. Weigel; MacLachlan & Stewart-Carfrae & Son, Robert Stuart & Co., Hodges & Smith; Fannin & Co.

[22] Liebig, J. von and Raspail, F.-V. (1838). *Manuel pour l'analyse des substances organiques. Suivi de l'examen critique des procédés et des résultats de l'analyse des corps organisés par F. V. Raspail.* Paris : J.-B. Baillière.

included the names and addresses of all the Baillière branches. But this was in addition a joint publication involving Weigel, a Leipzig bookseller, and booksellers in Edinburgh, Glasgow, and Dublin. Joint ventures involving the last three cities were usual for London large publishing firms as a way of securing a wide distribution. By contrast, joint ventures linking British, French, and German publishers were rather infrequent. Hence, close relations with the German book trade,[23] allowed the Baillières not only to contribute to the communication of English science to France but also to its communication to the German states.

J.-B. Baillière's early London list was also rich in books on homeopathy. Only a few years earlier, he had started to develop his French list in this field, including French authors and translations from the German. In the 1830s, Baillière's English list on homeopathy included works by Harris Dunsford and Paul Francis Curie, two leading British practitioners in this field (Rankin 1988: 48).

From 1839, the development of H. Baillière's catalogue followed in many ways the pattern established by the early work of the J.-B. Baillière London branch. Hippolyte developed the publication of homeopathy as one of the specialities of his publishing business, producing sixty works in this field. He started by publishing British authors,[24] and as he detected interest in the subject, he enriched his list with authors from his brothers' stable. In Paris, the Baillière's homeopathic list developed in parallel, and more than a quarter of Hippolyte's homeopathy list was made up of works originally published by his brothers. Most significant was the publication in London of the major works of Samuel Hahnemann, the founding father of homeopathy. The English editions were only delayed by one or two years in relation to the French publication, and most probably, they were not direct translations from the German, but from the French.

The number of works by foreign authors in H. Baillière's general list shows that French works constituted the most important part of the translations (more than a tenth), although the proportion of German works was also significant (around a fifth). In the two cases the number

[23] In addition to his acquaintance with German booksellers established in the Paris trade and his probable first-hand experience of the Leipzig book fair, in 1855, J.-B. Baillière sent his elder son to Leipzig as an apprentice in the shop of his German associate Weigel (Régnier 2005: 7).

[24] This included authors who had become homeopaths for different reasons and who had various professional and political profiles, such as John Epps, Robert Ellis Dudgeon, Edward Hamilton, and William Henderson.

originating in Hippolyte brothers' catalogues was high. For French translations, a third of the works belonged to their lists, while for German the proportion was one fifth. As for the case of homeopathy, the incorporation of foreign works in H. Baillière's list happened in general once a trend was already established through the publication of works by English authors. However, the introduction of foreign works from the catalogues of J.-B. and G. Baillière, or from other Parisian booksellers, was crucial in boosting the production and consolidation of particular areas in H. Baillière's list.

A similar pattern applies to mesmerism, which like homeopathy was a speciality in H. Baillière's catalogue. But the dependence of H. Baillière on the Paris side of the business was slightly less marked in this case. Hippolyte captured and significantly promoted the widespread excitement concerning mesmerism in London in the 1840s. Its revival had been led in the 1830s by its acceptance by the French Académie de médecine through the efforts of two veteran mesmerisers: Joseph-Philippe-François Deleuze and Baron Jean Dupotet de Sennevoy (Winter 1998: 42).[25] The travels of French mesmerisers such as Dupotet to London in the late 1830s were essential for the revival of this practice in England. As already mentioned, tickets for mesmeric sessions of the kind given by Dupotet were sold in Baillière's shop. Subsequently, he transferred from fashionable rooms in Hanover Square to the medical world of London hospitals, through his collaboration with John Elliotson, a well-established figure within the London medical community, who held the professorship of the principles and practice of medicine at University College (Winter 1998: 42-8; Gauld 2004; Waller 1857-63).

Hippolyte Baillière's list of mesmeric works was inaugurated in 1842 with two short books by English authors.[26] The following year, Elliotson contributed to his list with a work on this trend. His contribution was accompanied by translations of two works by well-known French mesmerists, Joseph-Philippe-François Deleuze and Alphonse Teste, who – like Dupotet – were part of G. Baillière's stable. Teste also had one of his

[25] Winter erroneously gives the name "Charles" to these two mesmerisers, and does not acknowledge Deleuze's important role in academic debates on this subject in the 1820s.

[26] Engledue, W. C. and Elliotson, J. (1842). *Cerebral Physiology and Materialism, with the Result of the Application of Animal Magnetism to the Cerebral Organs ...; with a Letter from Dr. Elliotson on Mesmeric Phrenology and Materialism*. London: H. Bailliere; Topham, Sir W. and Ward, W. S. (1842). *Account of a Case of Successful Amputation of the Thigh during the Mesmeric State, without the Knowledge of the Patient...*. London: H. Bailliere.

treatises published by J.-B. Baillière, to which a translation of Topham and Ward's report (previously published by H. Baillière) was appended. Although this was the only mesmeric work of H. Baillière to be incorporated into the list of his brothers, this showed that English mesmerism – seen through the eyes of Hippolyte's production – was strong and more independent than English homeopathy. In fact, only a sixth of his publications in mesmerism were translations of works available through G. Baillière's list. In spite of Elliotson's fall in disgrace, represented by his resignation of his academic position in the late 1830s (Winter 1998: 95-108), H. Baillière's promotion of mesmerism in Britain lasted until his death in 1867. In this time he developed a rich list of works in this area and published the *Zoist*, the main mesmeric journal, edited by Elliotson.

Mesmerism and homeopathy were two significant areas of specialization in the publishing list of Hippolyte Baillière. However, the bulk of his production embraced medicine and surgery, with important contributions to pathological anatomy, physiology and surgery, and to comparative and microscopical anatomy. After publishing the work of Robert Grant, Baillière continued to promote the communication of comparative anatomy through his publication of the work of Richard Owen[27] – leading figure in this field in Britain – and the translation of works by German authors.

His house was also active in the rise of experimental medicine through publication in experimental physiology and physiological chemistry. Baillière's contribution to the former is represented by works by Marshall Hall, its major promoter in Britain (Manuel 2004),[28] and Charles-Edouard Brown-Séquard,[29] one of its French leading figures, who edited a journal in this field for J.-B. Baillière. The publication of Hall's work was followed by Baillière's presentation in Britain of physiological chemistry according to Jean-Baptiste Dumas and Jean-Baptiste Boussingault,[30] and to Justus von Liebig.[31] Hall was also – together with John Queckett and

[27] Owen, R. (1840-45). *Odontography*. London, Paris, and Leipzig: H. Baillière, J.-B. Baillière, and T. O. Weigel.

[28] Hall, M. (1842). *On the Mutual Relations between Anatomy, Physiology, Pathology, and Therapeutics, and the Practice of Medicine*. London: H. Bailliere.

[29] Brown-Séquard, C.-E. (1853). *Experimental Researches applied to Physiology and Pathology*. London and New York: H. Bailliere.

[30] Dumas, J.-B. and Boussingault, J.-B. (1844). *The Chemical and Physiological Balance of Organic Nature...* London: H. Bailliere.

[31] Liebig, J. von (1846). *Chemistry and Physics in relation to Physiology and Pathology*. London: H. Bailliere.

Arthur Hill Hassall – a leading figure in the promotion in England of the use of the microscope in medicine and science (Bracegirdle 2004; Price 2004). The major works in this field by Queckett and Hassall were published by H. Baillière.[32]

Hippolyte encouraged the development of chemistry, physics, and natural history, preliminary sciences for medical education. In chemistry, he continued to publish the work of Thomas Thomson, and incorporated that of his former student Thomas Graham, now professor of chemistry at University College, and founder of the Chemical society of London (Stanley 2004). The journal of the Chemical society was published by Baillière, who used it to recruit many of his authors in chemistry. In this context, he engaged in the preparation of an encyclopaedic work in chemistry based on the work of the German chemist Friedrich Ludwig Knapp.[33] Like his brother Jean-Baptiste, he had to deal with a large number of editors and translators for the composition of this work. A German work was in this case the base for Baillière's contribution to the scientific map of knowledge in a distinctive British way, represented by this reference work in industrial chemistry.

Physics had a limited but significant space in the Baillières' list. Jean-Baptiste and Germer published several physics textbooks for medical and secondary school students. But they did not extensively develop in this direction, as there were many competitors in this market. In England, Hippolyte was sharp in soon detecting the lack of elementary treatises in physics[34] and the potential market of scientific secondary education (Newton 1983). In 1847, he published Johann Müller's *Principles of Physics and Meteorology*, a translation of a German work, being a short version of a translation of a textbook by Claude-Servais-Mathias Pouillet's (Lind 1992: 235, 381). The second physics textbook published by Baillière was a translation of Adolphe Ganot's *Traité élémentaire de physique expérimentale et appliquée*. This work originated at the crossroads of French medical and secondary school education, a context well

[32] J. Queckett. J. (1848). *A practical treatise on the use of the microscope*. London: H. Bailliere. and (1852). *Lectures on histology* ... London: H. Bailliere: Hassall, A. H. (1850). *The Microscopic Anatomy of the Human Body in Health and Disease*. London, Edinburgh, Paris, Leipzig: Baillière, Highley, Sutherland & Knox, T. O. Weigel.

[33] Ronalds, E., Richardson, T., Watts, H. and Knapp, Friedrich L. (1855). *Chemical Technology, or, Chemistry in its Applications to the Arts and Manufactures*. London and New York: H. Bailliere.

[34] Often pinpointed by book reviewers. See for example Anon. (1851). "Elementary works on physical science". *The North American Review* 72, pp. 358-98.

known to Hippolyte and his brothers. Ten years later, the book's French readership had decisively expanded to the secondary school market. The translation of the work was assigned by Baillière to Edmund Atkinson, an active Fellow of the Chemical society who began a successful career as physics teacher in parallel with the English and international success of Ganot's textbook (Simon 2006). Its English edition was commonly praised for the quality of its illustrations (Anon. 1862; Anon. 1863).

This book was part of a *Library of Illustrated Standard Scientific Works*, together with treatises such as those by Müller, Graham, Knapp, and Queckett. Through the *Library*, H. Baillière introduced into Britain the skill in illustration that distinguished his brother's publications. Like Jean-Baptiste, in addition to the important presence of illustrations in all his publications, he produced a large number of illustrated atlases in anatomy, surgery, botany and geology.[35] Most of these originated in his brother's catalogue.

However, all his works on natural history were written by British men of science like William Jackson Hooker who was the leading figure of his list in this field, with a series of treatises and his *London Journal of Botany*. By the 1840s, as the first full-time director of the royal gardens at Kew, Hooker was the most powerful British botanist, and he already had much experience in botanical illustration (Fitzgerald 2004). Hence, he surely appreciated the benefits of his association with the Baillières. On the other hand, H. Baillière contributed thus to the scientific map of knowledge in a British distinctive way, by producing important works defining Imperial Botany.

H. Baillière's publications always displayed the names of all the Baillières' branches. In addition, many of his books were published in association with Weigel, from Leipzig. Thus, he contributed to promoting the work of British men of science such as Thomson, Graham, Hassall, Hall, Elliotson, Owen, Waterhouse, and Prichard, not only in France, but also in Germany.

[35] Examples are Moreau, F. J. (1842). *Icones obstetricae. A Series of Sixty Plates illustrative of the Art and Science of Midwifery*. London: H. Bailliere; Moxon, C. (1841). *Illustrations of the Characteristic Fossils of British Strata*. London: H. Bailliere: Cruveilhier, J.; Bonamy, C. L. and Beau E. (1844). *Atlas Illustrative of the Anatomy of the Human Body*. London: Bailliere; Hooker, Sir W. J. (1842-48). *Icones plantarum, or Figures, with Brief Descriptive Characters and Remarks, of New or Rare Plants, selected from the Author's Herbarium*. London: Bailliere; Béraud, B. J. (1867). *Atlas of Surgical & Topographical Anatomy*. London: Baillière.

Furthermore, due to the high cost and irregularity of ordinary postal consignments, the Baillières and their communication network were trusted by many leading men of science as mediators in their scholarly correspondence with foreign peers. Their network was used in this way, in correspondence between Michael Faraday and André-Marie Ampère, Charles-Nicholas-Alexandre Haldat du Lys, Antoine-César Becquerel in France and Arthur-Auguste de la Rive in Geneva, between Jean-Baptiste Biot and Henry Fox Talbot, and between Charles Darwin and Henri Milne-Edwards, Joseph-Augustin-Hubert de Bosquet, Hugh Algernon Weddell, and Alcide-Charles-Victor d'Orbigny in France, Benjamin D. Walsh in America, and Christian Gottfried Ehrenberg in Berlin (James 1991-99; Schaaf [2007]; Burkhardt 1988-89).

Conclusions

The establishment of the Baillières' Franco-British network acted upon the making of science and medicine in six different ways. First, it contributed to the fashioning of disciplines such as homeopathy, mesmerism, pathological anatomy and physiology, microscopical anatomy, experimental physiology, and – only incipiently – physics, around groups of medical and scientific practitioners in interaction with international booksellers such as the Baillières.

The importing of French books in these subjects critically contributed to the consolidation and shaping of already existing practices in England. Hippolyte Baillière's dependence on the support and cooperation of his brothers in Paris was important. This suggests a dependence of British science and medicine on the practice of these subjects in France. However, it is clear that certain areas of the Baillières' publishing practice such as mesmerism and chemistry developed in parallel in England and France. Furthermore, it is understandable that the English Baillière exploited his French support, based on his brothers' longer experience, in order to boost a younger business.

Moreover, H. Baillière rapidly developed a rich stable of British authors producing works of international class. But, its consolidation did not produce a significant response from the French side of the business. The French Baillières rarely exploited the possibility of importing into France authors from their brother's stable, although there were a few significant exceptions. For Jean-Baptiste and Germer, Hippolyte's standing in London was beneficial in opening new markets, and in raising the prestige of their publishing houses and productions. In certain cases, it helped to strengthen their contacts with British authors.

Secondly, H. Baillière contributed through the family network and through his own initiative to the communication of French and German medical and scientific works to Britain, and vice versa.

Thirdly, the Baillières introduced new techniques in Britain, especially in scientific illustration. This certainly had an effect in shaping the practices of the English book trade and, it could have had pedagogical consequences as well.

Fourthly, Hippolyte Baillière performed the appropriation into Britain of the French map of knowledge in which he had been educated and in which his brothers worked. This map considered the sciences as propaedeutic subjects to medical studies.

Fifthly, in spite of offering similarities, the British context displayed an important community of chemists with industrial interests, a significant string of botanical work related to the networks of the British Empire, and an incipient development of physics in the context of secondary education. These contributed to defining the particularities of H. Baillière's publishing list in comparison to that of his brothers, and his contribution to the map of knowledge, this time in a distinctive British way.

Finally, Hippolyte's Franco-British mediation and appropriation was possible thanks to the collaboration of authors and translators who, in many cases, had – like Hippolyte – experienced an international education. Moreover, the production and circulation of British and French science were a work of cooperation between publishers, translators, authors, booksellers, and – last but not least – readers.

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Quatrième section

Le XX^{e} siècle