

79 | Mexican women's pelves and obstetrical procedures: interventions with forceps in late 19th-century medicine

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abstract

This essay is an inquiry into the socio-cultural history of the use of forceps in 19th-century Mexico. It argues that the knowledge and practices that the use of such instruments implied were related to complex and controversial issues of the time regarding gender, race and national identity. In my study of operations involving forceps, I found that the adoption of medical instruments depended not only upon their supposedly greater operative efficiency but also upon the political and medical meanings attributed to the pelves of Mexican women. Early 19th-century obstetrics conceived the womb as an example of 'living nature' whose qualities assured that births were 'normally happy events' making the use of forceps and other instruments unnecessary. However, by mid-century, in the aftermath of independence, Mexico was desperately attempting to forge its identity as a nation. Due to European theories of race, Mexican women came to be characterized as having pathologically deformed pelves that evidenced possible defects of racial formation. The analysis of operative practices involving forceps reveals just how strongly such medical instruments became charged with a complex political definition of the 'mestizo race', which was seen to hold political promise for the future. In this context, forceps ceased to symbolize the threat of death, with which they had been associated since colonial times, and became artefacts that helped to assure the safe delivery of newborn mestizos by overcoming the problems of Mexican women's pathological pelves; although by the same token, the status of women as biologically inferior beings in need of medical assistance was reconfirmed.

keywords

obstetrics; medical instruments; men-midwives; pelvis; 19th century

In Mexico, forceps were associated with death since colonial times when surgeons often performed post-mortem caesarean sections to extract the dead foetus for baptism (León, 1910: 201, 206, 218). Although by the late colonial period such operations were no longer practised, the association of forceps with death did not disappear. Nevertheless, from the 1840s on, an entire generation of doctors included forceps in the equipment used in obstetrical procedures, despite the fact that their presence still struck fear into women. In many cases, attempts to use forceps to 'assist' the uterus' own mechanisms led to serious complications, such as vesicle–vaginal fistulas, uterine lesions and, indeed, even death. Yet by the end of the 19th century, operations involving forceps were no longer dreaded but simply incorporated into surgical procedures as a matter of course when it was necessary to save lives and ensure the growth of the country's population. Medical technologies are neither self-evident nor ahistorical. This article asks how physicians succeeded in creating new attitudes towards the use of forceps and other obstetric instruments, and how a procedure, birthing with forceps, once deemed unnatural and dangerous became naturalized.

A series of case studies of medical operations involving forceps published in Mexico between 1864 and 1910 demonstrate that the use of forceps was part of a wider medical and political debate concerning the normality of the female body and notions of race. In the early 19th century, manual obstetrical procedures deemed innocent and effective began to be replaced by operations involving instruments. This occurred not because the latter were more efficient or less dangerous, but because it was thought that they could be used to correct certain pathologies that supposedly affected the pelvis of Mexican women. Certainly, birthing procedures involving forceps had deep political significance for both the (male) operators and the (female) bodies upon which the operators exercised their skill (Davis, 1995; Lawrence, 1992; Arney, 1982). The focal point of men–midwives' interventions, of course, was not just any part of the body but women's pelvis, the area of the body that was perceived as marking essential differences between men and women (Cody, 1999; Kapsalis, 1997). In the case of Mexico, obstetricians resignified women's bodies and reinvented their own surgical procedures due to their obsession with the pelvis. This part of a Mexican woman's body was imbued with multiple meanings: it was the prime suspect in theories of racial degeneration and, at the same time, due to its form and function, bore the stamp of the 'mestizo race'; by extension, it signified the problems of a nation in the process of becoming (Stepen, 1991; Peard, 1999; Kellogg, 2000). In addition to the fact that signs of sexual differentiation are located in the pelvis, the female skeleton was considered to demonstrate the natural anatomy of Mexican women. In fact, it was this very concept of the 'nature' of the pelvis that justified surgical interventions, thus paving the way for the acceptance of obstetric operations involving forceps later in the century.

In order to examine these issues, I will adopt a social or contextual perspective on science (Shapin and Schaffer, 1985). I will consider the instruments themselves as well as a whole set of abilities and knowledge that were made stable and replicable (standardized) in order to reproduce medical and political notions of the epoch concerning bodies and pathologies. My aim is to shed light on the question of how doctors created new norms and practices derived from their own conceptions of nature and obstetrical procedures. These norms, in turn, implied practices and abilities that provided new identities for physicians and the patients they operated upon. By the end of the century, these instruments were seen as artefacts that contributed to the success of operations; they had the power to cure the supposed defects of female bodies and ensure the normal development and political construction of the Mexican nation.

finding opportunities to practise

In 1833, 2 years after closing the Royal Pontifical University and the Royal School of Surgery, Mexico's independent republican government founded the Institute of Medical Sciences in an attempt to merge the formerly separate categories of 'doctor' and 'surgeon'. In 1838, the Institute was renamed the National School of Medicine (ENM), and it was there that obstetrics courses were first offered in Mexico (León, 1910; Valle, 1942). By 1860, many elderly surgeons and young doctors associated with the School had united to form what they called the 'mixed Mexican doctrine of obstetrics', convinced that with respect to childbirth, European obstetric doctrines (those 'symbols of science') should be adapted to the findings of their own 'national practice'. According to these doctors, only the blending of these two traditions could lead to the creation of a medical doctrine capable of curing what they called, not without pride, 'Mexican pathologies' (Gutiérrez, 1872: 7).

The leader of the group was Dr. Juan María Rodríguez (c. 1828–1894), author of the textbook, *Clinical Guide to Birthing* (1870), used by obstetricians until the end of the century, and a distinguished member of the National Academy of Medicine, one of the most important medical organizations of the time (Flores, 1992). For over 20 years, Rodríguez was Professor of Obstetrics and Maternity at the Maternity and Children's Hospital (founded 1866) as part of the National School of Medicine's training programme for obstetricians. With other clinical physicians, he introduced a generation of young doctors and women-midwives to the ideas of prominent European figures, such as William Smellie (1697–1763), J.L. Baudelocque (1810–1874) and Pierre Cazeaux (1808–1862).

Until 1868, clinical courses in obstetrics at the National School of Medicine were exclusively theoretical, while practice was limited to demonstrations using artificial pelvises (Rodríguez, 1869). Even in hospitals and charity institutions,

1 Charity Visitor to the Director of the Maternity Hospital, Historical Archive, UNAM, CESU, ENM, leg. 34, exp. 2bis, ff. 9.5–9.7.

physicians had few opportunities to attend normal births, while students were not allowed to practise at all (Flores, 1992: 562). In the maternity wards of such institutions (for example, the Hospice for the Poor and San Juan de Dios Hospital), doctors could attend only pregnant prostitutes (León, 1910) and certain women (labelled 'reserved') who, after committing a *faux-pas*, wished to give birth incognito and give up their babies to adoption. It was only in the late 19th century that hospital authorities began to allow students to practise obstetrics, although this concession was made less to encourage 'the study of childbirth' than as a means of 'preventing infanticide' and offering 'asylum to poor, disgraced women in the capital'.¹

In the 19th century, most women gave birth under the care of women-midwives, not doctors. The former were subject to some health regulations, such as obtaining a professional degree in order to practice, which meant attending obstetrics classes with medical students at the School, reading textbooks and taking a final examination. While many did attend classes, few ever obtained a degree, although this hardly prevented the majority from practising on the margins of medical regulations (Carrillo, 1999). Some contemporary doctors considered such non-professional midwives the worst enemies of science and of parturient women themselves, referring to them with disdain as 'comadronas' (midwife). Men-midwives, with Rodríguez at the helm, often called for the 'comadronas' to be persecuted (even by the police), and accused them of causing problems for obstetrics and their patients (*El Estudio*, 1875). However, women-midwives and doctors shared certain strategic interests (Arney, 1982) because, in the real world, the latter had limited opportunities to learn and practise. They could attend births when called in by a midwife; something that normally occurred when complications arose. A few professional women-midwives joined the physicians' campaign against 'comadronas' in an effort to carve out a space for the methods, procedures and instruments of the 'mixed doctrine of obstetrics' (Carrillo, 1999). This, however, did not prevent all midwives, professional or not, from opposing those doctors who further elaborated health codes to regulate and limit women's participation in obstetrics.

Given these circumstances, obstetrical operations could take place only in limited, normative spaces. Parturient women (rich or poor; white or Indian) were not accustomed to giving birth in institutions but in the home, under the watchful eye of a woman-midwife. The few women who went to hospitals often found severe shortages of materials, overcrowding and the constant danger of exposure to contagious diseases such as puerperal fever. Small wonder, then, that they preferred to stay as far away as possible from such places. When the Maternity Hospital was founded in 1866, physicians finally had a place where they could practise and teach obstetrics, although operations involving instruments were still clearly associated with death, as had been the case since Colonial times. In order to popularize and de-stigmatize these operations, it was necessary to 're-signify'

the utensils themselves through new norms of obstetrical intervention and procedure designed to transform this skill into an effective means of saving lives (Beauvalet and Boutouyrie, 1997).

the nature of the pelvis and norms of obstetrical intervention

Nineteenth-century Mexican men-midwives recounted their clinical experiences in several specialized journals, the most influential of which was the *Gaceta Médica*, founded in 1864. Their reports form a corpus of knowledge based on clinical cases in which the norms of their procedures and surgical interventions were taught and evaluated in the light of normal and pathological births. All such reports are written in the same narrative style: beginning with the diagnosis (conmemorativo), continuing with the procedure (operatorio) and ending with a section called reflections. Physicians held that this model embodied the scientific rigour they intended to incorporate into their clinical practices.

The diagnosis, a crucial moment of clinical procedure, required practitioners to explore, palpate and auscultate the patient's pelvis in search of the signs and symptoms of pregnancy that would presage a normal birth. The precepts of clinical medicine stipulated that diagnoses should be based exclusively on the impressions received by touching or palpating, literally, 'seeing' with one's hands' (Careaga, 1868: 325). In effect, this process took place upon a stage whose only actors were the doctor's vision, hands and utensils and the woman's pelvis; no other performance was expected of her (Kapsalis, 1997). This approach made it essential to determine the dimensions of the pelvis itself, as Mexican physicians had accepted the idea, defended by European surgeons since the 17th century, that the foetus played only a passive role in the birthing process (Hiddinga, 1995). Thus, the main cause of difficult births was identified as a disproportion between the size of the foetus and the dimensions of the pelvis and this led doctors to focus on the mechanics of birthing itself and the geometry of the pelvic region (Speert, 1996).

Although most physicians trusted their sight and hands to make diagnoses, they sometimes used diagnostic instruments such as stethoscopes ('to hear the baby's heartbeat') and speculums (Leavitt, 1987; Wilson 1995; Lawrence, 1992a). They considered digital pelvimetry the most reliable way of measuring the uterine-pelvic canal, but also used external and internal pelvimeters and compasses (callipers). From among the variety of instruments available, they tended to prefer a classic compass of a type designed by Baudelocque, some of which were equipped with a protractor. This device was used externally by placing one point on the woman's coccyx and the other on her pubis. Other models, including the scaled

rulers made by Coutouli and Van Huevel, were introduced through the vagina and used internally (Zárraga, 1895).

At that time, Mexican men-midwives, like their European contemporaries, were well aware of the difficulties involved in determining the dimensions of the pelvis of live patients. They had estimates of what they called the *conjugata diagonalis* (the diagonal distance between the iliac and pubic bones); however, what they were really keen to determine was the dimension of the so-called *conjugata vera*: the diameter of the pelvic inlet itself. Here, however, they faced an insurmountable problem: it is impossible to determine this distance by using pelvimeters on live patients (Hiddinga, 1995). After ascertaining the *conjugata diagonalis*, then, they could only estimate the *conjugata vera* using the triangulation method (Gutiérrez, 1872; Duque Estrada, 1901; Zárraga, 1896).

The procedures used in the second stage, *operatorio*, depended on the diagnosis. If the symptoms indicated a pathological birth, the doctor had to decide how to proceed and which instruments to use. Cazeaux, one of the most widely read French men-midwives of the period, attributed such births to two main causes: the 'incorrect' presentation of the foetus during labour, which impeded the action of the pelvic axis and weakened the uterus' efforts to expel the product, or defects in the form of the mother's pelvis caused by illnesses such as rickets, osteomalacia or the congenital dislocation of the femur (Cazeaux, 1853). Following Cazeaux, Mexican physicians identified three types of pathological births, which they classified as difficult or 'obstructed', generally caused by the incorrect position of the foetus; 'dangerous', when the size and shape of the mother's pelvis were abnormal; and 'impossible', including monstrous foetus and uterine and pelvic pathologies (Gutiérrez, 1872).

In most cases, they argued that childbirth was usually best left to 'nature', because in Mexico '[births are] normally natural and happy [events]' (Ortega, 1870: 271) set in motion by the natural mechanisms of the uterus and the pelvic bones, which should proceed without interruption (Martin, 1998). Childbirth was understood as 'natural work that requires no more of the man of these arts than quiet, prudent attendance' (Ortega, 1870: 272). This notion of natural birth did not, however, preclude the occurrence of difficulties or accidents, such as obstructions of the birth canal or uterine haemorrhages. When 'nature' proved unable to resolve the case, then the man-midwife was expected to intervene.

Nonetheless, the most appropriate obstetrical intervention for such cases was rarely self-evident. Clinical medicine recommended that once a man-midwife decided to intervene he should strictly follow established procedures. Most importantly, his intervention should emulate nature, the mechanisms of childbirth itself. The idea was that the efficacy and gentleness of obstetrical procedures be measured by the degree to which they imitated the natural workings of the uterus and pelvis. This leads us to ask what was meant by the assertion that 'medical,

manual and instrumental procedures should imitate nature'? What was 'natural'? Rodríguez (1885a: 10), for example, held two opposed concepts of nature: the ancient meaning of *nascitura* (birth), the pregnant uterus, the womb or the mother of 'living things', and a kind of grid upon which all things, living and non-living, were classified on the basis of mechanical laws. In the latter vision, woman was considered an entity of nature, a body subject to natural laws with a determined place in racial categories and the sexual hierarchy as 'the procreator of the species' (Kellogg, 1992: 69–70; Doyle, 1994: 4–5).

It was in the context of these distinct notions of 'nature' that manual and instrumental obstetric procedures and practices were performed and acquired meaning. Although physicians regularly faced births as a spectacle of *nascitura*, when they had to operate with instruments, they would present themselves as males, a kind of 'creator-figure' of procedures capable of reinforcing and even surpassing 'nature' (Ortner, 1974). In such settings, women's nature was marked as hierarchically inferior and susceptible to multiple disorders. Here, the pelvis both reproduced and embodied 'race', a category that classified those already born and those yet to be born as 'White', 'Indian' or 'Negro', and also as Mexican, which by definition at that time meant 'mestizo', in contrast to European, by definition, 'White'.

Thus, operating or using the hands meant much more than just touching: it implied the sexual identity of the bodies themselves. In this sense, obstetric procedures affected not only the representation of the female body (as nature and the expression of race) but also the body of the physician, the operator. In effect, obstetrical operations involved physicians in their capacity as male professionals. During such interventions, doctors always wondered which movements would distinguish them as 'able' practitioners: their ability with forceps and other instruments, or their skilful hands. Although both elements were involved in operations, the first suggested that it was indeed the instrument (not the man) that was capable of curing the pathological nature of the pelvis.

forceps in medical practice: moral restraint and mechanical laws

Although almost always called in to attend difficult or pathological births, and instructed by clinical medicine to do so, the physician was also taught to expect favourable outcomes. Men-midwives were taught not to reach for their instruments immediately upon detecting an obstructed delivery, but first to employ what they called 'obstetric versions', a series of internal and external manipulations of the uterus designed to correct the position of the foetus (Wilson, 1995). *Comadronas* had been practising similar manoeuvres for centuries, though they spoke of 'accommodating' the baby. The version used by doctors differed little from that of

their female counterparts, yet they claimed for it a long scientific pedigree. Rodríguez, for example (1885b), affirmed that the 'Mexican version' had been handed down from Hippocrates and modified by Mauriceau (1636–1709) and Smellie in France and England, respectively. Mexican doctors defined these manoeuvres as an 'easy, innocent, efficacious method', although they distinguished between the external and internal versions, the latter of which was used to correct podalic and breech positions of the foetus. Doctors preferred to use external approaches to correct problematic presentations, as it allowed them to avoid 'the harm that even in the most expert hands can occur in a considerable number of obstetric operations in which it is necessary to introduce instruments into the uterine cavity' (Rodríguez, 1872: 106).

The clinical descriptions of operations I have studied clearly reveal this preference for manual manoeuvres. Although such practices were traditionally employed only at the onset of contractions, Rodríguez and his students recommended their use as early as the eighth month of pregnancy, adducing that they could correct 'dangerous situations' before the birthing process began. By using this method, they could make later interventions unnecessary, including the use of forceps, 'that due to their nature demand difficult manoeuvres' (Contreras, 1870: 46). They believed that interventions with forceps should be used only as a 'last resort' (Capetillo, 1872), limited almost exclusively to dangerous deliveries and only to be employed after applying the 'versions' and reaching the conclusion that the uterus' own efforts were insufficient.

In clinical narratives, forceps were mentioned almost surreptitiously and surgical procedures and their associated utensils were rarely described or represented in detail. This is somewhat surprising, because it is well known that Mexican physicians in the mid-19th century were already familiar with more than 130 distinct styles of forceps (Rodríguez, 1885b; Sierra, 1873).

Indeed, forceps were often presented not so much as a physical artefact as an extension of the doctor's hands or pliers that simulated the man-midwife's hands, a tool used to 'pull the foetus' head', a 'pair of slightly concave hands', or 'the thinned, stretched hands of the practitioner' used to 'provide torque' (Govantes, 1872: 221). In these reports, forceps were not only described as extensions of the man-midwife's body but it was adduced that they were even used as such. Unlike the norms that regulated the use of obstetric versions, those governing the use of surgical instruments focused on the behaviour of the obstetrician's body. Rodríguez (1885b) taught his students that in order to perform successful operations they had to train their bodies and, especially, their hands. Training was designed to teach students' hands to imitate the movements of nature. Thus, a good procedural technique consisted in 'reproducing (using hands equipped with forceps) the movements that nature had been unable to perform through the efforts of the organism' (Sierra, 1873: 30).

Dr. Ignacio Abogado, a 'devoted' defender of forceps, affirmed that doctors who were unsuccessful in their use were guilty of 'reproachable' ignorance of the nature of the pelvis. Paraphrasing the French physician Pinard, he asked:

When using forceps, do all men-midwives really and truly imitate nature? (...) We do not believe so, nor do we wish to harm anyone, [though] we do believe that we do well by stating frankly that few attain irreproachable conduct in such cases.

Abogado (1893: 179)

In clinical descriptions of operations performed on 'pathological' women's bodies, medical practitioners frequently appear shrouded in an aura of moral restraint. Rodríguez (1883) adduced that, in matters of surgery, a 'catastrophe' constituted an 'object lesson' that made future men-midwives more 'cautious' and 'discreet', while diminishing their 'juvenile eagerness'. Given that obstetricians, like other clinical physicians, accepted the ideal of rational, scientific medicine, they were convinced that their professional identity should be associated with a conduct based on restraint and prudence (Warner, 1991: 66; Lawrence, 1985: 505). They felt they could best imitate nature in their own behaviour and thus assure success in risky procedures involving forceps (*El Estudio*, 1875: 99). This identity based on parsimony and patient observation helped to widen the physician's scope of action and place their instruments in a moral dimension governed by precise and, above all, prudent rules. According to Rodríguez, the efficacious use of forceps and other instruments depended solely upon the skill that physicians acquired in daily trials and constant contact with the complicated pelvic area (Sierra, 1873). He pronounced himself in favour of 'classic' forceps, such as those designed by the French men-midwives Levret and Pajot. Specially made for use in the lower narrows of the pelvis, their curved shape allowed doctors to follow the complex, curved axis of the pelvic cavity and avoid damaging the head of the foetus.

Like many other clinical physicians, Rodríguez did not believe in the perfection of any instrument other than his own hands. He found inspiration in Pajot's writings on forceps, especially those that criticized Étienne S. Tarnier's (1828–1897) axis-traction type, designed for use in the pelvis' upper channel. This model had a third arm (tractor) that supposedly allowed the operator to exercise traction (torque) more efficaciously by signalling the orientation of the axis of the pelvic channel (Govantes, 1872; Abogado 1893). Despite Rodríguez's stated preference, many of his students preferred Tarnier's model, as its third arm allowed them to compensate for their, at times, doubtful skill. They criticized Rodríguez's stance, arguing that Tarnier's forceps were 'easier to handle than the usual kind', because the third arm guided inexpert hands along the correct path (Abogado, 1893). In response, Pajot and Rodríguez argued that neither forceps nor any other artefact could emulate precisely the complex geometry of the pelvic axis, as Tarnier intended. No mind, they argued, was capable of designing a tool so perfect, and any attempt to do so was like searching 'for a chimera' (Pajot, 1883: 367; Rodríguez 1885b: 209). No utensil was free of defects and no forceps could extract

a foetus without some degree of risk. According to Rodríguez, only the hands of the obstetrician (if he were not completely 'inept') could bring risky operations to successful conclusions, by applying the right amount of force at the right moment and to the correct place to assist nature in expelling the foetus.

Those who defended Tarnier's forceps began to call themselves gynaecologists, which means 'specialists in women's afflictions', to emphasize the value of their knowledge of the normal and pathological mechanisms that govern the pelvis as opposed to mere manual skills. In this view, instruments were no longer seen as emulating the geometry of the pelvis, but rather as a means of curing its defects. They held that the pathologies affecting this entity were to be resolved by instruments and not by the hands of men-midwives.

The attitude of these younger physicians was not so much to break with Rodríguez's teachings as to complement and develop them. The relationship between doctors and their medical instruments was not always completely successful. Although in clinical narratives the role of forceps was strictly defined and regulated by prudent norms, once they were introduced into a pelvis during labour, success was not always assured. In some cases, forceps were unable to overcome the obstruction and forced doctors to resort to embryotomies (the surgical mutilation of the foetus' head) or craniometries (reducing the size of the head), in order to extract the foetus through the vagina and save the mother's life (Govantes, 1872).

Quite aside from conservative clinical norms, it was when forceps were actually put into action that the contradiction between discourse and practice fully emerged. While in discourse, 'to operate' referred to the imitation or reproduction of the 'nature' of the pelvis itself, in practice, it meant modifying, repairing or substituting the pelvis' natural 'imperfections' with ingenious medical instruments. In effect, this posture confirmed that the pelvic cavity was 'nature subject to the laws of normality and pathology' and an object of the systems of racial and gender categorization and hierarchy in which medical science classified all living things. In effect, the afflictions 'remedied' by procedures and forceps became associated with nothing less than the reproduction and development of the Mexican population. The work of men-midwives armed with forceps did not take place in a vacuum; their work introduced the most intimate parts of a woman's anatomy into public debates concerning population policies and the intervention of medicine in an attempt to assure the normality and evolution of the 'Mexican race'.

the nature of operated bodies: Mexican women's pelves and racial normality

By mid-century, not even the failure to bring obstructed births to a happy conclusion, including cases in which both mother and child died, could discourage the use of forceps. Doctors began to focus their inquiries on the nature of the

pathologies of the pelvis, as the re-elaborations of their botched procedures with forceps revealed the links between medical knowledge and the political stance adopted by the elite in their search to define femaleness for a nation in the process of formation (Ramos, 2001). Mexican doctors of the time, like others in Latin America, were concerned with the tasks of identifying the distinct social groups of their nascent nations and defining their normal and pathological features. Medical knowledge related to the pelvis soon came to the forefront of these political endeavours, especially because of the medical concern to reduce infant mortality and propitiate healthy births. To counteract European ideas of the exotic, backward nature of the Mexican race, medical attention centred on the pelvis in order to investigate and, if possible, control the supposed causes of racial degeneration (Peard, 1999). The burning question of what unifying race–gender characteristics of national identity could be discerned came to focus squarely on the pelves of Mexican women.

The European treatises on obstetrics most widely read in Mexico, from Smellie to Cazeaux, attributed difficult or obstructed births to afflictions such as dwarfism, rickets and osteomalacia, but Mexican doctors said that they found no visible evidence of such diseases among the female population they attended (Rodríguez, 1869, 1885b). This contrast with European clinical practice became a powerful motive for research into the causes of obstructions and the form of Mexican women's pelves in the context of 'national practice'.

By 1864, Rodríguez had begun to publish articles on teratology and was in charge of the Museum of Anatomy at the National School of Medicine (founded 1853), where he diligently collected pieces, both normal and pathological (Gorbach, 2002). Under his guidance, the Museum's collection, especially on embryology and teratology, grew enormously, and he managed to obtain 93 pathological pelves classified as 'narrowed' or 'defective'.² Inspired by research into pathological anatomy and teratology, and armed with his collection of specimens, Rodríguez began to analyse the anatomical dimensions of Mexican pelves. By 1869, Rodríguez was directing his colleagues' attention to what he called the 'fatal secret' of the pelves of Mexican women: a supposed narrowing that, although undetectable to the naked eye, betrayed the defective configuration of their anatomy. According to him, many pathological births were caused by the narrowed pelvis that he argued was characteristic of Mexican women, and for which he coined the term 'acorazada' (cuirass). Rodríguez (1872) held that the pubis of the narrowed pelvis was substantially longer than what was considered to be normal and that it came so close to the sacro-vertebral angle as to reduce the distance to the coccyx. Data obtained by his students at the Maternity Hospital showed that such 'narrowed pelves' measured from 6 to 8 cm, while European texts indicated a norm of 10 to 11 cm. When women–midwives attended deliveries in which labour became difficult and they were obliged to summon a man–midwife to perform a craniometry,

2 'Inventarios, 1872. Historical Archive of the Faculty of Medicine, Collection School of Medicine and Students, Exp. 497, ff. 24.

physicians began to attribute the death of women and children to this narrowing of the pelves.

Within a very short time, apparently through logical inference, Rodríguez's thesis brought men-midwives to attribute narrowed pelves to the 'backward' development of Mexican women in comparison to Europeans. Some physicians classified certain anatomical variations between Mexican and European women as possibly indicative of 'defects of formation'. On the basis of digital measurements, Dr. Rosendo Gutiérrez, a devoted disciple of Rodríguez, concluded that the narrowed pelvis was a kind of 'defective formation' that 'presents a more or less insurmountable obstacle to childbirth' (1870: 47–48). Obviously, such findings had repercussions not only for medicine but also for politics, as they called into question the very possibility of progress and civilization for all Mexicans. Physicians of the time had debated, and at times exploited, certain European theses, which held that racial variations of organic or anatomical origin were synonymous with pathology, defects or degeneracy (Stepen, 1991). With respect to the pelvis, Mexican physicians were undecided: was this just a sign of pathology in women or was it a characteristic of the Mexican race *per se* and, therefore, of the nascent nation?

In an effort to resolve this dilemma, another of Rodríguez's disciples, Dr. Florencio Flores, measured 26 preserved female pelves, seven of which were classified as 'Indian'. Although his study confirmed Rodríguez's anatomical findings, Flores refused to characterize the condition as a 'defect'. Instead, he spoke of the narrowed (obstructed) pelvis characteristic of Mexican women as a 'peculiarity' that, having been identified as a 'common national trait, could thus be considered 'normal' (1890: 329). Why then had women's pelves come under suspicion of being defective? At first glance, it seemed that narrow pelves increased the possibilities of obstructed expulsions of foetus and raised the indices of infant mortality, but the narrowness of Mexican women's pelves reflected something else about 'nature': the still unfinished mixing of the white and Indian races and the women's 'backwardness' with respect to men in terms of evolving towards mestizo 'normalcy'. In effect, Mexican doctors dismissed the European thesis that racial hybridization led to degeneration and regression (Peard, 1999). There was a political consensus around the thesis that the Mestizo race had the virtue of absorbing the Indian race within the White one, while at the same time potentializing the positive features of both. The narrowed pelvis was thus conveniently explained as a 'modification [brought about] by the mixing of the primitive race with the conquerors' (Flores, 1890: 329; see also Sanchez, 1898: 203) although one that placed women below men in political and social hierarchies (Sánchez, 1898). In other words, through this process of 'whitening', women's bodies came to embody the promise of miscegenation, although the form of their skeletons still bore the signs of an incomplete and, therefore, defective mixture. While this explanation naturalized the difference between women and men, it also made medical interventions into the female pelvis necessary, as it was there that

the future Mexican race, a race distinct from the European but still normal, was being gestated. Many were convinced, as Flores insisted, that although the pelvis reflected an 'obstructed' past, it was also the mother of the mestizo race and held the promise of a political element in a medical argument that might counter European ideas on tropical degeneration.

Thus, each time forceps were used, especially in cases of narrowed pelvises, the problem of the identity or nature of the female pelvis was raised once again due to it having been deemed defective in form and prone to disease. Precisely because this supposedly defective pelvis threatened reproduction and women's health in general, there was an urgent need to place it under the supervision of men-midwives and their instruments. Flores echoed the sentiments of those who considered it appropriate for physicians to supervise all pregnancies and intervene with forceps in matters of childbirth and reproduction, because 'in the case of Mexican women there is only a small step from a normally narrowed pelvis to a defective, seriously narrowed one' (1890: 328). Operations involving forceps, therefore, not only imbued physicians' procedures with moral rectitude but also imprinted on women's bodies their supposed pathological nature, expressed in racial and sexual differentiation.

As late as the eve of the 1910 Revolution, the supposed affliction of the narrowed pelvis was still subject to criticism. Two provincial physicians, Manuel T. González and Ambrosio R. Olivares, questioned the ideas of Rodríguez and his disciples concerning Mexican pelvises, arguing that only by taking measurements of a large number of preserved pelvises could objective, reliable conclusions be reached. At 12 years after Rodríguez' death, Dr. Juan Duque Estrada, Director of the Maternity Hospital, rejected the thesis of the narrowed pelvis and attributed such pathologies to the inadequate hygiene and deficient diet of poor Mexican women (*El Estudio*, 1889: 266–272; Duque, 1901). Although no conclusive proof of narrowing was ever found, the idea that pregnant Mexican women required medical procedures involving everything from forceps to complicated uterine surgeries had been firmly stamped out of medical practice. In 1905, when the Maternity Hospital was absorbed by the Mexico City General Hospital, clinical obstetrics was reorganized and its function of aiding poor women during childbirth abandoned. An obstetrics ward was established, attended by nurses and with two large operating rooms in which medical instruments such as forceps shaped the course of the treatment offered (León, 1910).

conclusion

Obstetrical instruments cannot be understood simply as tools of precision, as artefacts of medical violence or as European commodities used exclusively by Mexican men-midwives. This analysis of the role of forceps reveals that the

adoption of such instruments was culturally shaped. The relationship of obstetric instruments to surgical procedures and the pelves of Mexican women expressed new norms and regulations relating to the bodies of both physicians and pregnant women, in a context of public debates concerning the reproduction of the race and the nation.

Between the ideals expressed in clinical discourse and the realities of medical practice, operations involving forceps reveal how medical knowledge and its technological innovations are embedded in the culture of the epoch. Such operations were not just isolated technical exercises practised exclusively by men-midwives, which happened to take place in the rooms of parturient women. My argument is that each time that a man-midwife performed an obstetrical operation, he transformed not only the woman's intimacy but also both of their bodies as well as his own knowledge and skills. In the cases examined here, instrumental medical practices were clearly related to national debates concerning the very construction of the Mexican nation, a fact that obliged physicians to reconsider their understanding of women and race and their definitions of pathologies. Through the use of forceps, men-midwives adapted their instruments to a specific framework of perception, the alleged peculiarity of Mexican women, in whom they found the embodiment of the national race and the progenitors of racial differences and gender hierarchies. Hence, medical knowledge and instrumental practices (specifically those with forceps) were intimately related to the political reconstruction of gender differences and the elaboration of national gender identities.

In the late 19th century, instrumental practices resonated with politically determined knowledge. In a country like Mexico, the acceptance of instruments in hospitals and everyday medical practice, as well as the recognition of their value as technique or knowledge, could only occur once they had been endowed with notions of efficiency and considered appropriate with a political position that had led to a perspective that regarded bodies as needful of medical attention.

acknowledgements

I would like to thank Nina Hinke, Nick Hopwood and the anonymous reviewers for their insightful comments on earlier versions of this paper. I also thank Paul Kersey for the English translation.

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doi:10.1057/palgrave.fr.9400204