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# Attending the birth: competition for obstetrical training by medical students and midwives in nineteenth-century France

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## Abstract

Though male doctors gained prominence at the bedsides of pregnant mothers in nineteenth-century Europe, the clinical training they received in medical academies remained cursory. In France, to supplement the medical faculties, the government set up schools for both health officers and midwives which were meant to teach practical obstetrics. This paper focusses on the city of Arras, where these two groups of students competed for the limited numbers of pregnant patients on which to practice their future professions. Like many in their field, two prominent instructors in Arras at each end of the century promoted male obstetrical education over female, arguing that practical education for health officers would lead to safer births for mothers and infants. By the 1870s, the obstetrics instructor adopted germ theory, tying improved hygiene and thus mortality rates to male students' access to hospitalised patients. Despite their arguments, in Arras, the male students never gained priority in clinical obstetrical training, which midwifery students kept. To keep male students out of maternity wards, local administrators used fears that gender mixing would lead to immoral acts or thoughts. In doing so, they protected the traditional system of midwifery rather than invest in more costly male medical education. Championing midwifery students' rights to the spaces and bodies needed for their education, however, delayed adoption of hygiene and antiseptic practices that led to lower maternal mortality. Unable to adapt to changing requirements by the state, the medical school closed in 1883, while the midwifery programme thrived until the 1960s.

**Keywords:** Midwifery; Obstetrics; Medical Education; France; Clinical Practice; Germ Theory

In 1879, in the northern French city of Arras, Dr Leon Germe and his medical students stormed into the maternity ward run by the midwifery school. Their goal was to forcibly gain access to pregnant women's bodies on which to practice. This violation of a protected, feminine space, for both the midwifery students and their patients, was part of a larger drawn-out battle regarding practical obstetrical training. At the centre of this battle lay the professional reputations of men training to become *officiers de santé* [health officers]. Over the course of the nineteenth century, these medical students competed directly with midwifery students for pride of place in the birthing room of future patients.

There is a rich historiography about the development of male-accoucheurs and the medicalisation of births which they brought with them to the bedside. Starting in the seventeenth century in France, then later in the Netherlands, Britain, Germany and Austria, elite medical men trained students in obstetrical practices, creating networks of doctors who introduced the idea of male-accoucheurs to the elite.<sup>1</sup> As male-accoucheurs became accepted, less elite surgeons and doctors added births to their repertoire, catering to middling and artisanal classes primarily in cities. Laurel Thatcher Ulrich argues, in the

<sup>1</sup>Jacques Gélis, *La sage-femme ou le médecin: Une nouvelle conception de la vie* (Paris: Fayard, 1988), Part II, ch 1; Jean Donnison, *Midwives and Medical Men: A History of Inter-Professional Rivalries and Women's Rights* (London: Heinemann Books, 1977), 20–22.

American context, that it was forceps, fashion and anatomical knowledge that allowed male practitioners to justify their role at the bedside.<sup>2</sup> Despite many physicians and surgeons looking down on obstetrics and the public's concerns about propriety, doctors who entered the field could gain financial rewards.<sup>3</sup>

By the nineteenth century, male doctors in Britain directly competed with midwives, but in other parts of Europe, their role in births remained circumscribed.<sup>4</sup> In Germany, for instance, Gabrielle Robilliard found that male practitioners did not pose any threat to midwives who remained respected by the community.<sup>5</sup> In the Netherlands, midwives continued to train through apprenticeships and control their professional lives until the 1860s.<sup>6</sup> Irvine Loudon argues that European midwives were 'on the whole better trained, more closely regulated, more highly regarded by the public and the medical profession, and probably better paid than their British and American counterparts'.<sup>7</sup> At the end of the nineteenth century, midwifery provided important employment for women and care for the majority of births in Europe.<sup>8</sup>

Though Britain depended on apprenticeships and some localised midwifery training courses in hospitals, many other European countries instituted wide-reaching, national systems of midwifery education meant to help combat infant and maternal mortality rates and strengthen the state.<sup>9</sup> Russia created a state system of midwifery training during the eighteenth century. German medical universities by the 1790s incorporated midwifery courses alongside their obstetrical offerings for male students.<sup>10</sup> The French state created the most wide-spread and influential system of midwifery education. Starting in the late eighteenth century, prominent female midwives, such as Madame du Coudray, were at the forefront of promoting anatomical and theoretical education for women.<sup>11</sup> Under Napoleon, the Paris Maternité became a first-class institution for training midwives, who were equal if not superior to male-accoucheurs in the eyes of their instructors.<sup>12</sup> To supplement the smaller numbers trained in Paris, the government promoted a network of departmental midwifery courses. Phyllis Stock-Morton describes these training schools as a patriarchal means of control: keeping women from access to forceps and innovations, while limiting them to routine cases under state supervision.<sup>13</sup> Both Natalie Sage Pranchère and Scarlett

<sup>2</sup>Laurel Thatcher Ulrich, *A Midwife's Tale: The Life of Martha Ballard, Based on Her Diary, 1785–1812*, Reprint edition (New York: Vintage Books, 1991), 180, 255.

<sup>3</sup>Patsy Fowler, 'From Mother Midnight to Dr. Slop: Understanding Reproduction in Eighteenth-Century Literature and Culture', in K. H. Doig and F. Berger Sturzer (eds), *Women, Gender, and Disease in Eighteenth-Century England and France* (Newcastle, UK: Cambridge Scholars Publishing, 2014), 150. See on the issue of attacks on male midwives: Jane B. Donegan, *Women & Men Midwives: Medicine, Morality, and Misogyny in Early America* (Westport, Conn: Greenwood Press, 1978), ch 6.

<sup>4</sup>Alison Nuttall, 'Midwifery, 1800–1920: The Journey to Registration', in A. Borsay and B. Hunter (eds), *Nursing and Midwifery in Britain Since 1700* (London: Macmillan International Higher Education, 2012), 130.

<sup>5</sup>Gabrielle Robilliard, *Tending Mothers and the Fruits of the Womb: The Work of the Midwife in the Early Modern German City* (Stuttgart: Franz Steiner Verlag Wiesbaden GmbH, 2017).

<sup>6</sup>M. J. van Lieburg and Hilary Marland, 'Midwife Regulation, Education, and Practice in The Netherlands during the Nineteenth Century', *Medical History*, 33, 3 (1989), 296–317.

<sup>7</sup>Irvine Loudon, *Death in Childbirth: An International Study of Maternal Care and Maternal Mortality 1800–1950* (Oxford: Clarendon Press, 1992), 398.

<sup>8</sup>Hilary Marland and Anne Marie Rafferty (eds), *Midwives, Society, and Childbirth: Debates and Controversies in the Modern Period* (London: Routledge, 1997), 10.

<sup>9</sup>Nuttall argues that the British state did not prioritise infant mortality, thus delaying midwifery education. Nuttall, *op. cit.* (note 4), 130.

<sup>10</sup>Nathalie Sage Pranchère, *L'école des Sages-femmes: naissance d'un corps professionnel: 1786–1917* (Tours: Presses universitaires François Rabelais, 2017), 118. On Russia see: Tatiana Novikova, 'Childbirth and Folk Orthodoxy in Russia in the Eighteenth and Nineteenth Centuries', in M. Delaporte and M. Martin (eds), *Sacred Inception: Reclaiming the Spirituality of Birth in the Modern World* (Lanham, MD: Lexington Press, 2018), 23–40.

<sup>11</sup>Josette Dall'ava-Santucci, *Des Sorcières aux mandarines: Histoire des femmes médecins* (Paris: Calmann-Lévy, 2004), 71; Nina Rattner Gelbart, *The King's Midwife: A History and Mystery of Madame Du Coudray* (Berkeley, CA: University of California Press, 1998).

<sup>12</sup>Morag Martin, '“Augustine Debaralle, Insensée, Folle, Charlatane, et Enfin Tout ce Qu'il Vous Plaira”: A Female Healer's Struggle for Medical Recognition in Napoleonic France', in H. Doig and F. B. Struzer (eds), *Women, Gender, and Disease in Eighteenth-Century England and France* (Newcastle, UK: Cambridge Scholars Publishing, 2014), 95.

<sup>13</sup>Phyllis Stock-Morton, 'Control and Limitation of Midwives in Modern France: The Example of Marseilles', *Journal of Women's History*, 8, 1 (1996), 60–94.

Beauvalet-Boutouyrie, however, show that working-class midwifery students gained a recognised medical skill, carving out for themselves a space of professional competency equivalent to health officers. Sage Pranchère argues that the French state depended on midwives to promote their pronatalist goals. Rather than feel constrained by the new 'scientific' obstetrics they were taught or by the state regulations they had to follow, midwives welcomed the respect that came with their training.<sup>14</sup>

Alongside the professionalisation of midwifery during the nineteenth century, the French state regularised a dual system of medical education for men: the elite faculties of medicine for physicians and the secondary medical schools for *officiers de santé*. Both groups were expected to increasingly participate in routine births, rather than simply be on-call for emergencies. The European network of male-accoucheurs by the late eighteenth century helped train medical students in both larger faculties and secondary medical schools in obstetrical techniques and anatomy. What this shift to medicalised births did not do was create a system of practical education that could help justify doctors' superiority over midwives at the bedside. Medical students almost everywhere in the western world suffered from a glaring lack of actual experience of births well into the late nineteenth century, forced to learn by attending independent classes taught by midwives, apprenticing with more experienced physicians, or, most alarmingly, through trial and error.<sup>15</sup>

To gain clinical experiences in a school setting male students had to intimately interact with pregnant patients. Hospitals, however, were dangerous and had poor reputations, so few women chose to give birth there unless they were single or desperate. Inserting 'scientific' obstetrics, with the use of instruments and interventions, along with training medical students further increased rates of maternal and infant mortality.<sup>16</sup> Though most hospital administrators ignored these physical risks, they did stress the moral risks inherent in mixing medical students with religious nursing sisters who ran the hospitals, midwifery student who shared the training spaces and the patients themselves in a space that traditionally did not welcome men. Male students could be corrupted by their sexually experienced patients or more troubling, they could corrupt the young women who cared for these patients. Strict gender divisions made it difficult to run maternity wards that were efficient and effective for students and patients.

Even as the debate regarding access to pregnant bodies played out in Europe and the USA as one of propriety, it was also about priority in education. Should authorities prioritise the creation of trained, educated midwives or focus instead on the complete education of medical students, including obstetrics as part of their curriculum? Jürgen Schlumbohm's work on Göttingen at the turn of the nineteenth century provides a detailed view of how male students were trained in obstetrics alongside midwifery students. The main professor on paper prioritised male training, yet in practice only guaranteed students who paid for extra private lessons access to patients in labour. The midwife apprentices, on the other hand, had ample access to patients due to their smaller number. Schlumbohm's sources, however, cannot explain why the professor did not prioritise his male students more forcefully or how the school's priorities shifted over time.<sup>17</sup> This paper takes on these issues by looking at how the arguments for prioritising male obstetrical education, common throughout Europe, played out in practice across the century in the context of France. Because morality played a larger role in France due to Catholic control of hospitals, its obstetrical educational systems contended most directly with the tensions and costs of training both genders in what was still seen by many as a woman's job.

This paper focusses on the Pas-de-Calais department in northern France, which housed both a midwifery and secondary medical school in the city of Arras throughout much of the nineteenth century.

<sup>14</sup>Sage Pranchère, *op. cit.* (note 10), 18–20; Scarlett Beauvalet-Boutouyrie, *Naitre à l'hôpital au XIXe siècle* (Paris: Belin, 1999).

<sup>15</sup>Jean-Anne-Henri Depaul, 'La clinique d'accouchements et de gynécologie de la faculté de médecine de Paris', *La lancette française: Gazette des hôpitaux civils et militaires*, 57 (1881), 449–450; Loudon, *op. cit.* (note 7), 191; Judith Walzer Leavitt, *Brought to Bed: Childbearing in America, 1750–1950* (New York: Oxford University Press, 1988), 40.

<sup>16</sup>Jürgen Schlumbohm, 'Saving Mothers' and Children's Lives? The Performance of German Lying-in Hospitals in the Late Eighteenth and Early Nineteenth Centuries', *Bulletin of the History of Medicine*, 87, 1 (2013), 1–31.

<sup>17</sup>Schlumbohm, 'The Practice of Practical Education: Male Students and Female Apprentices in the Lying-in Hospital of Göttingen University, 1792–1815', *Medical History*, 51, 1 (2007), 21–24.

The Pas-de-Calais provides an interesting test case as two very opinionated physicians at opposite ends of the century left behind copious writing on the subject of obstetrical education which allows us to trace changing concerns across a long period. Like many of their contemporaries, Dr Nonot and Dr Germe argued vociferously for prioritising men in obstetrics and, by default, for the marginalisation of women. They believed that practical education for health officers would lead to safer births due to their greater knowledge of anatomy. By the 1870s, Germe combined support of male medicalised obstetrics with germ theory and antisepsis, promising safer deliveries for patients if midwives lost their hold on hospital wards. Despite their arguments, both failed to convince local administrators and other medical professionals of their vision of male dominated obstetrical training. The administrators overseeing the schools hoped for coexistence between male and female students, but when this proved difficult given financial and spatial constraints, they gave priority to midwives. Ultimately, the midwifery programme survived while the medical school closed its doors in 1883, having never been able to adequately train its students. In this piece, I argue that despite growing national concerns about population decline and hygiene reforms, those who argued for male dominated practical obstetrics failed to disentangle the concerns of propriety from the competition for access to pregnant bodies. Due to localised concerns over gender mixing, hospital administrators prioritised midwifery education and the spaces it needed to thrive, rather than invest in more costly male medical education. Ultimately, the tensions inherent in training men in births remained unresolved throughout the nineteenth century in Arras and in much of Europe. The gains made by midwifery, however, when built on conservative values and opposed by male controlled medical progress, led to delays in adopting new methods of antiseptics and hygiene that would have saved lives of mothers and infants.

### Obstetrical education in the medical faculties and Ecoles secondaires de médecine

After the shutting down of all medical training during the early years of the Revolution, in 1795, three medical faculties were reopened in Paris, Montpellier and Strasbourg. This inaugurated the period of the Paris Clinical School, focussed on developing both the study of sickness and the creation of hospitals where students could practice hands-on.<sup>18</sup> Caroline Hannaway and Ann La Berge's edited volume *Constructing Paris Medicine* challenges the myth of French clinical primacy over other European school in the first half of the century.<sup>19</sup> Thomas Bonner's comparative work on Medical Education argues that French clinical training for students lagged behind German and Austria medical academies. Unlike those states, which incorporated teaching wards in their universities, the French model separated hospital clinical instructions from the faculties. Hospital administrators controlled access to patients and resources for clinical study, preferring to have students independently learn from prestigious physicians and surgeons rather than cooperate with the faculties. The ideal clinical experience only really existed for top students awarded an 'internat' at a hospital or those who could pay for private access, rather than as an integral part of medical faculties.<sup>20</sup> Only after 1870, in order to compete with Germany, did the French government enact reforms to expand clinical specialisation.<sup>21</sup>

<sup>18</sup>Joy Harvey, "Faithful to its old traditions"? Paris Clinical Medicine from the Second Empire to the Third Republic (1848–1872), in C. Hannaway and A. La Berge (eds), *Constructing Paris Medicine* (Amsterdam: Rodopi, 1998), 313, 326. The two most famous studies of clinical medicine are: Erwin H. Ackerknecht, *Medicine at the Paris Hospital, 1794–1848* (Baltimore, MD: Johns Hopkins Press, 1967); Michael Foucault, *Naissance de la clinique* (Paris: Presse universitaires de France, 1963).

<sup>19</sup>Caroline Hannaway and Ann La Berge (eds), *Constructing Paris Medicine* (Amsterdam: Rodopi, 1998), introduction. On the existence of clinical experience prior to the Revolution see: Toby Gelfand, *Professionalizing Modern Medicine: Paris Surgeons and Medical Science and Institutions in the 18th Century* (Westport, Conn: Praeger, 1980).

<sup>20</sup>Thomas N. Bonner, *Becoming a Physician: Medical Education in Great Britain, France, Germany, and the United States, 1750–1945* (New York: Oxford University Press, 1996), 8, 109, 113, 256; see also Benedicte Vergez, *Les Internes des Hôpitaux de Paris* (Paris: Hachette Littératures, 2002).

<sup>21</sup>Patrice Pinell, 'Champ médical et processus de spécialisation', *Actes de la recherche en sciences sociales*, 156–157, 1 (2005), 19.

Obstetrics was one of the most difficult specialised clinical experience to provide to students. Unlike Germany and Austria which had lying-in wards attached to their medical faculties, French medical schools did not have priority access to pregnant women.<sup>22</sup> France did have chairs in obstetrics, which British universities lacked, but students rarely trained on pregnant bodies.<sup>23</sup> The key issue with practical obstetrical training was the propriety of mixing male students with the women found in maternity wards: be they students, nurses, or patients. By 1770, the government had expelled the medical students from the Hotel Dieu's maternity in Paris due to their 'levity and indecent behaviour'.<sup>24</sup> After the Revolution, when the interior minister Jean-Antoine Chaptal inaugurated a new system of medical education it included clinical training in obstetrics. Chaptal planned to have medical students practice on pregnant women at the Maternité hospital, parallel to the midwifery students who trained there. The Maternité's head midwife, the well-respected Marie Louise Lachapelle, refused for fear that mixing the sexes would lead to seductions of her students and ultimately the disrepute of her school.<sup>25</sup> This fear of student intermixing helped hold back obstetrical learning for men by '30 years'.<sup>26</sup> Jacques Léonard argues that the regulations of religious sisters who ran many hospitals also paralysed male obstetrical training.<sup>27</sup> Nursing orders often had regulations directly forbidding pregnant women to enter the hospitals they managed, in order to protect the reputations of their sisters.<sup>28</sup> Even if the sisters allowed pregnant women in hospitals, as they did in larger cities, they limited or segregated students who could practice on them by gender. Only after 1870 did the religious sisters lose their grip over hospitals.<sup>29</sup>

In 1823, the Parisian medical school added clinical courses in obstetrics, taught by Louis Charles Deneux, but male students continued to practice on anatomical models.<sup>30</sup> To supplement their education, medical students attended private lectures by renown obstetricians like Jacques-Pierre Maygrier, Antoine Constant Danyau and Joseph Capuron or by well-known midwives who gave lessons under the title 'professor in the art of midwifery'.<sup>31</sup> In 1829, the Academy of Medicine separated obstetrics from surgery, further recognising it as a separate specialisation.<sup>32</sup> Yet, when the renown German obstetrician Eduard Caspar Jacob von Siebold visited Paris in 1831, he found that there were no public places for medical students to practice obstetrics.<sup>33</sup>

<sup>22</sup>Jürgen Schlumbohm, 'Poor Relief and Health Care: British Lying-in Hospitals and German Public Hospitals Compared', in F. Ammannati (ed.), *Assistenza e Solidarietà in Europa, Secc. XIII-XVIII = Social Assistance and Solidarity in Europe from the 13th to the 18th Centuries* (Florence: Firenze University Press, 2013), 19–20.

<sup>23</sup>Loudon, *op. cit.* (note 7), 172–173.

<sup>24</sup>A. Tolver, *The Present State of Midwifery in Paris* (London: Gale Ecco, 1770), 1–2.

<sup>25</sup>Beauvalet-Boutouyrie, *op. cit.* (note 14), 108–109. Florence Nightingale's refused to allow male students into her midwifery course started in 1861 since she feared that respectable families would not allow their daughters to join. Lynn McDonald, *Florence Nightingale on Women, Medicine, Midwifery and Prostitution: Collected Works of Florence Nightingale*, Vol. 8 (Waterloo: Wilfrid Laurier University Press, 2006), 153.

<sup>26</sup>Antoine Dupic, *Antoine Dubois, chirurgien et accoucheur* (Paris: A. Michalon, 1907), 143.

<sup>27</sup>Jacques Léonard, 'Femmes, religion et médecine: Les religieuses qui soignent en France au XIXe siècle', *Annales. Economies. Sociétés. Civilisations*, 32 (1977), 887–907, 894–5.

<sup>28</sup>Marie-Claude Dinot-Lecomte, 'Les religieuses hospitalières dans la France moderne: une même vocation dans une multitude d'instituts', *Revue d'histoire de l'Église de France*, 80, 205 (1994), 195–216, 205.

<sup>29</sup>Morag Martin, 'Midwifery as Religious Calling: The Struggle for Church Recognition by the Sœurs de a Charité Maternelle of Metz in the Nineteenth Century', in Marianne Delaporte and Morag Martin (eds), *Sacred Inception: Reclaiming the Spirituality of Birth in the Modern World* (Lanham, MD: Lexington Press, 2018), 3–21; Morag Martin, 'Disciplining the Bodies of Single Women: The Failure of Midwifery Education in the Gers, 1802–1839', *French Historical Studies* (2021), forthcoming.

<sup>30</sup>The chair was named 'accouchements' and renamed obstetrics in 1889. Charles Coury, *L'enseignement de la médecine en France, des origines à nos jours* (Paris: Expansion Scientifique Française, 1968), 151, 132.

<sup>31</sup>Mireille Wiriot, *L'enseignement clinique dans les hôpitaux de Paris entre 1794 et 1848 (d'après des documents de l'époque)* (Paris: Université de Paris, 1970), 62.

<sup>32</sup>George Weisz, 'The Development of Medical Specialization in Nineteenth-Century Paris', in A. La Berge and M. Feingold (eds), *French Medical Culture in The Nineteenth Century* (Amsterdam: Rodopi, 1994), 154.

<sup>33</sup>Sage Pranchère, 'Midwives' and Medical Students' Clinical Obstetric Training in Nineteenth-Century France', Paper presented at the Center for the History of Medicine in Ireland Conference, University College Dublin, October 2014.

Finally, in 1834, a permanent Hôpital des Cliniques opened with a maternity headed by Paul Dubois, principal professor at the Maternité. It was, according to the faculty's librarian, 'the first time we heard an obstetrics professor rid science of the superfluities that had encumbered it, joining practice to theory...' <sup>34</sup> On average, the clinic saw two deliveries a day. When the porter hung a lantern in his lodge to notify of an impending birth, students rushed to be the first two to gain entrance at the bedside, while late comers watched from behind a railing. <sup>35</sup> Male students only supervised births during the day for reasons of propriety and the hospital only had forty to fifty beds, which made it impossible for students to gain enough hands-on training. <sup>36</sup> In 1881, a larger obstetrical clinic opened, but even then students could graduate without 'having examined a woman or having been present at a birth'. <sup>37</sup>

Strasbourg was the only medical faculty with sustained hands-on obstetrical training, which became in the eighteenth century the basis for programmes throughout Europe. <sup>38</sup> Obstetrician Antoine Louis Dugès (nephew to Lachapelle) concluded that the school in Strasbourg was superior to the Paris model. He praised the school for tending to the single mothers, rather than the students' potential ruin: 'nothing has proven that there is the least inconvenience providing at the same time help for poor and timid women, and enlightened resources for unfortunate cases'. <sup>39</sup> Starting in 1837, it became the model of a successful clinical programme for both men and women, proud that the commingling of sexes alongside poor patients had not led to moral breakdown.

Why did the other medical schools not follow suit? A report on the Montpellier medical faculty in 1829 (where students were not allowed to study obstetrics on real patients at all) blamed not the medical community, which craved such training, but instead 'local barriers'. The report argued that if male students were chosen for their maturity and knowledge, they could benefit from hands-on experience without harm to anyone. <sup>40</sup> Despite medical arguments, schools did not challenge local prejudices. Instead, they created separate and expensive maternity wards for male and female students. Bordeaux's opened in 1856 and Montpellier's in 1866. Even Strasbourg, by the mid-century, separated men and women's training in births: the Clinique Obstétricale for men and the Maternité for midwives. <sup>41</sup>

If the Paris Faculty has been copiously studied by historians, the secondary medical schools are much less well known. These school, though often attacked by the medical faculties as training incompetent practitioners, offered a cheaper and more localised medical education for sons of the middle-classes. <sup>42</sup> There were at their height twenty-two secondary medical schools in France during the course of the nineteenth century. They trained health officers limited to practicing medicine (not surgery) in the department in which they had passed their exams in front of a medical jury (after 1878, they received

<sup>34</sup> Auguste Corlieu, *L'hôpital des cliniques de la faculté de Médecine de Paris* (Paris: V.A. Delahaye et Cie, 1878), 12; Depaul, *op. cit.* (note 15), 449; 'Nécrologie de Paul Dubois', *Gazette hebdomadaire de médecine et de chirurgie* 45 (December 8, 1871), 717–42.

<sup>35</sup> Ferdinand Campbell Stewart, *The Hospitals and Surgeons of Paris: An Historical and Statistical Account of the Civil Hospitals of Paris* (New York: J and H.G. Langley, 1843), 42.

<sup>36</sup> Leon le Fort, *Des maternités: Etude sur les maternités et les institutions charitables d'accouchement à domicile dans les principaux états de l'Europe* (Paris: Victor Masson et fils, 1866), 219; Sage Pranchère, *op. cit.* (note 33).

<sup>37</sup> Harry W. Paul, *Henri de Rothschild, 1872–1947: Medicine and Theater* (London: Ashgate, 2011), 65.

<sup>38</sup> Gélis, *op. cit.* (note 1), 297–300; Victor Stoeber and Gabriel Tourdes, *Topographie et histoire médicale de Strasbourg et du département du Bas-Rhin* (Strasbourg: Vve Berger-Levrault et fils, 1864), 486.

<sup>39</sup> Antoine Louis Dugès, 'Analyses. Pratique des Elèves de l'école d'Accouchement du département de L'Ain, publiée par le Docteur Pacoud', in Delpuch (ed.), *Mémorial des hôpitaux du Midi et de la clinique de Montpellier* (Paris: Gabon, 1829), 40–1.

<sup>40</sup> La Commission administrative des hospice civils de Montpellier, a M. Delpuch, Professeur à la Faculté de Médecine de Montpellier, 18 Mars 1829', in Delpuch, *op. cit.* (note 39), 148–51.

<sup>41</sup> Louis Sentex, 'Compte. rendu des faits observés à la clinique d'accouchements de l'École de Médecine de Bordeaux, depuis le 1 janvier 1859 jusqu'au 30 juin 1863', *Journal de médecine de Bordeaux*, 8 (1863), 441–56; Emilie Saurel, *Naissance et abandon d'enfants dans le diocèse de Montpellier: Pratiques et coutumes du XVIIe au XIXe siècle* (Paris: L'harmattan, 2012), 128; Victor Stoeber and Gabriel Tourdes, *Topographie et histoire médicale de Strasbourg et du département du Bas-Rhin* (Strasbourg, 1864), 459–60.

<sup>42</sup> Jacques Leonard, 'Les études médicales en France entre 1815 et 1848', *Revue d'Histoire Moderne & Contemporaine*, 13, 1 (1966), 89.

degrees directly from their schools).<sup>43</sup> The names and regulations of these schools changed over time. After being largely unsupervised during the early part of the century, by 1820, they fell under the control of the Universities and the Ministry of Education and in 1825 renamed *Ecoles secondaires de santé*.<sup>44</sup> In 1840, they became *Ecole préparatoires de médecine et pharmacie* financed by municipalities, departments and student fees.<sup>45</sup> These newly minted schools prepared students for entry to faculties, so had to teach the same classes as the first 2 years of the faculties and thus cost more than previous iterations. The schools of Lyon, Rennes and Toulouse were the largest, while Arras had a similar number of students to comparable cities. The number of students the school attracted fluctuated over time, with the largest number of students, between fifty and sixty, attending in the 1830s.<sup>46</sup> By the Third Republic some schools transformed into full-fledged medical schools, such as Lyon, Marseilles, Lille, Toulouse and Bordeaux, while others continued on as *Ecole préparatoires* until 1955 when all medical schools became *Ecoles nationales de médecine*.<sup>47</sup> A third group, including Arras, shut down as they no longer fulfilled government criteria.<sup>48</sup>

Smaller and more practical in focus than the faculties, they were sometimes integrated into local hospitals and could offer more hands-on training than the larger faculties.<sup>49</sup> Nevertheless, compared to clinical rounds in medicine or surgery, obstetrics posed a different set of problems for hospital administrators who did not wish to invest into the development of separate birthing suites for male and female students found in larger faculties of medicine. Unlike the Paris *Maternité* which attracted pregnant, often single women from both Paris and the surrounding departments, smaller cities did not have large numbers of women willing to give birth in an institutional setting.<sup>50</sup> Small numbers led to increased competition between midwifery and male medical students.

### Dr Nonot's half-hearted attempts at dual obstetrical education in Arras: 1782–1815

Obstetrical education in Arras had its basis in the eighteenth century. The provincial government of Artois created a course in anatomy and surgery in 1758. In 1782, Dr Nonot added a birthing course for both men and women, though not taught together.<sup>51</sup> Men trained in the winter months, and women in the spring, while in the off months both received lessons in therapies. The courses were free of charge and housed and fed students in the building. The female students also received a hundred *livres* when they graduated, and a bonus of 300 more as a dowry if they married a man from the town they had been assigned to work in.<sup>52</sup> The male students received no practical instruction in obstetrics, but Nonot

<sup>43</sup>Midwives trained in departmental programs were limited to practice in that department. Sage Pranchère, *op. cit.* (note 10), 271.

<sup>44</sup>François Vidal, 'Les 'Petites écoles' de médecine au XIXe siècle', *Actes, société française d'histoire de l'art dentaire Ve congrès* (1995), 21–5.

<sup>45</sup>Elisabeth Gigaud, *L'Ecole de médecine de Nantes de 1808 à 1875* (master's thesis: Université de Nantes, 2001), 58.

<sup>46</sup>The school enrolled forty to fifty in its early years, but rose to fifty to sixty during the 1830s. It hit problems recruiting in the 1840–60s with more competition from other schools, leading to thirty to forty enrollees. In its last decade, the school had regained student numbers, between fifty and sixty. AN F/17/2301, Minister of Public Instruction to Prefect, August 1827; AN F/17/2301, Rapport trimestriel, April 1838; AN F/17/2301, 1854 and 1855 Budget; Conseil Départemental du Pas-de-Calais, yearly figures. The figures for the 1850s are in the same range as Nancy, Angers, Dijon, and Limoges, but lower than Amiens (45) and Rouen (42). Vidal, *op. cit.* (note 44), 25.

<sup>47</sup>Vidal, *op. cit.* (note 44), 24.

<sup>48</sup>After 1892, the title *officiers de santé* no longer existed; these schools functioned to prepare students for the doctorate. Robert Heller, 'Officiers de Santé: The Second-Class Doctors of Nineteenth-Century France', *Medical History*, 22, 1 (1978), 25–43.

<sup>49</sup>Narcisse-Achille de Salvandy, 'Rapport du 6 octobre 1837', in *Journal général de l'instruction publique et des cultes*, 6 (1837), 131–2; Gigaud, *op. cit.* (note 45), 227.

<sup>50</sup>Rachel Fuchs, *Poor and Pregnant in Paris: Strategies for survival in the Nineteenth Century* (New Brunswick, NJ: Rutgers University Press, 1992), 28.

<sup>51</sup>In the 1760–70s, Mme du Coudray travelled throughout France training doctors/surgeons to teach midwifery training courses. Gelbart, *op. cit.* (note 11).

<sup>52</sup>Baron de Hautelocque, 'Les séminaires, l'enseignement supérieure, les écoles spéciales dans le Pas-de-Calais jusqu'en 1804', in *Mémoire de L'académie des science, lettres et arts d'Arras* (1871), series 2, T. XVII: 217–83.

periodically took female students with him 'to the homes of poor women of the city' who received twelve francs for this inconvenience.<sup>53</sup>

The Revolution slowed the development of obstetrical training, temporarily shutting down medical instruction in 1793. As an ardent republican, Nonot's sympathies lay with the new government. Yet, he felt frustrated at its slowness in regulating and instituting new rules for medical education, illegally keeping his medical courses running.<sup>54</sup> Midwifery courses never shut down since they protected the lives of mothers and children.<sup>55</sup> Nonot opened a maternity ward in this period to train midwifery students and dissuade mothers from thoughts of infanticide.<sup>56</sup> By 1800, however, he complained that the department desperately needed more 'surgeon birthers and educated midwives'.<sup>57</sup>

In 1801, the medical schools reopened, and in 1803, the Napoleonic government issued a call for new departmental midwifery training programmes to be housed in the departmental hospital which received the most pregnant patients. This requirement would ensure that all midwifery students receive hands-on practice at births. Since Arras had a history of dual-sex obstetrical education (albeit always separate), it seemed most economical to Nonot and the departmental prefect to include midwifery students into the new school of obstetrics, anatomy and surgery. The prefect felt that women enrolled in pure midwifery programmes without anatomy and surgery courses would be mediocre practitioners. Even during the Old Regime course, Nonot taught anatomy and therapeutics to midwifery students, as well as obstetrical lessons that included details on 'mechanisms, structures and uses'.<sup>58</sup>

Including midwifery students into the male medical curriculum was exceptional as was the 6-month length, compared to three for most other midwifery courses.<sup>59</sup> This type of rigorous course presented challenges in terms of resources and recruiting women able and willing to attend. Throughout France midwifery programmes had difficulty finding enough literate students since midwifery attracted women of artisanal backgrounds who had trouble reading the required obstetrical manual.<sup>60</sup> Nonot's experience in the Old Regime taught him that 'the real motivation which incites women to sign up for this school is much less the desire to learn and exercise an honourable profession than the satisfaction of living agreeably in a big city for 2 years'.<sup>61</sup> He proposed eliminating the financial incentive for the new course to ensure students were properly motivated. Unfortunately, doing so led to no students signing up. For Nonot, this reinforced his view of midwifery students as disingenuous. More likely, however, rural women who aspired to become midwives could not afford to move to Arras for the duration of the course without a stipend. Due to the lack of students, the department sent a few promising women to Paris to train at the Maternité, where they received an expensive but valuable education.<sup>62</sup> Too few, however, to fill the need for competent midwives that a local school promised.

These experiences led Nonot to lose faith in midwifery education. He believed that 'women are not capable of making great progress in the study and practice of science'.<sup>63</sup> He claimed that during his Old Regime course, the midwifery students were competent while under his watchful eye, but as soon as they graduated, they did no better than an untrained matron. Why was this? He answered that they memorised their lessons and did not learn to use their imaginations. They learned anatomy essential to the practice of birthing, but not medicine or the 'causes that can trouble the harmony that the creator so wisely established in this admirable machine'. Even the most elite midwives trained in Paris, he felt,

<sup>53</sup> Archives Nationales (AN) F/17/2301, Directeur de L'école de Médecine au Préfet, 18 January 1813; Archives Départementales (AD) Pas-de-Calais T198, s.d.

<sup>54</sup> Hauteclouque, *op. cit.* (note 52), 256.

<sup>55</sup> *Ibid.*, 257; AD Pas-de-Calais T198, 'Cour de chirurgie et d'accouchement d'Arras'.

<sup>56</sup> AD Pas-de-Calais T198, 'Cour de chirurgie et d'accouchement d'Arras'.

<sup>57</sup> AD Pas-de-Calais T198, 'Ecole de chirurgie et d'accouchement', 9 August 1800.

<sup>58</sup> AN F/17/2301, 27 June 1782.

<sup>59</sup> Sage Pranchère, *op. cit.* (note 10), 95.

<sup>60</sup> *Ibid.*, 310.

<sup>61</sup> AD Pas-de-Calais, T198, Nonot, 31 March 1813.

<sup>62</sup> AN F/172301, Prefect to Minister of Interior, 26 May 1809.

<sup>63</sup> AD Pas-de-Calais, T198, Nonot to Prefect, 22 January 1813.



proved unable to tackle complex cases. Solely a man trained in medicine and surgery could really be competent at a bedside.<sup>64</sup>

Nonot's perception of midwifery education made it impossible for him to promote extra clinical experience for women. He believed that since they could not use instruments and had to call a male practitioner for complex cases, they had no need to practice on live births as they would only experience text-book cases.<sup>65</sup> His underlying assumption, shared by many of his colleagues throughout Europe, was that male midwives were preferable at the bedside since no one could predict ahead of time which cases would be routine.<sup>66</sup> By continuing to pay for a midwifery school, the administration encouraged the public to think they solved the problems of infant and maternal mortality. He argued instead for 'birthing lessons given to surgery students more capable of profiting from them, they will become in a short time competent, worthy of public confidence, they then will fulfil with success the views of humanity and beneficence dictated by these establishments'.<sup>67</sup> Nonot was well aware, however, that his male students only received minimal training in obstetrics during their 2-year training as *officiers de santé*. He bemoaned their lack of hands-on training and the lax expectations of the medical juries.<sup>68</sup>

Training male replacements for midwives during the Napoleonic period proved difficult. The ministry in Paris refused to pay for the medical school, forcing the department to increase student fees. A group of students in 1806 wrote to the prefect asking for a more rigorous medical curriculum with lower fees, since attending the faculty in Paris would be too expensive.<sup>69</sup> The government also decreed that all professors must be medical doctors and associated with the local hospital, a limitation which Nonot protested since in a town like Arras, all professors were surgeons or health officers.<sup>70</sup> Since the departmental council could not afford to hire a doctor for this post, all the professors taught obstetrics in turn, further undermining the respect of the field.<sup>71</sup>

Despite Nonot's arguments against women's medical education, the council also planned to reopen a separate midwifery school and maternity ward, at a cost of 9 700 francs, by far the costliest aspect of the new programme. This ward was to have its own separate professor, sixteen beds (twelve for the pregnant women and the rest for the interns and head midwife), as well as twelve infant beds. This exceeded the number of beds recommended by the 1806 government inquiry, showing that the leaders in Arras wished to provide ample hands-on practice for its student midwives.<sup>72</sup> Unlike other maternity courses in small departments, this proposed one had a structure of paid interns and unpaid externs familiar to medical schools.<sup>73</sup> The course would also provide free room and board to the pregnant patients for up to 5 weeks.

As envisioned, the maternity ward would also allow male students to train on patients, separate from the midwifery students for otherwise it might be 'against the mores' of the community.<sup>74</sup> These were not unreasonable fears. Sharing space led to real transgression in Nantes which could only afford one maternity ward with the midwifery programme. In 1813, administrators caught young medical students spending the night 'in the company of midwifery students'. After this incident, the religious sisters who ran the ward only allowed male students in the wards accompanied by their professor.<sup>75</sup> Despite this rule, later inspections found little surveillance: 'couples go off together and we find them in the corridors and

<sup>64</sup>AD Pas-de-Calais, Nonot report to the administration of the Hospice, s.d.

<sup>65</sup>AD Pas-de-Calais, T198, Nonot, Notes on *Cour de chirurgie et d'accouchement d'Arras*.

<sup>66</sup>On the United States see Ulrich, *op. cit.* (note 2), 254. For Britain see: Ornella Moscucci, *The Science of Woman: Gynaecology and Gender in England, 1800–1929* (Cambridge: Cambridge University Press, 1990), 10.

<sup>67</sup>AD Pas-de-Calais, T198, Nonot, 20 October 1798.

<sup>68</sup>AD Pas-de-Calais, T198, Nonot to Prefect, 18 January 1813.

<sup>69</sup>AD Pas-de-Calais, T198, Sixteen students to the Prefect, June 1806.

<sup>70</sup>AD Pas-de-Calais, T 198, Nonot report to the administration of the Hospice, s.d.

<sup>71</sup>AD Pas-de-Calais, T198, *École de médecine et d'accouchement*, 13 July 1810.

<sup>72</sup>Sage Pranchère, *op. cit.* (note 33).

<sup>73</sup>AN F/17/2301, Hospital Board to Prefect, 28 March 1810.

<sup>74</sup>AN F/17/2301, Préfecture: Extrait des minutes aux arrêtés du préfet du département du Pas de Calais, 17 July 1810.

<sup>75</sup>Sylvain Douillard, *Les maternités hospitalières de Nantes des origines à 1945* (unpublished MD thesis: Université de Nantes, 2005), 16, 19.

stairs in the most compromising positions. . . intimate relations occurred between a medical student and a midwifery student in the maternity ward during the momentary absence of the head mid-wife'.<sup>76</sup> The plans for the school in Arras indicate that the administrators had similar fears. Since the female students would live in the ward, the male students who came to learn could not enter while the women were present.<sup>77</sup>

Nonot very much disagreed with the regulations and administration of this planned midwifery course. His experiences during the Revolution showed him that maternity wards were impractical, unproductive and unwanted by the population of smaller cities. He asserted that only Paris could sustain a maternity ward (though Strasbourg did too).<sup>78</sup> Beyond the fear of gender mixing amongst students, was the fear that pregnant patients encouraged 'libertinism; scandalous for the female hospital staff and dangerous for the students'.<sup>79</sup> He, like others in this time period, argued that if women left their homes to give birth, they would be forgetting 'the most sacred of their duties' – that is the care of their husbands and children. And, worse of course, was the admission of girls or widows who wished to hide the 'shame of their weakness'.<sup>80</sup> But since in a small city, this proved impossible, they would eventually grow used to their shame and commit further crimes, potentially with the medical students. Nonot was not the only doctor with these fears. As part of the regulations of the University in Munich, the pregnant women had to be 'always under surveillance, so that they do not read immoral books, do not possess obscene images', or gamble.<sup>81</sup> Furthermore, the school did not allow male students to visit their patients after the birth without proper supervision to avoid potential sexual interactions.<sup>82</sup> In England, where lying-in hospitals were common in the eighteenth century, unmarried women were either not allowed in or heavily vetted, and male medical students hardly ever trained there.<sup>83</sup>

If maternity wards were dangerous for both male medical students and patients, they were even more so for female midwifery students. The model for French midwifery education after 1803 emphasised youth, with an age range for most schools of eighteen to thirty-five, since municipalities wanted to both train women for long careers and distrusted the set ways of older matrons. These young often unmarried women had to be models of virtue and thus uneducated in the ways of sexuality and reproduction. Teaching young women about anatomy, including the function of the clitoris, evoked fears of corruption.<sup>84</sup> Even schools with no male students had trouble justifying the interactions of pure young women with already fallen mothers, whose knowledge of sex could easily be passed on to students.<sup>85</sup>

Due to fears of sexual impropriety by all involved, no mixed-gender maternity ward developed in Arras in the 1810s. Instead, the prefect asked Nonot to draft a plan for the midwifery school (not yet opened) that would include a maternity ward only for its use. Nonot strongly objected to the project itself in his introduction, emphasising the importance of male medical education over female. Forced to promote midwifery education, however, he modelled his proposed school on the Maternité in Paris. To make sure that the young students were separated from their potentially corrupting patients and that they took their education seriously, he instituted very strict rules for behaviour. No other school I have studied employed penalties as harsh as Nonot's planned one. For instance, he proposed a special punishment room where truant students or patients sat on hard benches outside of lesson time, as well as bans on visitors for up to a year for certain infractions. Many of these suggestions appear crossed out in

<sup>76</sup>*Ibid.*, 26.

<sup>77</sup>AN F/17/2301, 'Extrait des minutes aux arrêtés du préfet du département du Pas-de-Calais', 17 July 1810; 'Project de réglemant de cours médicaux et cours d'accouchement', 1813.

<sup>78</sup>AD Pas-de-Calais, T198, Nonot report to Hospital board, 13 February 1810.

<sup>79</sup>*Ibid.*

<sup>80</sup>*Ibid.*

<sup>81</sup>Le Fort, *op. cit.* (note 36), 198.

<sup>82</sup>*Ibid.*, 257–8: 260.

<sup>83</sup>Many of the eighteenth-century lying-in wards closed by the end of the century due to high rates of disease and belief that home births were preferable for married mothers. Schlubohm, *op. cit.* (note 16), 26, 23.

<sup>84</sup>Sage Pranchère, *op. cit.* (note 10), 248.

<sup>85</sup>Martin, 'Midwifery as Religious Calling', *op. cit.* (note 29).

subsequent drafts, implying that the hospital administrators did not approve of such prisonlike treatment.<sup>86</sup>

Due to the military's need for hospital space during the Napoleonic wars, neither the administration's nor Nonot's plan ever came to light.<sup>87</sup> Nonot retired from teaching at the school of anatomy and surgery in 1816. Despite support from many quarters, a midwifery course with a maternity ward remained difficult to enact. Male students continued to be taught obstetrics without practical experience other than on an anatomical model and possibly cadavers, while the department sent two women a year to the Paris Maternité. During the Napoleonic period, the central government prioritised the Maternité as the gold standard, even if it grudgingly allowed departmental programmes. For a local programme to start, it had to have unwavering local support. Nonot's outspokenness against female students and the departmental government's unwillingness to invest heavily in them or to counter local concerns about morality, led to stagnation for midwifery education. Male obstetrical education, however, did not fare much better, as it got caught up in similar moral concerns and lack of concrete direction from the central government.

### Dual, but not equal, obstetrical education established: 1816–1870

After the Restoration, the department finally managed to open an official midwifery programme with its own maternity. Male medical education in obstetrics, however, stagnated until the July Monarchy. Due to pressure from the central government, secondary medical schools had to reform their offerings, emphasising clinical settings and faculty competencies. During this period, the department managed to create two functioning and parallel programmes for men and women, but they never fulfilled the state's clinical requirements. Though the medical school's support from the local government led to increased funding, competition over space and resources cloaked in the language of propriety continued to give the midwives priority access to the few pregnant women willing to be used as training subjects.

In 1826, at the behest of the mayor, Baron de Hautecloque, a maternity ward and practical and theoretical school for midwives finally opened, not separated from the medical school, but housed alongside it in the Hospital St. Jean.<sup>88</sup> The midwifery course ran parallel to the medical school, with little interaction and no sharing of the maternity ward. Though an 1834 survey indicated that advanced male medical students did rounds in the maternity ward, soon after they were kicked out because hospital administrators did not want intermixing of the sexes.<sup>89</sup> Despite provincial medical schools often operating partially in hospitals, the professors were not employees of the hospital (as previous plans intended) and tensions arose between the two administrations over resources. It is also possible that the *Sœurs hospitalières de Saint-Jean d'Arras*, who ran the hospital, raised concerns. The sisters of Saint-Jean d'Arras did not specifically ban pregnant women, but they could refuse any patient 'who lives a dissipated life that would scandalise its sisters'.<sup>90</sup> Their concerns about patient immorality could easily translate into wishing to keep the nursing sisters and midwifery students separate from young medical students.

The sisters did block cadavers they controlled from being used for anatomy lessons, indicating their desire to limit the spaces and bodies male students had access to.<sup>91</sup> Though the Ministry of Education authorised unclaimed cadavers for student use, in years with lower death rates schools complained they had too few cadavers.<sup>92</sup> Access to cadavers was essential for legitimising a school's curriculum. Student

<sup>86</sup>AD Pas-de-Calais, T198, 31 March 1813.

<sup>87</sup>AN F/17/2301, Hospital board to sub-prefect, 4 January 1814.

<sup>88</sup>*Mémoires de l'académie d'Arras* (Arras, 1863), 191. Duchateau was the main professor for the maternity and also taught anatomy and surgery for the medical school. *Mémoires de l'Académie des sciences, lettres et arts d'Arras*, 15 (Arras: Imprimerie Rohard-Courtin, 1884), 400.

<sup>89</sup>AN F/17/2301, 'Réponse circulaire d'école secondaire de médecine', 1834; AN F/17/2301. 'Académie de Douai, Rapport Hebdomadaire no 32', 27 April to 3 May 1838.

<sup>90</sup>Statuts des sœurs hospitalières de Saint-Jean, établies dans la ville d'Arras', 1 November 1810, <http://www.napoleoni.ca.org/gerando/GER02643.html>.

<sup>91</sup>AN F/17/2301, 'Rapport sur l'école secondaire de médecine', 3 May 1838.

<sup>92</sup>AN F/7/2301, 'Réponse circulaire', 5 September 1834.

ability to participate in dissections is what had made the Paris academy popular to American and British students.<sup>93</sup> Cadavers were not only used for demonstrative dissections, but fetuses of infants could be inserted into manikins for a more realistic practice.<sup>94</sup> Anatomical models and dissections were part of the midwives' education too, so it is likely that the male students had to share these expensive resources.<sup>95</sup> In Gottingen, for instance, the medical students only used the manikin for a few minutes a week due to their large numbers and use by the midwives.<sup>96</sup> In Arras, the school insisted that the students had plenty of experience watching dissections, but due to larger numbers of medical students than midwives, the men probably got little hands-on time on either models or cadavers.<sup>97</sup>

The medical school in Arras's dependence on manikins was not out of the ordinary and by the 1830s the government took steps to remedy the lack of practice on bodies across France. In 1828, the Minister of the Interior opened an inquiry regarding the state of medical education. The doctor Ulysse Trélat argued that *officiers de santé* should be banned from practicing obstetrics due to their minimal training while more robust birthing courses and exams should be provided to medical doctors.<sup>98</sup> Instead of eliminating obstetrics from secondary medical schools, the July Monarchy decided to increase their rigor. In 1837, the doyen of the Paris medical school, Mathieu Orfila toured secondary medical schools and was shocked that few provided practical obstetrical experience. He believed that students 'must absolutely have assisted women in labour, have birthed them, and have witnessed the numerous accidents that often compromise the existence of mothers and newborns'.<sup>99</sup> Orfila felt that the moral scruples which kept male students from working alongside female students led to midwives having greater capacity than the medical practitioners they were required to call in cases of complicated labour. Shockingly, he found that many hospitals administrators did nothing to encourage hands-on practice for male students, 'if even they do not put up paralysing shackles'. In response to this report, the Minister of Education Salvandy called on prefects to require that third and fourth-year medical students have at least 3 months a year clinical practice. Students who failed to could be banned from city hospitals.<sup>100</sup> Though this directive still gave midwifery students more time, in other parts of Europe, men took primacy. In Munich, for instance, the ratio of male to female practice was reversed, with the men getting 8 months.<sup>101</sup>

With the Ministry of Education and the prefect lending their authority, the director of the Arras Medical School in 1838 negotiated to give male students access to pregnant patients from June through September when the midwifery students were on vacation.<sup>102</sup> To keep the men separate from the midwives who worked year-round, the men adopted as their obstetrical suite two small rooms next to their dissection amphitheatre, across a large courtyard from the main maternity ward. Due to this access to pregnant patients, a small number of students came from England, Germany, Belgium, Spain and Poland as well as other nearby departments to attend the summer session.<sup>103</sup> The departmental

<sup>93</sup> AN F/7/4495, 'Ecole de Médecine', 26 January 1841; John Harley Warner, *Against the Spirit of System: The French Impulse in Nineteenth-Century American Medicine* (Baltimore, MD: Johns Hopkins University Press, 2003), 196.

<sup>94</sup> On cadavers used for teaching obstetrics see Harry Owen, *Simulation in Healthcare Education: An Extensive History* (Cham, Switzerland: Springer, 2016), 86–7, 100, 127–128, 137.

<sup>95</sup> Sage Pranchère, *op. cit.* (note 10), 334; AN F/17/2565, Règlement de la maternité, 1826.

<sup>96</sup> Schlubohm, *op. cit.* (note 17).

<sup>97</sup> AN F/17/4495, Conseil Général 1855. There were nine midwifery students and fifty medical students in 1835. AN F/17/2565, Ecole de Maternité, 1834; F/17/4495, 'Réponse circulaire d'école secondaire de médecine', 1834.

<sup>98</sup> Ulysse Trélat from 1828, in Jean-Claude Caron, 'L'impossible réforme des études médicales. Projets et controverses dans la France des notables (1815–1848)', in François-Olivier Touati (ed.), *Maladies, médecines et sociétés: Approches historiques pour le présent*, Vol. II (Paris: L'Harmattan, 1993), 212.

<sup>99</sup> Gigaud, *op. cit.* (note 36), 54–5.

<sup>100</sup> Salvandy, *op. cit.* (note 49).

<sup>101</sup> Le Fort, *op. cit.* (note 36), 194.

<sup>102</sup> AN F/17/2301, Minister of Instruction to Académie de Douai, 17 May 1838; Académie de Douai, 'Rapport Hebdomadaire' no. 32, 3 May 1838; Leviez, 'Rapport trimestriel d'avril 1838', 5 July 1838.

<sup>103</sup> AN F/17/2301 Statistical table, 2nd trimester 1838.

authorities felt proud of their institution's rigor and even believed that in terms of obstetrics their training was superior to the medical faculties.<sup>104</sup>

Despite having their own, if less than ideal, space, the school faced the common problem of few bodies to practice on. Only the very poor and the very desperate came to hospitals to give birth, primarily prostitutes and single women.<sup>105</sup> The high rate of infection, and thus death for infants and mothers, likely dissuaded many from making this choice if they had other options. Married women preferred to give birth at home to take care of their families. Yet, the central government stipulated that medical students observe at least twenty births so they might encounter all the possible complications that could arise in their future careers.<sup>106</sup> Since the maternity ward in Arras saw on average twenty births in a 3-month period and the school enrolled on average thirty to forty students in the 1850s to 1860s, this meant that male students likely only got hands-on practice on one to two births maximum, while watching a handful of others. The midwifery students, who numbered from nine to twelve, would have had access to forty or so pregnant women who came during the other months.<sup>107</sup> Other secondary schools faced similar limitations. In Nantes, medical students only assisted births if there were enough for the midwifery students. When in 1873, a separate maternity ward opened for the male students, they only received one-third as many patients as the midwifery students because they only cared for women of ill repute.<sup>108</sup>

Though the archives do not contain lesson plans from the earlier period, the lessons taught by the Dr Dupuich in the 1850s and 1860s reflect this lack of hands-on experience. His lessons to the male students weighed heavily towards theoretical courses in obstetrics based in the classic texts by Dubois and Baudeloque, written in the early part of the century. His clinical courses, which occurred after students participated in births, only made up eight lessons compared to the sixty-nine theoretical ones he taught. A traditional practitioner, Dupuich copied the lesson plans outlined by LaChapelle for the Paris Maternité, and like her used an anatomical model for demonstrations and student practice. The archives are mostly silent on the exact lessons taught to midwives, though in much of France, they were also assigned to read Baudeloque's text, lectured by the main professor, tutored by the head midwife, and trained to write notes on births they participated in. Midwifery students were also given lessons on postpartum care and the health of infants, as well as vaccination and blood-letting. In all likelihood, Dupuich used the same methods for midwives as for his male students, but cut out the theoretical lessons he thought too advanced or unnecessary for routine births.<sup>109</sup>

Though Dupuich does not give us much detail as to what he expected of the students in the ward, other schools' curriculum help illustrate the techniques used. In Strasbourg, students learned to use ergot to speed up contractions, to inject cold water into the umbilical vein to speed up the expulsion of the placenta, and to attempt to stave off haemorrhaging by inserting their hands into the womb.<sup>110</sup> Dupuich had access to similar tools, but stressed that a non-interventionist birth was preferable. The students' chart asked them to check the woman's cervix prior to the birth using a speculum and palpate her uterus once in labour.<sup>111</sup> For the examination, in Strasbourg, 'the woman is standing and leaned against a wall:

<sup>104</sup>Numbers declined to under thirty students, in the 1850s, though by the early 1860s regained forty to fifty students. A. de Fontaine de Resbecq, *Guide administratif et scolaire dans les Facultés de Médecine, les Écoles Supérieures de Pharmacie et les Ecoles Préparatoires de Médecine et de Pharmacie* (Paris: Librairie Victor Masson, 1860), 115; AN F/7/2301, Registre du conseil municipal, 18 January 1855; Conseil Municipal 1860–69.

<sup>105</sup>At the Paris Maternité, 85% of women giving birth were single from 1830 to 1860. Fuchs, *op. cit.* (note 50), 22. For a discussion of patients in maternity wards, see Sage Pranchère, *op. cit.* (note 10), 187–9.

<sup>106</sup>AD Pas-de-Calais, F/17/13189, *Programme cours d'accouchement par le Dr. Dupuich*, 13 May 1857. When the College of Surgeons introduced its first formal obstetrics course in 1852, they also required that students conduct twenty labours. Loudon, *op. cit.* (note 7), 190.

<sup>107</sup>*Conseil Général du Pas-de-Calais, Rapports et délibérations* (1855), 51, (1864), 116; yearly reports 1850–1869. These are similar numbers of hands-on practice to those Schlumbohm found in the early 1800s in Göttingen. Schlumbohm, *op. cit.* (note 17).

<sup>108</sup>Douillard, *op. cit.* (note 75), 19, 36–8.

<sup>109</sup>Sage Pranchère, *op. cit.* (note 10), 315, 323–34, Schlumbohm, *op. cit.* (17), 12.

<sup>110</sup>M. Flamant, 'Clinique d'accouchement de Strasbourg, Clinique, 1829, no 70', *Journal de publié par la société des sciences médicales et naturelles de Bruxelles médecine*, 1 (1829), 364–66.

<sup>111</sup>AN F/17/13189, Arras, 1855–1864.

the professor touches her first and informs the students of the state of her genitals and of her gestational stage; then the students successively touch her under the watch of the professor'.<sup>112</sup> If each exam was attended by a class of students of up to twelve, then this poor woman was palpated by many awkward hands. In Gottingen, the instructor limited examinations to no more than twice a week and by three to four students since rumours had it that student exams caused contra-natural deliveries.<sup>113</sup>

What students in Arras, as in other schools, learned through watching, or better yet examining, had to be balanced with the rules of decorum. Birthing manuals in the early part of the nineteenth century emphasised the patient's modesty, suggesting examinations and even births proceed by touch rather than sight. Patients were especially embarrassed when examinations occurred in a hospital setting, under the many prying eyes of students while an instructor commented on their anatomy. In Buffalo NY, when Dr James White practiced demonstrative midwifery in front of twenty students, Dr Horatio Loomis attacked him for subjecting the female patients to the 'salacious stare' of male students.<sup>114</sup> Most schools tried to keep the patient covered with a sheet until the moment of crowning, with the doctor standing to the side rather than facing the patient as 'this position is more practical and decent'.<sup>115</sup>

By the mid-century, both European and American doctors resented any outside criticism of their practices – asserting their professional standing and rights. This meant that they increasingly imposed their will on female patients who refused to be examined.<sup>116</sup> Hospital settings further encouraged the uncovering of patients' bodies, as a means to teach anatomy in full on women who had little ability to resist due to their status as single mothers. Not surprisingly, the doctor Depaul describes hospital patients as more 'docile' than others, which allowed for viewing as well as touching their external body parts.<sup>117</sup> The Paris Clinique had the reputation of being the most open in demonstrative obstetrics due to their clientele. The American Ferdinand Campbell Stewart believed this was because 'French women of the lower orders being callous to exposure, and accustomed in sickness to public examinations, greater facilities are afforded in Paris for acquiring a knowledge of practical midwifery...'<sup>118</sup> At the school in Arras, since the women who gave birth were single or poor, the teacher undoubtedly had few qualms about pressuring them to cooperate. Due to these women's status, the administrators and doctors worried more about the morals of their students than their patients.

The mid-century saw departmental and city governments battle over funding the expensive medical school in a period of declining enrolments. The school was financed equally by the city, the department and student fees, which meant it attracted middle-class students. When medical education was reorganised by the central government in the 1850s, Arras was the only school limited to recruiting from its own department, while nearby Lille, a more populous city, could recruit students from other departments. After a precipitous decline in enrolment (from forty to twenty-nine students), the government allowed the school to recruit from the Ardennes as well. In this period, the departmental and city governments questioned the utility of spending so much money (12 000 francs) for a school that had so few students and in their minds so little utility. The city council especially felt that the school benefitted the countryside more than the city, which already had enough doctors.<sup>119</sup>

<sup>112</sup>Flamant, *op. cit.* (note 110), 365.

<sup>113</sup>Schlumbohm, *op. cit.* (note 17), 14.

<sup>114</sup>American doctors worried that speculum use would lead to ocular examinations that could degrade 'female delicacy'. Virginia Drachman, 'The Loomis Trial: Social Mores and Obstetrics in the Mid-Nineteenth Century', in S. Reverby and D. Rosner (eds), *Health Care in America: Essays in Social History* (Philadelphia, PA: Temple University Press, 1979), 68, 70. Secondary medical schools in the USA were well behind European ones in terms of access to pregnant bodies. See Charlotte Borst, *Catching Babies: The Professionalization of Childbirth, 1870–1920* (Cambridge, MA: Harvard University Press, 1995), 97.

<sup>115</sup>Sylvie Arnaud-Lesot, 'Pratique médicale et pudeur féminine au XIX<sup>ème</sup> siècle,' *Histoire des Sciences Médicales*, 38, 2 (2004), 39–42.

<sup>116</sup>Drachman, *op. cit.* (note 114), 75.

<sup>117</sup>Jean-Anne-Henri Depaul, *Leçons de clinique obstétricale professées à l'Hôpital des Cliniques* (Paris: Delahaye, 1876), 5.

<sup>118</sup>Stewart, *op. cit.* (note 35), 124.

<sup>119</sup>AN F/17/4495, Conseil Général, 1 September 1855; 27 August 1857.

While the school argued for continued support, the midwifery school also came under financial stress which pitted the two programmes against each other. The hospital and department financed the midwifery programme, which benefitted the poor (both patients and students) and gave out scholarships to deserving students. The hospital board complained that while the medical school could receive increased tuition, the maternity ward's rooms 'fall into ruin and are not set up in a convenient manner for an establishment of this sort'.<sup>120</sup> Further exacerbating this inequality, in 1849, the departmental council cut money allocated to midwifery scholarships because 'the services rendered by the health officers are largely preferable to those of the midwives'.<sup>121</sup> This led to cutting the number of funded students from nine to six. The decision was not well received by some on the council who believed that even though health officers had more knowledge, the community preferred midwives. They felt that for the good of public health, the government should invest in recruiting more midwives.<sup>122</sup> Despite finding that the midwifery students had 'a persistently irreproachable conduct' the council did not act until the central government encouraged expansion of maternities and midwifery programmes in 1861.<sup>123</sup> They increased the number of midwifery students not by investing more money, but by dividing scholarships to allow up to ten students to attend partially funded.<sup>124</sup>

Dr Dupuich, who taught both the men and the women, like Nonot felt that many of his midwifery students were not capable of thriving in his course.<sup>125</sup> Yet under his watch, the midwifery school continued to function with a robust course of study and hands-on practice for the students. The better funded secondary school, however, struggled to keep its reputation intact with declining enrolments which put stress on hiring of professors. The departmental government's unwillingness to fully support the school and repeated concerns about its utility to both the city and surrounding countryside most likely contributed to the lack of real pressure to improve the students' access to the required clinical experiences in obstetrics.

### Dr Germe's failure to gain resources or save lives: 1873–1883

By the 1870s, both schools had attained stability, but the lack of access to bodies for the male students led to an all-out confrontation. Dupuich's successor, the doctor Léon Germe, vigorously pushed back against the inequality of access to pregnant bodies for his male students, while also arguing that midwives posed a greater health risk to their patients. Unlike Dupuich and Nonot, Germe did not teach the midwives, a job that was given to Dr Dusart, a strong advocate for women's education.<sup>126</sup> As champion for male obstetrical education starting in 1873, Germe was in almost constant conflict with the hospital administrators. In 1882, he published a manifesto outlining the many crimes committed by the hospital leadership who ignored new developments in medicine and germ theory as well as the superior rights of male students to the maternity ward.<sup>127</sup> Because Germe linked male access to bodies with the spread of disease, however, the pressing need to protect pregnant patients went unheeded due to continued concerns with gender mixing.

Germe, a follower of Comte's positivism, presented his arguments as a battle between enlightened science and obdurate conservatism. He enlisted the support of Dr Joseph Parrot, professor at the faculty in Paris, who wrote the introduction to Germe's screed. Parrot emphasised the need for clinical practice

<sup>120</sup> AN F/17/4495, Commission de l'hôpital St Jean to Mayor, 3 November 1842.

<sup>121</sup> Conseil Général du Pas-de-Calais, *Rapports et délibérations* (1850), 326.

<sup>122</sup> Conseil Général du Pas-de-Calais, *Rapports et délibérations* (1851), 115.

<sup>123</sup> *Enquête générale ouverte en 1860, dans les 86 départements de l'empire: Rapport de la commission instituée le 10 octobre 1861, par arrêté de S. exc. le Ministre de l'intérieur* (Paris: Impr. impériale, 1862), 81.

<sup>124</sup> Conseil Général du Pas-de-Calais, *Rapports et délibérations* (1858), 145; (1861), 147; (1864), 117.

<sup>125</sup> Conseil Général du Pas-de-Calais, *Rapports et délibérations* (1862), 148–9.

<sup>126</sup> Conseil Général du Pas-de-Calais, *Rapports et délibérations* (1873), 320.

<sup>127</sup> Léon Germe, *L'enseignement et la pratique des accouchements aux élèves en médecine à l'hôpital d'Arras et les responsabilités des commissions administratives qui s'y sont succédées depuis 1873* (Arras: E. Bradier, 1882).

for male students, blaming men of ‘good will’ who unintentionally blocked their access to bodies. He emphasised that Germe’s support of germ theory and new hygiene practices would save lives.<sup>128</sup> Germe followed Parrot’s polite criticism with a much harsher accusation that the civilian hospital board members (none of whom were doctors) purposefully blocked progress in obstetrical care. This attack on the hospital administration underlines the tensions present in medical schools operating inside institutions that controlled the access to patients and to spaces necessary for obstetrical education. Though Germe had many ideas for improving healthcare, he did not control the spaces in which he taught.

The main struggle for Germe was greater access to pregnant bodies for his students. The more conservative hospital board, who had preferred Dusart for the job, continued to prioritise midwifery students.<sup>129</sup> Though Germe never openly argued for the closing of the midwifery programme, much like Nonot he hoped to minimise its scope and expand his own programme. Germe believed that the head midwife, Mlle Vanvincq, with the at least implicit cooperation of the main doctor of the maternity and administrators of the hospital, purposely obstructed his students’ training. During his students’ 3-month window to practice, she did everything in her power to limit their access to bodies.<sup>130</sup>

For Germe, the problem was not just diminished educational opportunities for his students, but patient-welfare. For instance, the head midwife only allowed the transfer of women to the male students’ operating room when they were in full labour, and across an open courtyard by potentially drunk handlers to boot. Germe claimed that due to rough handling, some women gave birth before arrival and others were so tired from the experience their labour stopped and they had to be returned to the maternity ward. Even more perilous to the mother was her immediate transport after the birth back to the maternity, which also robbed the medical students of important lessons in postpartum care of mother and child.<sup>131</sup>

Germe felt that these risks to patients stemmed in part from the lack of a dedicated space for his students to work in. Starting in 1877, he petitioned for the creation of an obstetrical suite next to the maternity ward for his use, but the hospital board responded that this location would make ‘communication too easy with the maternity and surveillance of the student midwives ... all but impossible’. Continued fear of gender mixing proved an easy excuse for the board, whose priorities were with the midwifery school they funded. Germe also asked that medical students have access to pregnant patients for 6 months. The hospital board responded that midwifery students’ training was more important than that of medical students, who already took precious patients away from the midwives. Male students only get ‘a mediocre profit from a medical point of view’ from hands-on-practice.<sup>132</sup>

Germe was shocked that educated men would argue that women needed more practical training than men. Like Nonot, he felt that midwives would never be as good as male medical professionals, even the second tier *officiers de santé*. He found trained midwives to be often ‘powerless, inefficient or dangerous’ at the bedside.<sup>133</sup> Of the seven midwives he gave written examinations to in 1878, four failed to pass the theoretical test and he mercilessly mocked the poor French of one. The rest of the examiners, however, passed all seven, sending them into the countryside to ‘carry out their crass ignorance’.<sup>134</sup> Though Dusart strongly disagreed with Germe’s evaluation of his students’ abilities, in 1879, the school rewrote the entrance exam to make sure that students had the requisite educational levels. By 1882, the council congratulated the students for their superb exam results, saying that they deserved ‘encouragements and sympathies’. Instead of limiting the school, as Germe would have hoped, it voted to add more scholarships to increase the number of poor students who could attend.<sup>135</sup>

<sup>128</sup>Lettre d’introduction du Dr. Parrot, Professor Faculté de Paris, 25 Mars 1882’, in *Ibid.*

<sup>129</sup>*Ibid.*, 11.

<sup>130</sup>*Ibid.*, 14.

<sup>131</sup>*Ibid.*, 13–4.

<sup>132</sup>*Ibid.*, 15–6.

<sup>133</sup>*Ibid.*, 41.

<sup>134</sup>*Ibid.* (note 1), 22.

<sup>135</sup>Conseil Général du Pas-de-Calais, *Rapports et délibérations* (1881), 727; (1882), 819.



For Germe this support of midwifery students was contrary to the needs of the poor patients they would eventually serve. Germe argued that there were more cases of dystocia in the countryside than in the cities, so competently trained medical officers were necessary to 'rectify the errors of midwives or repair their faults...'. He recounted in his book the terrible death of a mother who had been incompetently treated by two graduates of Arras' medical school: one had applied forceps in the wrong place, while the other had administered a high dose of ergot. Despite a third more experienced doctor finally being called and prescribing the use of antiseptics, the foetus was already dead and the mother died of puerperal fever soon after. Though the large medical faculties could not provide their students with enough hands-on training, Germe argued that Arras had enough pregnant patients in hospitals to make sure this type of tragedy did not occur. Unfortunately, the administrators showed little willingness to prioritise male student access.<sup>136</sup>

Frustrated, Germe turned to action to sway the board. He started refusing to allow postpartum mothers to be carried back to the maternity ward across the courtyard from his smaller *salle d'accouchement* [birthing room]. This protest bore fruit; the board conceded to him a room for mothers to recuperate in, further establishing the rights of medical students. In a counter move, the midwifery school petitioned the administration to enforce article 131, which stated that patients could refuse treatment by male medical students. This and the midwives' 'feminine tongues' spreading the rumour that male students experimented on patients, led to only three women willingly crossing the courtyard to the male space that season.<sup>137</sup> According to Germe, his male students (twenty-four per term) saw only eighteen births over 2 years of study and had hands-on practice on one or even none, below the twenty observations promised to the Ministry of Education. The midwifery class, in comparison, averaged twelve students a year which meant they could observe 102 births and assist in at least ten each, as well as provide pre- and post-natal care for all 120 of the women.<sup>138</sup> The lack of patients, led the students themselves to complain to the municipal government that their education did not meet required national standards. Councilman Joseph Leloup supported their complaints, arguing that they received an inferior education despite the 'good faith of the clinical professor of obstetrics'.<sup>139</sup> In contrast, one of Germe's co-teachers shockingly felt that the students should be punished for complaining.<sup>140</sup>

Germe believed that he could not just reform his student's education, but that he could also save lives in the hospital itself. Hospital births were more dangerous than home births during the nineteenth century, but clinical training increased those deaths to alarming rates.<sup>141</sup> Germe was a convert of a variant of germ theory mixed with the older miasma theory. Having read the works of Ignaz Semmelweis and Stéphane Tarnier, Germe correlated the spread of puerperal fever to the crowding of sick and healthy women in one ward, as well as to the nearby anatomical theatre used for dissections. Tarnier had studied the spread of the disease at the maternity ward of the Port-Royal hospital in Paris in the 1850s.<sup>142</sup> Despite studies by Tarnier and Alexandre Thierry that proved that maternity wards used by teaching programmes saw high levels of maternal deaths, Paul Dubois did not favour closing them as that would doom clinical instruction.<sup>143</sup> In 1862, the Minister of the Interior did try to promote greater hygienic measures in maternity wards, touting those taken by the maternity ward in Rouen. Few provincial hospitals took notice.<sup>144</sup> Overall, French clinics and hospitals were slow to adopt Semmelweis' findings,

<sup>136</sup>Germe, *op. cit.* (note 127), 52, 41, 55–8.

<sup>137</sup>*Ibid.*, 19–20, 30.

<sup>138</sup>*Ibid.*, 21. On average sixty women gave birth in the maternity in the 1880s. Conseil Général du Pas-de-Calais *Rapports et délibérations*.

<sup>139</sup>Joseph Leloup, *École préparatoire de médecine et de pharmacie* (1878), quoted by Germe, *op. cit.* (note 127), 26.

<sup>140</sup>Germe, *op. cit.* (note 127), 20–1.

<sup>141</sup>Schlumbohm, *op. cit.* (note 17); Loudon, *op. cit.* (note 7), 430–44.

<sup>142</sup>D. Poznanski, 'Il y a 100 ans: le professeur Stéphane Tarnier (1828–1897)', *Journal de Gynécologie Obstétrique et Biologie de la Reproduction*, 27, 1 (1998), 9–13: 9–10.

<sup>143</sup>Harvey, *op. cit.* (note 18), 319.

<sup>144</sup>Germe, *op. cit.* (note 127), 70–1.

prioritising teaching over the lives of their patients.<sup>145</sup> Only after 1877 when Dr Budin spread the ideas of Lister to the Paris Maternité and finally with the discovery of the *Streptococcus* microbe by Pasteur in 1879, did French hospitals adopt systems of antiseptics. Even then, provincial hospitals would not fully reform the spaces used for births to separate pregnant women from the sick until the turn of the century.<sup>146</sup>

Arras, like many smaller cities, seemed to Germe unwilling to adapt to the changing medical consensus. Not only were the rooms cramped and dirty, but during the winter months, hospital personnel deposited dead bodies in his obstetrical clinic, leaving behind contaminated sheets.<sup>147</sup> Germe believed that most germs came through the air, and complained that small transom windows made it impossible to fully aerate the room.<sup>148</sup> His fears were justified: in 1878, 50% of the women admitted to his suite of rooms came down with septicaemia, and 25% died. Luckily, rumours spread in town that the hospital was poisoned, so mothers stayed home.<sup>149</sup> Germe, not surprisingly, was livid about this astronomical death toll, comparing Arras to even the worst years of the Paris Maternité (one in eight dead) hi-lighting ‘25 Dead out of 100 births!!!!’ in the middle of his text.<sup>150</sup> His solution, borrowed from the work of Léon Le Fort, was smaller rooms with fewer patients, separation of sick from the healthy, and the complete disinfection of rooms after each birth, practices which had greatly decreased the mortality rate in other hospitals.<sup>151</sup> He especially wished his students could practice births in their own dedicated and isolated suite of rooms, but as a compromise, he wanted access to the larger and better ventilated maternity ward, which sat underused during the summer months.

Despite realising that his own students posed a risk to pregnant women, Germe also singled-out the midwifery students for poor hygiene: he accused them of not washing the patients, reusing soiled sheets and failing to use antiseptics.<sup>152</sup> Semmelweis’ original study of Vienna found a stark contrast between the low death rate in the maternity ward run by midwifery students, who did not practice dissections and the high death rate found in the medical school.<sup>153</sup> A similar contrast between male and female wards occurred in Strasbourg, with that city having the highest maternal death rates anywhere in France.<sup>154</sup> In Arras, as in Paris, however, midwifery students also participated in dissections. Though Germe saw the maternity they controlled as safer for patients due to its greater air flow, in actuality, both groups of students endangered birthing mothers for similar reasons. The irony is that despite these deaths, Arras’ midwives received a more in-depth level of training in anatomy than most provincial graduates, making them potentially better prepared for home births.<sup>155</sup> Ultimately, however, Irvine Loudon has found that medical doctors had much higher rates of maternal and infant mortality than trained midwives in

<sup>145</sup>Gérard Jorland, ‘La sous-détermination des theories médicales par les statistiques: Le cas Semmelweis’, in G. Jorland, A. Opinel and G. Weisz (eds), *Body Counts: Medical Quantification in Historical and Sociological Perspectives//Perspectives historiques et sociologiques sur la quantification médicale* (Toronto: McGill-Queen’s Press, 2005), 222.

<sup>146</sup>Catherine Rollet, *La politique à l’égard de la petite enfance sous la IIIe République* (Paris: Presses universitaires de France, 1990), 158–9; Jorland, *Une société à soigner: Hygiène et salubrité publique en France au XIXe siècle* (Paris: Gallimard, 2010), 249–50.

<sup>147</sup>George Empis, chief surgeon of the maternity at the Hôpital de la Pitié in Paris, used similar findings to advocate reform. Pierre Louis Laget, ‘La dilemma des maternités: promouvoir l’enseignement ou préserver la vie des mères’, in F. Dêmier and C. Barillé (eds), *Les maux et les soins: Médecins et maladies dans les hôpitaux parisiens au XIXe siècle* (Paris: Editions de la Maison des sciences de l’homme, 2007), 183.

<sup>148</sup>Germe, *op. cit.* (note 127), 29, 75–83.

<sup>149</sup>*Ibid.*, 91.

<sup>150</sup>*Ibid.*, 92, 94.

<sup>151</sup>*Ibid.*, 88; Paul Rodet, ‘Paris Letter’, February 20, 1884 in *The Weekly Medical Review*, IX (1884), 236; Charles Pajot, *Travaux d’obstétrique et de gynécologie, précédés d’éléments de pratique obstétricale* (Paris: G. Steinheil, 1889), 595.

<sup>152</sup>Germe, *op. cit.* (note 127), 30.

<sup>153</sup>Jorland, *op. cit.* (note 145), 209. The hugely different rates of death in Vienna between male and female student wards led patients to refuse to be taken care of by men. C. H. F. Routh, ‘On the Causes of the Endemic Puerperal Fever of Vienna’, *Medico-Chirurgical Transactions*, 32 (1849), 27–40.

<sup>154</sup>Strasbourg had a maternal death rate of 1 in 7. Routh, *op. cit.* (note 153); Le Fort, *op. cit.* (note 36), 31–2.

<sup>155</sup>AN F/17/2465, *Règlement de la maternité*, 1829.

domiciliary births because they were more likely to transfer *Streptococcus*, which led to puerperal fever and use instruments during routine births.<sup>156</sup>

Germe asserted that the administrators, so-called men of science, were abdicating their responsibility for these deaths. He accused them of not caring about the statistics because they belonged not to their own wives and daughters but to poor and often unmarried women. He accused the administrators of seeing the single mothers as 'evil creatures not worthy of pity and death alone can purge their sin'. In contrast, he saw the maternity as a haven for those who might otherwise consider abortion or infanticide.<sup>157</sup> Germe argued for better care of mothers based on fears of population decline, agreeing with the Third Republic government's pro-natal policies, especially those aimed at single women.<sup>158</sup> In Arras, however, this new attitude towards maternal sin had not reached the hospital administration. Since Germe proposed male access as part of his hygiene reforms, moral fears of gender mixing continued to obstruct changes that would benefit both students and patients.

In a final attempted coup, recounted at the start of this paper, in 1879, Germe stormed into the maternity ward in order to both enforce the central government's rules for proper medical education as well as protest poor hygienic practices. Rumours spread that his students mixing with the midwives would 'install promiscuity of the sexes' in the hospital.<sup>159</sup> He was shocked that the administrators encouraged these rumours, assuming the worst of the students.<sup>160</sup> He felt that these elite men's dirty minds led them to block medical reforms that would further punish poor single mothers. His action did bear fruit: Germe's obstetrical suite expanded, including access to the central courtyard. In an act of revenge, according to Germe, the chief midwife locked the French doors that opened out to their shared courtyard. He had to force the doors open himself after a child died due to, he believed, lack of fresh air. According to Germe, the chief midwife further retaliated by 'perturbing the spirit and morale of our patients using violent language' against his students, forcing him to ban her from his birthing rooms.<sup>161</sup>

There is no way to know if the head midwife intentionally acted against Germe or if his complaints were the product of an overly paranoid mind. Yet, the growth of the medical programme since the 1850s may have led the head midwife to feel threatened by Germe's attempts at greater control over what she considered her territory. She was not the only one who felt it was inappropriate for men to be trained in obstetrics, that they were more likely to kill the patient (statistics proved this true), and that her students lost valuable time when pregnant women transferred to the male space. The decree which required that male students have hands-on training in obstetrics had never been well received by hospital administrations, so she was supported throughout this fight by those above her.

Germe's attempt to restructure and reform the teaching of obstetrics in Arras was a lost cause. In 1878, when the government once more reorganised medical education, Arras was once again the only preparatory medical school not given the right to certify students from other departments.<sup>162</sup> This made it difficult for Arras to recruit enough students to be able to offer the necessary breadth of courses. By 1883, the school shut down because it could not meet the new stringent requirements for medical education.<sup>163</sup> The ministry of education in Paris deemed Arras an understaffed site whose proximity to Lille, with two full-fledged medical schools, made transferring students easy. Germe and some of his colleagues spearheaded an effort to create an independent medical faculty as the law allowed, but despite

<sup>156</sup>Irvine Loudon, 'Midwives and the Quality of Maternal Care', in H. Marland and A. M. Rafferty (eds), *Midwives, Society, and Childbirth: Debates and Controversies in the Modern Period* (London: Routledge, 1997), 185.

<sup>157</sup>Germe, *op. cit.* (note 127), 106, 108. The ward, however, attracted similar number of married, most likely poor, women as single. *Conseil Général du Pas-de-Calais rapports et deliberations*, 1878–85.

<sup>158</sup>*Ibid.*, 43; Fuchs, *op. cit.* (note 50), 56.

<sup>159</sup>Germe, *op. cit.* (note 127), 97.

<sup>160</sup>*Ibid.*, 97.

<sup>161</sup>*Ibid.*, 31–2, 35–7.

<sup>162</sup>Alfred de Beauchamp, *Recueil des lois et règlements sur l'enseignement supérieur: comprenant les décisions de la jurisprudence et les avis des conseils de l'Instruction Publique et du Conseil d'État* 3 (Paris: Typographie de Delalain Frères, 1884), 223.

<sup>163</sup>*Ibid.*, 701.

the department's growing industrial population, the local government refused to support their efforts. Instead, when the departmental council discussed the declining numbers of *officiers de santé*, they concluded that 'in many cases, midwives supplement them...' <sup>164</sup> Even though Germe predicted that closing down the medical school would 'almost fatally suppress the maternity school', that programme continued to grow with increased financial support, remaining open until the 1960s. <sup>165</sup>

## Conclusion

The main characters of this study, Nonot and Germe, represent the medical establishment's shift towards 'scientific' obstetrics, which medicalised births overseen by male attendants. They promoted a system of knowledge based in academic study and access to clinical experiences, even for students in the second-tier system of medicine. Obstetrical professors increasingly argued that theoretical knowledge was not enough, focussing on in-depth study of the process of birth on living patients through both sight and touch. Nonot at the start of the century, argued for training men in all aspects of obstetrics, arguing against the Napoleonic government's vision of well-educated midwives. Yet, his successors still had to fight to get access to bodies, even as secondary medical education expanded its requirements for proper obstetrical education. During the Third Republic, Germe embraced the distrust of midwifery education, but added a concern with hygiene, arguing that enlightened medical professionals could save lives if allowed to train in maternity wards. His concerns intersected with the growing pro-natalist push of the central government, but he too clashed with local interests that ostensibly put moral purity above patient safety.

The faculty in Arras who promoted their role in teaching obstetrics did not just face opposition from local administrators, but also from the larger profession. Professors at the main medical faculties may have agreed that men were superior practitioners, but they did not necessarily support the creation of more health officers. Both historians and the medical elite at the time debate whether *officiers de santé* were well trained and much needed in the countryside or poorly trained and dangerous to the lives of their patients. <sup>166</sup> Just as the competition between midwives and *officiers de santé* rested on abilities and resources, doctors were in a battle for supremacy with health officers. By the end of the century, the government allowed a small number of the second-tier schools to become full-fledged faculties, erasing the two-tiered system of medical education. In Arras, this meant any local young man who wanted to study medicine had to do so in an urban faculty, where male students were increasingly gaining rights over maternity resources by the 1890s.

Even as doctors won out over medical officers, midwifery schools survived. <sup>167</sup> After 1883 in Arras, the local government turned to midwives to provide basic healthcare for women and children in rural areas. The early years of planning a midwifery school under Nonot proved fraught with tensions over space and cost of a programme that aimed to teach mostly uneducated women. But unlike other departments near Paris which decided not to pursue their own midwifery programmes, by the Restoration the government in Arras instituted a stable system of education for midwives, including a maternity ward that did not lead to moral panic. <sup>168</sup> As in other urban areas, the administrators of the hospital, who ran the midwifery programme, and the independent medical school competed rather than cooperated, impeding medical students' instruction in obstetrics. The tenacious view that male obstetrical training was in some way

<sup>164</sup> *Conseil Général du Pas-de-Calais rapports et délibérations* (1883), 977.

<sup>165</sup> Germe, *L'école de médecine d'Arras devant le conseil municipal* (Arras: E Bradier, 1881), 119. In October 1914, the school closed due to hospital's bombing; it reopened after the war. Jérôme Janicki, 'l'École de sages-femmes d'Arras', *Les Dossier de L'obstétrique*, 399 (2010), 28–32.

<sup>166</sup> Robert Heller argues that they were just as well trained as the elite medical students in clinical medicine, while Jacques Leonard disagrees. Robert Heller, 'Officiers de Santé: The Second-Class Doctors of Nineteenth-Century France', *Medical History*, 22, 1 (1978): 25–43; Leonard, *op. cit.* (note 42), 87–94.

<sup>167</sup> By 1891, midwives equaled the number of doctors and *officiers de santé*. Sage Pranchère, *op. cit.* (note 10), 382.

<sup>168</sup> For a full table of each midwifery school by department, see Sage Pranchère, *op. cit.* (note 10), Annex 1.

immoral and the fear of offending female modesty or of endangering the purity of female students kept men out of birthing rooms, or at least made their stays short.

Yet, these moral qualms often stood-in for a competition for space and bodies. Starting in the 1830s, and taking on greater stakes in the 1870s, the midwife in charge, with the help of male administrators and professors, used these fears to prioritise her students over the male students, despite the central government's directives. The hospital administrators sided with the midwifery school, while resisting calls for reform. Both the city and department governments often questioned and underfunded the medical school which enrolled young middle-class men, while consistently supporting the less expensive midwifery programme that benefitted working-class women. The case of Arras indicates that despite growing support for male obstetrical training amongst the medical community, local authorities saw investment in female obstetrical education as potentially more productive and acceptable to the community in which they lived.

This traditional view of feminine maternity wards clashed with Germe's attempt to reform the hygiene of these spaces and ultimately save lives. Due to the fraught nature of their relationship, the head midwife had little motivation to adopt his hygiene reforms for her own students. Despite France's promotion of midwifery, the education level of most women meant that they also could not access new medical theories. Texts used to teach midwives remained focussed on anatomy and routine births, often written in the earlier part of the century. Social expectations of proper feminine behaviour continued to limit how and with whom they learned and practiced. The real culprits for the rampant levels of disease transmission were the male hospital board members, who despite having bourgeois educations, were slow to reform their hospital. These male authorities stuck to a traditional vision of gender roles and spaces which Germe threatened, even if that meant ignoring the rights and safety of their patients. This battle of wills brings to light the role midwives and local authorities could play in blocking scientific progress in an effort to keep control.

By linking hygiene reforms to his students' primacy of access, Germe undermined the authority of his arguments to make larger changes in the hospital system. Germe may have understood the epidemiological stakes better than the midwives and hospital administrators, but his tactics were just as uncompromising as Nonot's at the start of the century. Both men hoped to undermine and punish the women they saw as less competent at the bedside, promoting instead a shift in perceptions of birth attendants which had not reached the households of Arras. Ultimately, the central government ended Germe's hope in complete obstetrical education for men, giving midwives total reign over the maternity rooms he fought so hard to access. Though antisepsis in smaller hospitals and as importantly the 'decline in the virulence of *Streptococcus*', would come to Arras soon after, it was the mothers and infants who suffered most during these battles over space and access.<sup>169</sup>

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<sup>169</sup>Loudon, *op. cit.* (note 156), 195; Sage Pranchère, *op. cit.* (note 10), 348.

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