

Tracing the Boundaries of the Natural: Medicine and the Inquiry on Miracles in Early Modern Canonization Trials

ALESSANDRO LAVERDA 

University of Leicester

ABSTRACT

Between the seventeenth and eighteenth centuries, the inquiry on miracles in the canonization process reveals a fundamental cooperation between medicine and religion. During the last stage of the trials, theologians, lawyers, and physicians concurred with refined reports to accomplish full analysis of the alleged miracles. The promoter of the faith had the task of doubting the supposed miracle healing on juridical, medical and theological grounds; the lawyer supporting the cause responded to any inconsistency in witnesses' depositions; the physician had the task of finding any natural causes which could lead to a natural recovery of the subject. The interplay of these tripartite disciplines underlies early modern probation of supposed miracles.

In this paper I will examine the institutional and cultural consequences of the demand for evidence in canonization trials: on the one hand, the increasing role of medical experts in the assessment of miracles and the friction between them and the other members of the committee; on the other hand, the rise of a new method of inquiry in the legal arena.

KEYWORDS: miracles, medicine, canonization, testimony, childbirth, Giovanni Maria Lancisi

In this paper I will examine the emerging figure of the medical expert in canonization trials between the seventeenth and the early-eighteenth centuries and the contemporary rise of a new method of inquiry in the assessment of the causes of alleged miracles. This will shed more light on the intertwined relationship between religion and science, two practices that are difficult to conceive separately at the beginning of modernity.

Since the Late Middle Ages, the assessment of the authenticity of miracles represented a crucial part of the canonization trial in which the veneration of the servant of God (a prospective saint) was officially recognized by the Christian church. From the last decades of the thirteenth century, the canonization process took the form of two

separate stages: a local inquiry or the ordinary trial (*processus ordinarius*) followed by an apostolic investigation (*processus apostolicus*).

During the ordinary inquiry, the local authority, which was usually the local bishop, collected witnesses' depositions on the virtues and miracles of the servant of God whose cause was being considered and sent them to Rome. There it was decided whether there were enough elements to open an investigation into the sainthood of the servant of God. In the case of a positive evaluation, the apostolic phase of the inquiry would then begin. Church officials were sent to the places where the servant of God had lived and performed miracles to investigate his or her virtues. They were also sent to places where miracles had occurred after the servant of God's death, since only post-mortem miracles, together with the incorruptibility and fragrance of the corpse, would be taken into account at the trial. The *informatio* (testimony), in which the witnesses' depositions were recorded, along with the *summarium* (summary), which summarised the miraculous events, were then sent to Rome. Here, three auditors of the Rota, the ordinary court of the Holy See (the apostolic episcopal see of the bishop of Rome) were in charge of examining the trial transcript and certifying its legal validity, the certitude of virtues, and the evidence of miracles. Their role lasted until it was effectively assigned to the Congregation of Rites in the first half of seventeenth century. The Congregation of Rites was established in 1588 by Pope Sixtus V (1585-1590), with the task of overseeing the rites, liturgy and ceremonies of the Church, and with the task of supervising the various stages of the canonization process until submitted to the pope.¹

The inquiry on miracles in the early modern canonization process revealed a fundamental cooperation between medicine and religion. During the last stage of the trials, theologians, physicians, and jurists concurred with refined reports to accomplish full analysis of the alleged miracles. The Promoter of the Faith had the task of doubting the supposed miracle on juridical, medical, and theological grounds; the lawyer supporting the cause responded to any inconsistency in witnesses' depositions; the physician had the task of finding any natural causes which could lead to a natural recovery of the subject. The interplay of these tripartite disciplines underlay early modern probation of supposed miracles.

MEDICAL EXPERTS IN CANONIZATION TRIALS

In Italy from the late Middle Ages, physicians and surgeons had been consulted in tribunals for their knowledge in the art of medicine.² However, it remained a discretionary consultation, with the judge free either to use it or not. Between the end of the fourteenth century and the beginning of the fifteenth, it was believed that a judgment could be revised on the basis of an expert opinion; nevertheless expertise was not considered

- 1 Miguel Gotor, *I beati del papa: Santità, Inquisizione e obbedienza in età moderna* (Florence: Leo S. Olschki, 2002); Giovanni Papa, *Le cause di canonizzazione nel primo periodo della congregazione dei Riti (1588-1634)* (Rome: Urbaniana University Press, 2001); Simon Ditchfield, "Thinking with Saints: Sanctity and Society in Early Modern World," *Critical Inquiry* 35 (2009): 552-584.
- 2 Mario Ascheri, "Consilium sapientis. Perizia medica e res iudicata: diritto dei dottori e istituzioni comunali," in *Proceedings of the Fifth International Congress of Medieval Canon Law: Salamanca 21-25 September 1970*, ed. S. Kuttner and K. Pennington (Vatican City, 1980), 533-579.

irrefutable.³ A passage from the *Tractatus de vulneribus*, probably written by the jurist Bartolomeo da Sassoferrato (1313-1357), was quite explicit: “Physicians testify that a wound is lethal, later it appears to be the opposite . . . because medicine is not certain. . . because physicians judge on the basis of probable conjectures, therefore even the judgment does not appear true.”⁴

In seventeenth-century Rome, experts (*periti*) were still regarded with suspicion. In Giovanni Battista de Luca’s *Theatrum veritatis et iustitiae* (1669-1673), experts were distinguished into two categories: “witness experts” (*periti ad testificandum*) and “judging experts” (*periti ad iudicandum*). As witnesses of fact, the former dealt mostly with the senses, but unlike lay witnesses, they were allowed to make some conjectures and judgments. The latter were usually only requested by judges, and were the only ones to whom the judge would defer. They were defined as the judge’s counsellors and assessors.⁵ *Periti ad testificandum* could never be unbiased since the parties chose them; on the other hand the rule befitted *periti ad iudicandum* since the judge chose them.⁶ Furthermore, de Luca complained about a behavior of the experts that we will also find in canonization trials:

Another common vice of the experts of this kind is that of not remaining within the borders of one’s own art or expertise, but of assuming the part of the judge of the things that are *de jure*; but this is forbidden to the experts, and therefore we must not refer to them in these things.⁷

Experts could be of different disciplines such as chemistry, geometry, mechanics, medicine, or others; usually, the figure of the natural philosopher covered all these subjects.

Historian Joseph Ziegler has shown that from the second half of the thirteenth century onward, the testimony of at least one medical doctor became mandatory for the

- 3 For early modern history of legal medicine see: Erwin H. Ackerknecht, “Early History of Legal Medicine,” in *Legacies in Law and Medicine*, ed. Chester R. Burns (New York: Science History Publications, 1977), 249-271; Catherine Crawford, “Legalizing Medicine: Early Modern Legal System and the Growth of Medico-Legal Knowledge,” in *Legal Medicine in History*, ed. Michael Clark and Catherine Crawford (Cambridge: Cambridge University Press, 1994), 89-116. For an insight into the role of medical expert in early modern trials: Alessandro Pastore, *Il medico in tribunale: la perizia medica nella procedura penale di antico regime (XVI-XVIII)* (Bellinzona: Edizioni Casagrande, 1998); Alessandro Pastore and Giovanni Rossi, eds., *Paolo Zacchia. Alle origini della medicina legale 1584-1659* (Milan: Franco Angeli, 2008); Silvia de Renzi, “La natura in tribunale. Conoscenze e pratiche medico-legali a Roma nel XVII secolo,” *Quaderni storici* 36 (2001): 799-822; Idem, “Witnesses of the Body: Medico-Legal Cases in Seventeenth-Century Rome,” *Studies in History and Philosophy of Science* 33 (2002): 219-242; Idem, “Medical Expertise, Bodies and the Law in Early Modern Court,” *Isis* 98 (2007): 315-322.

4 “Tractatus de vulneribus,” attributed to Bartolo da Sassoferrato, quoted in Ascheri, “Consilium sapientis,” 538.

5 Giovanni Battista de Luca, *Theatrum veritatis et iustitiae* (Rome: Typis Haeredum Corbelletti, 1673), lib. XV, pars. I, disc. XXXIII, 214. De Luca (1614-1683) was a canon lawyer appointed cardinal by Pope Innocent XI.

6 Ibid.

7 Ibid., 216.

success of an inquiry into an alleged healing miracle.⁸ However, before the end of sixteenth century doctors not involved in the treatment of the patient and who had not witnessed the miraculous cure did not appear in canonization records as experts responsible for the examination of an alleged miracle. According to the canon lawyer Felice Contelori (1588-1652), the custom of consulting medical experts was quite common between the sixteenth and the seventeenth centuries, evident in the canonizations of Francesca Romana (d. 1440), Carlo Borromeo (d. 1584), Ignazio Loyola (d. 1556), and Tomaso da Villanova (d. 1555):

Miracles can be proved not only by the witnesses who were present during the miracle, but also by two experts [*peritos*], for example, medical doctors or surgeons, who did not witness the miracle, but, after having examined all the circumstances of the fact, on which witnesses have testified, judge [*concludant*] whether the cure could not be caused by a natural event, and consequently they decide whether it must be ascribed to a miracle.⁹

The fact that these *periti* did not witness the event did not compromise their reliability. On the contrary, autoptic examination was considered misleading in the legal arena. Historian Silvia de Renzi pointed out that, “Contrary to what we might expect, the body was never the source of evidence for a high-ranking peritus.”¹⁰ Rather, the role of experts was to set the causes and effects in the right sequence. In the legal arena, the priority was to disentangle the event.¹¹

Medical experts were required in canonization trials with some frequency in the first third of the seventeenth century. In Ignazio de Loyola’s canonization process (c. 1622), the Rota’s auditors required medical expertise for the evaluation of three miracles.¹² In Thomas of Villanova’s process (c. 1618), five doctors were in charge to examine the resurrection of two drowned children.¹³ In Francis Xavier’s trial (c. 1622), after having examined the depositions of witnesses, medical experts declared that the recovery of the child was miraculous.¹⁴ And in Luigi Gonzaga’s canonization process (c. 1726), all alleged miracles were submitted to the medical experts’ judgment.¹⁵ Despite the frequent recourse to them, until the second half of seventeenth century

8 Joseph Ziegler, “Practitioner and Saints: Medical Men in Canonization Process in the Thirteenth to Fifteenth Centuries,” *Society of Social History of Medicine* 12 (1999): 191-225.

9 Felice Contelori, *Tractatus et Praxis de Canonizatione Sanctorum* (Lion: Sumptibus Laurentii Durand, 1634), 209.

10 de Renzi, “Witnesses of the Body,” 238.

11 Regarding the postmortem examination of the corpse to assess the incorruptibility of the body of the servant of God, Bradford Bouley observed that although a firsthand examination was preferred by the canonisation officials, a secondhand judgment of a more esteemed physician would have been preferred. See Bradford Bouley, “Negotiated Sanctity: Incorruption, Community, and Medical Expertise,” *Catholic Historical Review* 102 (2016): 1-25.

12 Francesco Antonelli, *De inquisitione medico-legali super miraculis in causis beatificationis et canonizationis* (Rome: Pontificum Athenaeum Antonianum, 1962), 62.

13 Contelori, *Tractatus*, 677.

14 Antonelli, *De inquisitione medico-legali*, 65.

15 *Ibid.*, 66.

there were no juridical rules providing for external medical expertise on matters of miracles. There was as yet no distinction between medical experts called by the postulators (the promoters the cause) from those called by the Rota's auditors. This distinction appeared for the first time in Luigi Gonzaga's canonization process. During it, thirteen physicians were consulted before the Rota's auditors took a decision.¹⁶ According to Francesco Antonelli, to prevent the raising of any doubts by the Rota's auditors and to speed the course of the process, the promoters of the cause could have applied for an external medical examination.

But who were these medical experts? How they were chosen? And what was their task? They were physicians and surgeons, not involved with the healed person, frequently chosen from among the most renowned doctors in Rome. During the first half of seventeenth century, they were chosen by the Rota's auditors and the promoters of the cause. Yet an institutional distinction between the experts required by the Rota, and those required by the promoters of the cause, was still lacking. Their election did not follow any particular rule. Usually, the Rota's auditors required medical experts just when necessary, as when some doubts on the natural recovery of a subject arose during the discussion of the case. Whereas the election of experts was an exception among the Rota, it was customary among the promoters of the cause. The number of experts could change according to the seriousness of the doubts to be resolved. Their task was to declare, on the grounds of medical knowledge, whether the alleged miracle was produced by natural causes or not. When they came to an agreement, they put it in writing in a report which they all signed.¹⁷

From the second half of the seventeenth century, medical experts were engaged by the cardinal *ponente* of the Congregation of Rites, who was the supervisor of the cause, and from the postulators.¹⁸ The former were called *ex officio* or *pro veritate*, the latter were called *ad opportunitatem* or more explicitly *pro miraculo*. A decree on the use of medical experts was finally published in 1678:

Since it has also been noted that frequently the postulators brought medical evidence to confirm miracles, and on the other side this was not replied with experts of the same profession; therefore it seems necessary, since it replies according to the arts, that the great Cardinal Ponente elects *ex officio*, secretly and under oath, another physician or surgeon more famous, who answers according to truth, to actually see, whether the alleged miracles go beyond natural forces.¹⁹

The existing discrepancy between sides was thus removed.

16 Prospero Lambertini, *De servorum Dei beatificatione et beatorum canonizatione*, bk I (Bononia: Formis Longhi excursoris archiepiscopalis, 1737), 135 (1.17.9); *Aloysii Gonzagae Romana seu Mantuana canonizationis, Positio super miraculis* (Rome, 1721), 191.

17 Antonelli, *De inquisitione medico-legali*, 73-74.

18 Lambertini, *De servorum Dei beatificatione*, bk I, 154 (1.19.17).

19 Ibid.

By the beginning of eighteenth century, the most trusted medical expert was Giovanni Maria Lancisi (1654-1720). Lancisi was personal physician to Clement XI (1700-1721) and friend of the Promoter of the Faith Prospero Lambertini (1675-1758), and he participated as *pro veritate* expert in no fewer than eleven canonization processes.²⁰ The Pope favored him with honours and positions, including that of pro-physician general of Rome and the Papal States, and granted him the use of a coat of arms and perhaps a diploma of nobility *ad personam* in December 1701. He was, together with Giorgio Baglivi (1668-1707), the most influential physician in Rome.²¹ We shall return to Lancisi's role as medical expert below. Regarding *pro miraculo* medical experts, they ranged widely, from Paolo Manfredi (1640-1716) and Giacomo Sinibaldi (1630-1702), who routinely appeared as *pro miraculo* experts at the end of seventeenth century, to Bartolomeo Santinelli and Francesco Soldati, at the beginning of the eighteenth century.²² Besides the medical experts, two other key figures played a crucial role in the assessment of miracles: these were the consistorial advocate and the Promoter of the Faith.

THE CONSISTORIAL ADVOCATE AND THE PROMOTER OF THE FAITH

The investigation of miracles was composed of two stages: the *probatio*, in which the event was reconstructed; and the *relevantia*, in which the event was judged. The subject of the former was factual, hence it belonged to the "matter of fact" (*quaestio facti*), whilst the subject of the latter was law (*ius*), so it belonged to the "matter of law" (*quaestio iuris*). A fact was a person cured from a disease, while a juridical fact was that the same person was cured miraculously. One of the means of ascertaining a fact was through witness testimonies. Witnesses proved that a specific fact, supposedly miraculous, occurred in an established way. Witnesses' depositions were the only and most important evidence used in trials on miracles. In the canonization process as well as in a criminal trial, witnesses' credibility depended on a range of different factors: age, since children were considered less credible than older people; sex, since men were more reliable than women; social status, since upper-class people were more trusted than lower-class people; relationship, since a relative tended to confirm the miracle because he or she was emotionally involved with the person cured; and, finally, religion, since a Catholic was thought most reliable.

- 20 Giacomo della Marca, Felice da Cantalice, Pope Pius V, Francisco Solano, Stanislao Kostka, Toribio de Mogrovejo, Jean-François Régis, Juan de Prado, Giacinta Marescotti, Gregorio X, Pierre Fourier.
- 21 Amato Bacchini, *La vita e le opere di Giovanni Maria Lancisi* (Rome: stab. Sansaini, 1920); Cesare Preti, "Giovanni Maria Lancisi," in *Dizionario biografico degli italiani* vol. 63 (Rome: Treccani, 2004).
- 22 Giacomo Sinibaldi was, together with Giovanni Maria Lancisi, the physician of the conclave. He taught *simplicia medicamenta* at the university of Rome (1668-1681) and he was professor of theoretical (1682-1695) and practical medicine (1710-1719). Bartolomeo Santinelli was a physician frequently mentioned by historians because he was extremely cautious regarding the controversial practice of blood transfusion. Francesco Soldati was professor of practical medicine in Rome between 1720 and 1751 and physician of the conclave at the death of Benedict XIII (1730). See Emanuele Conte (ed.) *I Maestri della sapienza di Roma dal 1514 al 1787: i rotuli e altre fonti* (Rome: Istituto storico italiano per il Medio Evo, 1991).

A church official interviewed witnesses by using a set questionnaire. The first part of the questionnaire aimed to understand the credibility of the witness by inquiring into the points listed above. The second part consisted of the witnesses' accounts of what they saw or heard. Since miracles were considered not perceivable by senses and to have hidden causes, witnesses testified about the previous and subsequent facts, rather than about the miracle itself. For example, in a resurrection, they bore witness to the death of the subject and his subsequent return to life, or in a miracle of the multiplication of things, they bore witness to the previous lack of bread and wine and the following increase in their number. They had to be either *de visu* witnesses (eyewitnesses) or *de auditu proprio* witnesses (earwitnesses), in order to assess that the fact had occurred. There had to be at least two *de visu* witnesses who were both present at the same time.²³

The key figures at this stage (*probatio*) were the consistorial lawyer and the Promoter of the Faith. They had the task of pinpointing witness testimonies reported in the *summarius* in order to detect any inconsistencies in their depositions. The consistorial lawyer was engaged by the promoter of the cause. He supported the cause by resolving any juridical issues, such as incongruities in witness depositions or lack of credibility, often also arguing over medical issues. The relation between the lawyer of the cause and the medical expert *pro veritate* was not always peaceful. In the canonization process of Pierre Fourier (b. 1730), the lawyer, Tommaso Montecatini, wrote a report in which he protested against the physician, Giovanni Maria Lancisi, because he provided expertise only on the alleged miracles which he believed to be true. The lawyer knew the content of the letter that Lancisi had sent to the Promoter of the Faith. To his report Montecatini attached the passages in which Lancisi briefly dealt with three alleged miracles, and contested Lancisi's observation of them.²⁴ This was not an isolated episode, since it happened again in the process of John of the Cross (c. 1726), in which the *pro veritate* physician, Michelangelo Paoli, considered as superfluous any examination of the alleged miracles which he maintained were produced by natural or artificial causes.²⁵

The lawyer Montecatini understood that negligence on the part of the *pro veritate* medical experts could jeopardize the fairness of the whole inquiry. On the one hand, it would nullify previous reports made by the *pro miraculo* physicians and discredit their judgment; on the other hand, it would hinder any further discussion on miracles not analysed by the *pro veritate* experts. In this episode, the arrogance of the *ex officio* medical experts toward their colleagues and the lawyer of the cause came to the surface, evidence of the long-lasting friction between the two professions.²⁶

Both medical experts and the consistorial lawyer had to respond to issues raised by the Promoter of the Faith. Initially, the latter was part of the consistorial lawyers who had the role of supporting and defending the rights of the Catholic Church. The fiscal

23 See: Lambertini, *De servorum Dei beatificatione*, bk. III, 2-43 (3.1-6).

24 "Observationes circa consilia pro veritate I. M. Lancisii," in *Sacra Rituum Canonizatione* [...] Petri Foreri [...] *Positio super miraculis* (Rome: Typis Rev. Camerae Apostolicae, 1717), 1-2.

25 "Vota Paoli," in *Sacra rituum Canonizatione* [...] Ioannis a Cruce [...] *Positio* (Rome: Typis Rev. Camerae Apostolicae, 1720).

26 de Renzi, "Medical Expertise," 320.

lawyer carried out the task of the Promoter of the Faith, since the latter was established in 1631. He took up the tasks of the Rota's auditors by writing reports for the cardinals and discussing the alleged miracle on legal and medical grounds.²⁷ In 1708, the fiscal lawyer and Promoter of the Faith Prospero Bottino, titular archbishop of Mira, delegated Prospero Lambertini as Promoter of the Faith and his nephew as fiscal lawyer, dividing the two positions *de facto*.²⁸ The Promoter of the Faith had the task of examining the witnesses' declarations thoroughly and painstakingly in order to weed out any inconsistencies in their statements, or else any lack of credibility in the witnesses due to their social status or gender. Furthermore, the Promoter of the Faith evaluated whether the conditions for a miracle were met, namely in a case of a miracle cure, if the presence of a serious disease and the occurrence of a perfect recovery took place. Last but not least, he had to ascertain whether the invocation of the servant of God really happened. The job of the Promoter of the Faith was in fact twofold: to scrutinise the miracle in question on both legal and medical grounds, and to reply to the claims of both the lawyer of the cause and the medical experts, sometimes arguing against both medical experts *pro miraculo* and *pro veritate*. For this reason, the ideal Promoter of the Faith needed to be familiar with both canon law and medicine.

At the end of the preliminary stage of the process, the *informatio* and the *summarium*, together with the Promoter of the Faith's *animadversiones* (observations), the consistorial lawyer's replies to those *animadversiones* and medical expert's *vota* (reports) were collected to form the *positio super miraculis*, which was brought to each member of the Sacred Congregation of Rites.²⁹ From 1691, members of the Congregation of Rites usually met three times: at the ante-preparatory, the preparatory, and the general meeting. If necessary, a new *positio super miraculis*, containing new observations, replies and reports, was printed and delivered to each member of the Congregation each time they met.

In the following sections of this paper I will present two case-studies: one will show medical experts complaining about the absence of sufficient clues required for the evaluation of alleged miraculous healings; the other will show the skill inherent in the mechanical method of inquiry to find out the clues required.

27 The office was entrusted to Antonio Cerri from 1631 to 1643, Pietro de Rossi from 1642 to 1673, Prospero Bottini from 1673 to 1712, Prospero Lambertini from 1708 to 1728, Ludovico Valenti from 1734 to 1754. See: Miguel Gotor, *Chiesa e santità nell'Italia moderna* (Bari: Laterza, 2004), 79-83.

28 For an overview on life and works of Lambertini see: Louis Antoine Caraccioli, *Vita del papa Benedetto XIV Prospero Lambertini con note istruttive* (Venice: Simone Occhi, 1783); Ludwig von Pastor, *The History of the Popes*, vol.35: *Benedict XIV (1740-1758)* (London: Routledge, 1949); Marco Cecchelli (ed.), *Benedetto XIV (Prospero Lambertini): Convegno internazionale di studi storici*, Cento 6-9 dicembre 1979, vol. 2, (Cento: Centro studi Girolamo Baruffaldi, 1982); Andrea Zanotti (ed.), *Pastore della sua città, pontefice della cristianità* (Argelato: Minerva, 2004); Maria Antonietta de Angelis, *Prospero Lambertini: un profilo attraverso le lettere* (Città del Vaticano: Archivio segreto Vaticano, 2008); Gaetano Greco, *Benedetto XIV* (Roma: Salerno Editrice, 2011); Maria Teresa Fattori, ed., *Le fatiche di Benedetto XIV. Origine ed evoluzione dei trattati di Prospero Lambertini (1675-1758)* (Rome: Storia e Letteratura, 2011); Idem, ed., *Storia, medicina e diritto nei trattati di Prospero Lambertini* (Rome: Storia e Letteratura, 2013); Rebecca Messbarger, Christopher Johns, and Philip Gavitt, eds., *Benedict XIV and the Enlightenment: Art, Science, and Spirituality* (Toronto: University of Toronto Press, 2016).

29 Antonelli, *De inquisitione medico-legali*, 79-80.

CASE STUDY ONE: THE COMPLAINT OF MEDICAL EXPERTS

Healing miracles could belong to the second or to the third degree of miracle. The first degree of miracle regarded a change in the substance of something, which never occurred in healings. The second degree included those diseases which nature could not cure, such as congenital blindness or congenital paralysis. The third degree of miracles included those diseases that could be cured by nature and art but not in the same way. The former healing miracles were almost certain; the latter needed much more care in evaluation.

The physician and medical expert Paolo Zacchia (1584-1659), who wrote a considerable chapter on miracles included in a large treatise on forensic medicine published between 1621 and 1635, pointed out that it was essential to decide whether the disease was incurable or hardly curable by nature: “The conditions [of miracle] which belong to the disease were, firstly, that the cure was impossible or extremely unlikely. All the difficulties in respect of time, the nature of the disease itself, and to the manner of treatment must be considered; or the disease was impossible or difficult to be cured, or it was impossible or difficult to be cured in this way, or to be cured in such a short time.”³⁰

As we have seen above, the first stage of a miracle inquiry was to ascertain the reliability of witnesses’ depositions (*probatio*), which would become the facts on which medical experts based their reports. The mental operation imposed on the physician was unusual, since he usually foresaw the course of a disease suffered by a patient using his senses when visiting the patient, although the practice of healing by mail was also quite common at the time.³¹ On this occasion, he had to rely on witnesses who were sometimes not physicians. If the diagnosis and prognosis consisted of conjectures based on the symptoms of the sick body, it became increasingly frustrating when the only information a doctor could use was not directly collected by him but had to be filtered through the senses of other people who often did not have the skills to interpret what they saw. Giovanni Maria Lancisi clearly expressed this discomfort at the outset of his medical report on the seventh alleged miracle in the beatification process of Jean-François Régis (1712-1715).³²

Since physicians cannot have a certain opinion on the nature and the outcome of diseases, if they do not know both circumstances, and the causes from which they begin and symptoms with which they are affected, how is it possible to continue in order that I myself can judge with certainty the true nature of the disease and its course, since the principles slip away to a large degree? Deep is

30 In Paolo Zacchia, *Quaestiones medico-legales* (Amsterdam: ex typographia Joannis Blaev, 1651), 224 (4.8.4). Zacchia’s treatise on forensic medicine was published throughout Europe until the eighteenth century. He was appointed as medical expert in some canonization trials during the first half of seventeenth century. On Zacchia see: Pastore and Rossi, *Paolo Zacchia*; Jacalyn Duffin, *Medical Miracles: Doctors, Saints and Healing in the Modern World* (Oxford: Oxford University Press, 2009).

31 Gianna Pomata, *La promessa di guarigione* (Bari: Laterza, 1994), 61-107.

32 François Régis was born in Font-Couverte France in 1597. He entered in the Jesuit order and spent his life preaching throughout the French countryside. He died in 1640. The inquiry on his alleged miracles in Rome took place between 1712 and 1715. He was blessed by Pope Clement XII in 1716 and canonised in 1737.

the silence among witnesses of the causes, and on the origin of the breast tumour. They all are silent on the way in which the sad woman [the person healed by the alleged miracle] was conscious of the disease, certainly, if it depends on external causes, like a bruise, or internal ones, such as the reflux of the humours from the uterus, which in pregnant women and in those which the monthly fluxes is interrupted, frequently is acquired. However this exposition of causes was the principle of the fact, because the physician cannot assign what is ignored in the fact.³³

The other medical experts probably shared Lancisi's complaint. In fact, the attempt to acquire as much information as possible from witnesses' depositions became a standard practice among physicians.

I am going to analyse a single alleged healing miracle in the beatification process of Jean-François Régis. In this process Lancisi was the *pro veritate* medical expert, instructed by the chief cardinal of the Congregation of Rites (*cardinal ponente*) with the task of verifying the possibility of a natural explanation to the cure. Lancisi complained of a lack of clues in four miracles in which he, along with two others, denied the recognition as miracle, because he judged them natural recoveries or curable by the art of medicine. In the end, he dismissed six miracles out of the eight proposed by the cause's postulator. Only two healing miracles were approved by Lancisi.³⁴ A close analysis of the medical investigation proceedings into a healing miracle is needed to understand the crucial role played by the medical expert, whose diagnosis of the disease could be determinant in the assessment of the miracle by the Congregation of Rites. Two ways of proceeding in a medical investigation will appear: the one I will call standard was the way applied by the *pro miraculo* physicians; the other I will call alternative was the peculiar way applied by the *pro veritate* physician Lancisi.

In the Régis beatification process, the gathering of testimony on miracles was conducted mostly in France. The ante-preparatory congregation met in Rome on 12 September 1713. At this time, the *positio super miraculis*, printed in 1712, was given to each member of the Congregation. Besides the witnesses' depositions, the following documents were included: the observations (*animadversiones*) of the Promoter of the Faith Lambertini, Lancisi's *pro veritate* reports, the *pro miraculo* medical reports by Giacomo Sinibaldi, observations from the consistorial lawyer, and a response to Lancisi made by the postulator of the cause, Domenico Maria Vaccari. The significant anomaly was that this last document was written in order to disprove Lancisi's method of inquiry.

The alleged miracle occurred in 1702 and consisted in the sudden recovery of the nun Maria Ludovica Du Rye, of the convent of Moulin in France, from seven years of atrophy, aridity and inflexibility of the right-hand thumb. The disease occurred when a surgeon made an incision at the base of the nail of the infected thumb (a paronychia)

33 "Votum pro veritate [...] Lancisii," in *Sacra rituum congregatione [...] Francisci Regis [...] Positio super dubio* (Rome: typis Reuerendæ Cameræ Apostolicæ, 1712), 25.

34 *Ibid.*, 1-30.

to get the pus out. He accidentally cut the nerve enabling the flexibility of the limb causing a permanent immobility of the nun's finger. After the physician judged the damage irreparable, the nun was persuaded by a sister of the same convent to invoke the help of François Regis. As soon as she knelt and put a relic over the harmed finger, she was cured.³⁵

The Promoter of the Faith Lambertini claimed a lack of *probatio*, because the witnesses were only women and the opinion of the surgeon and physician were only reported through the earwitness testimony of nuns (*de auditu*). As we have seen above, a lack of *probatio* could compromise the entire assessment of the alleged miracle, since they were the only facts to which physicians could refer in their evaluation. Lancisi echoed Lambertini. He dismissed the miracles on three grounds: the lightness of the disease; doubts over the continuity of the disease until its recovery; and the possibility that the cure was caused by a force of imagination. The first of the three points was the one concerned with Lancisi's complaint of witnesses' reliability. Lancisi claimed that the surgeon did not accidentally cut the nerve of the thumb but that he only had injured the extensor tendon. He deduced this from two elements: the position of the wound and the symptoms of the sick nun. The paronychia was an infection located on the base of the nail of the thumb; since the cut was made above the inflated part to get the pus out, according to Lancisi, the surgeon lanced the part where the extensor tendon was located. Referring to Girolamo Fabrizi d'Acquapendente's *Opera chirurgica* (Venice, 1619) and Daniel Sennert's *Medicina practica* (Wittenberg, 1635), Lancisi noted that the witnesses did not talk about the symptoms the patient should have had when a nerve was sectioned—pain, convulsion, delirium and fever. Since the injury was to the tendon, she would have eventually been healed through time.³⁶ Lancisi dismissed the surgeon's diagnosis for two reasons: because he could not rely on the testimony of non-expert earwitnesses, and because the description of the symptoms provided by the eyewitnesses did not coincide with the symptoms which should have appeared, according to the diagnosis reported by the earwitness nuns.

It is interesting to highlight the use Lancisi made of testimonies. Eight witnesses testified on the cut of the nerve: one was the nun herself, four were other nuns who saw the fact and the others were nuns who heard from the surgeon that he accidentally cut the nerve. As shown above, the evaluation of witness testimony belonged to the Promoter of the Faith and to the consistorial lawyer in the first stage of the inquiry called *probatio*. By denying the injuring of the nerve, Lancisi was exceeding his assigned role.

Lancisi's behaviour provoked the reaction of the postulator of the cause, Vaccari, who replied to each of his objections to this miracle and to the others. From the outset of his response, the postulator tried to delegitimize Lancisi's use of witnesses' depositions. He claimed that the *pro veritate* medical expert had to comply scrupulously with what was said by the witnesses as a fact and to suppose the disease and the cure happened in the way in which the witnesses accounted it. For Vaccari, the role of the

35 "Informatio. Miraculum secundum," in *Francisci Regis* [...] *Positio super dubio* (Rome, 1712), 30.

36 "Votum pro veritate super asserto secundo miraculo," *Ibid.*, 10-13.

physician consisted merely in commenting on the recovery of the subject based on the testimony, so his judgment was based on the words of the witnesses, not on the uncertain conjectures of the physician.

For example, we suppose a disease and a cure in the way is exposed by the witnesses, the task of the physician consists only in making a judgment according to the principles of the art, such as if the recovery from the disease, in the way it is described by the witnesses, surpassed the forces of nature or not; only these are the duties of the physician, if he goes beyond these limits, he goes beyond the limits of his task. Furthermore, if there is a sufficient number of witnesses to certify that the existence of the disease or the recovery occurred in that way, the physician's judgment that refutes the miracle on the supposition of a non-existing disease or a recovery which did not happen in that way, is wrong, since the medical experts do not have to report to the Congregation a judgment on matters of fact but on matter of law.³⁷

Fernando Vidal has shown the crucial role of testimony in the assessment of miracles, which constituted the empirical foundation that a fact really happened, and legitimated the appeal of medical observations.³⁸ Here, Lancisi was accused of exceeding his function, pushing his investigation too far, to the point of denying the reliability of the witness depositions, which was tantamount to challenging the consistorial lawyer's work and to take over his duties. Thus this episode does not just tell us about the eccentric personality of Lancisi but also of the strength of a new method of inquiry.

When the Congregation met for the second time (*congregatio preparatoria*) on 16 January 1714, the new *positio super miraculis* contained new observations by the Promoter of the Faith and the consistorial lawyer, as well as a *pro miraculo* medical report by Emanuel Lopez, exclusively on the above-mentioned miracle.³⁹ Lopez's report was structured following the advice of the postulator Vaccari. Lopez's observations were presented as comments to the facts accounted in the witnesses' depositions. Lopez judged the sudden recovery a miracle of the second degree, since the disease was incurable by both the art of medicine and nature, since he believed that the nerve rather

37 "Responsio facti ad vota Lancisi," in Francisci Regis [...] *Responsio ad novas animadversiones* (Rome: typis Reuerendæ Cameræ Apostolicæ, 1713), 1-2.

38 Fernando Vidal, "Miracles, Science and Testimony in Post-Tridentine Saint-Making," *Science in Context* 20 (2007): 481-508. Lorraine Daston links the new emphasis on scientific matter of fact and the new emphasis on "impartiality" and "indifference" with humanist efforts to polish academic manners: Lorraine J. Daston, "Baconian Facts, Academic Civility and the Prehistory of Objectivity," *Annals of Scholarship* 8 (1991): 337-364; Barbara Shapiro stresses the English legal system as a source for the new emphasis on the matter of fact in natural philosophy: Barbara Shapiro, "The Concept 'Fact': Legal Origins and Cultural Diffusion," *Albion: A Quarterly Journal Concerned with British Studies* 26 (1994): 1-25; Idem., *A Culture of Fact: England, 1550-1720* (Ithaca, NY: Cornell University Press, 1999). Italian historians have broadened the examination of the emphasis on matter of fact from Medieval law to Medieval and early Modern medicine and history: Simona Cerutti and Giovanna Pomata (eds), "Fatti: storie dell'evidenza empirica," *Quaderni storici* 36 (2001): 647-931.

39 I could not find anything on Emmanuel Lopez. I can only say that he signed his medical reports as collegial physician.

than the tendon was cut.⁴⁰ An alleged miracle of the second degree was more difficult to challenge in a trial than a miracle of the third degree, since the diagnosis of an incurable disease, if accepted by the Congregation, did not need all the evidences requested by the healing miracle of the third degree.

Going back to Lopez's medical report, in its second part he directly answered Lancisi's claims of a discrepancy between the symptoms of a nerve cut and the account reported by the witnesses. He referred to Galen's (130-210) *On the Therapeutic Method* (*De Methodo Medendi* 6.3) in which Galen clearly stated that the complete section of the nerve caused the symptoms of fever, tremors and delirium to cease, which were the exact symptoms which Lancisi claimed to occur to diagnose a nerve cut.⁴¹ Lopez, without exceeding the limits of his role, contradicted Lancisi's diagnosis, using a still authoritative source such as Galen, who gave Lopez the chance to prove the consistency between the witnesses' description of the symptoms and the surgeon's diagnosis. Ultimately, in line with the Congregation's opinion, Pope Clement XI did not approve the event as a miracle.⁴²

Lopez, as a *pro miraculo* medical expert, had the task of giving as much possible medical evidence on witnesses' depositions, whereas Lancisi, as a *pro veritate* medical expert, had a more skeptical attitude. When the diagnosis of the *pro veritate* physician did not match the one made by the *pro miraculo* physician, the Congregation of Rites usually recognized the opinion of whoever was considered more reliable. In this case, the fact that Lancisi was chosen by the cardinal *ponente* and that he was the personal physician to Clement XI probably made his report more truthful.⁴³ However, the different references each doctor used to support his position could also have made the difference: the Aristotelian Fabrizio d'Acquapendente and the more modern Sennert referred to in Lancisi's report were more authoritative in the eighteenth century than the increasingly controversial Galen cited in Lopez's report.

In early-eighteenth-century trials such as the one just examined, it is possible to follow the interference of a new method of inquiry in the legal arena, used by the *pro veritate* and *pro miraculo* medical experts. The way of inquiry established by Lancisi would be followed by his pupil Francesco Soldato in numerous *pro miraculo* reports. The next case study will deal with the strength to gather factual evidence and consequently to trace clear-cut boundaries of the natural by the mechanical method of inquiry.

CASE STUDY TWO: THE INQUIRY ON A MIRACULOUS CHILDBIRTH

In the same way that in healing miracles the paradigm was natural recovery, in miraculous childbirths it was natural childbirth. However, there was one difference: childbirth

40 "Ponderationes medico-sacrae et responsiones ad dubia pro veritate Emmanuelis Lopez," in *Sacra rituum congregatione* [...] *Francisci Regis* [...] *Responsio* (Rome, 1713), 2-9.

41 *Ibid.*, 7.

42 *Decretum* [...] *beatificationis et canonizationis* [...] *Francisci Regis* (Rome: typis Reu. Cam. Apostolicae, 1716).

43 See also Vidal's explanation in Vidal, "Miracles, Science, and Testimony in Post-Tridentine Saint-Making," 498-503.

was not considered as regular as the course of a disease.⁴⁴ One of the ancient definitions of nature included what most frequently happened (*natura est ut plurimum et secundum plurimum*), hence, all children's births that occurred in an extraordinary way were considered preternatural or potentially supernatural.⁴⁵ In this case, the category of the preternatural was not used to indicate the works of spiritual creatures, such as demons and angels, but a deviation from the norm. In the seventeenth century, children's births were basically divided into natural or legitimate and non-natural or illegitimate.⁴⁶ According to Zacchia, a natural childbirth had five features: a pregnancy of nine to ten months; a cephalic presentation of the foetus (head toward the exit and arms along the sides); absence of severe acute pain; a labour of twenty-four hours; and the absence of any mistakes by the midwives.⁴⁷

Whereas there was no problem in the recognition of what should be identified as the natural position of the foetus inside the uterus, based on foetuses' most frequent position, there were difficulties in the identification of what should be considered the natural length of pregnancy.⁴⁸ The physician Daniel Sennert (1572-1637) reported that it could vary from five to twelve months.⁴⁹ A lack of identification of a precise term in human pregnancy contradicted the idea of a nature prone towards perfection. Consequently, ancient and early modern physicians exerted their utmost skill to identify for how long women were pregnant and why it varied so much in humans but not in animals. Zacchia argued that the time of pregnancy could vary geographically. According to his theory, Hispanic people, for instance, usually gave birth on the ninth month because their temperament was hot. By contrast, people from Northern Europe, who had a cold temperament, usually gave birth on the tenth month.⁵⁰ Alternatively, Sennert stated that human beings did not have a precise time of pregnancy, because unlike animals, they suffered from many diseases, and because it was believed that the foetus suffered in the same way birth was delayed.⁵¹

The natural order was the paradigm by which the supernatural was identified, thus, the recognition of the features which corresponded to a natural childbirth were extremely important. However, in the case of miraculous childbirth there was another tangle to unravel: non-natural childbirths. Non-natural childbirths were those that deviated from the natural features listed above and were considered preternatural.

44 For a general overview on the history of childbirth in the west: Nadia Maria Filippini, *Generare, partorire, nascere. Una storia dall'antichità alla provetta* (Rome: Viella, 2017); René Frydman and Myriam Szejer, ed., *La naissance en Occident; La Naissance: Histoire, Cultures, Pratiques d'Aujourd'hui* (Paris: Albin Michel, 2010); Katharine Park, *Secret of Women: Gender, Generation, and the Origins of Human Dissection* (New York: Zone Books, 2006). For a history of midwifery in early modern Europe see: Hilary Marland, ed., *The Art of Midwifery: Early Modern Midwives in Europe* (London: Routledge, 1993).

45 Zacchia, *Quaestiones medico-legales*, 32 (1.2.1.59).

46 Daniel Sennert, *Practicae Medicinae liber quartus*, (Lyon: sumpt. Petri Ravaud, 1633), 477-493 (4.2.6). See also Filippini, *Generare, partorire, nascere*, 105-110.

47 See: Zacchia, *Quaestiones medico-legales* (Lyon, 1661), 259 (10.cons.55).

48 Filippini, *Generare, partorire, nascere*, 87-94.

49 Sennert, *Practicae Medicinae*, 482-494 (4.2.6.1).

50 Zacchia, *Quaestiones medico-legales* (Amsterdam, 1651), 30 (1.2.1.33).

51 Sennert, *Practicae Medicinae*, 489.

They included cases of pregnancy where the life of the mother and the child were in danger, when for example a foetus was lying in the wrong position in the uterus. Since supernatural childbirth was identified by excluding any natural features, it seems that it also had to satisfy the paradigm of the preternatural.⁵²

Not all the treatises on miracles dealt with miraculous childbirths. For example, Zacchia did not mention them in his treatise although he did mention them in his ninth and tenth *consilium*.⁵³ On the other hand, Lambertini dwelt on the topic more carefully.⁵⁴ Both identified the premises for a miraculous childbirth in giving birth to a foetus located transversely to the natural position, with a leg or an arm out of the womb. According to the Promoter of the Faith Lambertini, there were six factors which had to occur for a miraculous birth: a long stay of the foetus in the uterus; the death of the foetus; the weakness of the mother caused by a disease; the sudden release of the foetus after the vow; absence of pain; and the complete recovery of the woman.⁵⁵ This was a complex set of factors which could make the inquiry on miraculous childbirth controversial.

Following this general introduction, let us now look in detail at the case of an alleged miraculous childbirth included in the canonization process of Pope Gregory X (1210-1276).⁵⁶ Alessandra Spadari, a noblewoman from Arezzo, went into labour on 5 March 1625. When the two midwives who attended the childbirth put the woman on the obstetric chair, they realised that the foetus was in a preternatural position, since an arm was out from the womb, proving that the foetus was stuck inside it. The physician who attended the childbirth ordered the midwives to lift the woman from her legs to help the foetus regain a natural position. However, every attempt was in vain and the foetus died in the morning. The curate, who was Alessandra's brother, left his sister's room to pray and made a vow to Gregory X. As soon as he completed this action his sister gave birth to the dead child, late in the evening of the same day.⁵⁷

In 1625, the beatification process of Gregory X had already started, hence, the witnesses were heard close to the event the year after. The promoters of the cause required the judgment of two physicians on this occasion, Bernardo de Bernardis and Emilio Vezzosi,⁵⁸ anticipating the request of the Rota's auditors who asked for three more physicians: Angelo Vittorio,⁵⁹ Aurelio Marocchi and Paolo Zacchia. The distinction between *pro miraculo* and *pro veritate* physicians had not yet been applied. All of them

52 Filippini, *Generare, partorire, nascere*, 105-110.

53 Zacchia, *Quaestiones medico-legales* (Lyon, 1661), 141-147 (10.cons. 9-10).

54 Lambertini, *De servorum dei beatificatione* (Bononia, 1738), 264-286 (4.20).

55 *Ibid.*, 282.

56 For the political and social implications see: Simon Ditchfield, "How Not to Be a Counter-Reformation Saint: The Attempted Canonisation of Pope Gregory X, 1622-45," *Papers of the British School of Rome* 60 (1992): 379-422.

57 "Informatio," *Sacra Rituum Congregatione [...] Gregorii papae X positio super dubio* (Rome: typis Reu. Camerae Aposolicae, 1718).

58 Emilio Vezzosi (1565-1637) was author of a treatise on childbirth entitled *Gynaecyeseos, sive De mulierum conceptu, gestatione, ac partu* (Venice, 1598).

59 Angelo Vittorio (d. 1640?) was author of *Medica disputatio. De palpitatione cordis [...] B. Philippi Neri* (Rome, 1613) and *Medicae consultationes* (Rome, 1640).

judged the childbirth of Alessandra Spadari miraculous. However, I will only analyse Zacchia's medical report, the most thoroughly argued of the five.

Zacchia treated the case as a recovery from a disease, the cause of which was the death of the foetus. Consequently, he applied the criteria used to judge miraculous cures. Firstly, he examined it from the point of view of a disease, which had to be serious and in its early stages. In this case, once dead in the uterus, the foetus began to putrefy and endangered the mother's life. Secondly, Zacchia surveyed the case to assess recovery, which meant verifying that no artificial remedy had been used to reintroduce the arm of the foetus and to replace the child in its natural position. Finally, he ascertained whether the recovery occurred close to the invocation to the servant of God and whether it involved a complete return to health.⁶⁰

The auditors of the Rota examined the medical reports in 1629 and approved the miraculous childbirth, although the process was still at its beginning. The Congregation of Rites, after a period of inactivity, took up the case again in 1645.⁶¹ Now it was the turn of the cardinals of the Congregation of Rites to claim that there was insufficient evidence available to judge that the intervention of the midwife did not put the foetus back in natural position. Therefore, they asked for a new medical report, which was again written by Zacchia. He reviewed the case carefully without changing his standpoint. Referring to the Hippocrates text *De morbis mulieribus*, Zacchia claimed that the expert hands of the midwife were unable to replace the foetus in its natural position because it was already dead. Furthermore, he claimed that if the foetus had been put back in its natural position, which was the *conditio sine qua non* for a recovery of the patient, the witnesses did have to mention it and the physician would not have considered the patient incurable.⁶²

Pope Gregory X was beatified in 1713, but it was an "equipollent" beatification, meaning that the Congregation of Rites recognised the local cult of the servant of God, since the continuity of cult for at least one hundred years was proved and consequently no decisions had been taken on the alleged miraculous childbirth yet.⁶³ Since a new miracle occurred in 1710, there were grounds to open the canonization process, which followed the declaration of beatification, as there were at least two more miracles to be judged. The printed *positio super miraculis*, analysed below, bears the date 1717. At this time the Promoter of the Faith was Lambertini, the *pro miraculo* physician Francesco Soldati, a pupil of Lancisi's, who was the *pro veritate* physician. They brought into the legal arena a new method of assessing the natural causes of an event which was based on mechanical explanations. By now, almost a century had passed since the first set of medical reports were written in 1626.

The rise of mechanics during the seventeenth century was the result of a number of factors. The most prominent was both the social and intellectual change in the

60 Zacchia, *Quaestiones medico-legales* (Lyon, 1661), 141-145 (10.cons.9).

61 Ditchfield, "How Not to Be a Counter-Reformation Saint," 407-410.

62 Zacchia, *Quaestiones medico-legales* (Lyon, 1661), 145-147 (10.cons.10).

63 Giovanni Papa, *Le cause di canonizzazione nel primo periodo della congregazione dei Riti (1588-1634)* (Rome: Urbaniana University Press, 2001); Simon Ditchfield, "Thinking with Saints: Sanctity and Society in Early Modern World," *Critical Inquiry* 35 (2009): 552-584.

relationship between art and nature. Within Aristotelianism, art was always considered subordinated to nature. Aristotle relegated art to a simple imitation of nature and consequently, ancient mechanics (which was the knowledge related to any kind of handcraft), was subordinated to philosophy (which involved abstract explanations). Due to the changing status of engineering and the rediscovery of mathematics between the fifteenth and sixteenth centuries, which in research terms implied avoiding qualities and focusing exclusively on the efficient cause, mechanics gained much more esteem among natural philosophers.⁶⁴ By the end of the seventeenth century it began to be applied by medical experts in the assessment of miracles.

I will here consider only Lambertini's observations and mechanical explications, crucial for the demonstration of the miracle. Lambertini took over the objection of the Congregation of Rites, claiming that there was no evidence that the foetus did not return to the natural position, hence he argued that the woman gave birth naturally.⁶⁵ The whole assessment of the alleged miracle relied on the demonstration that the foetus was ejected with the arm out of the womb. The problem was that the first stage of the inquiry (*probatio*) was affected by a shortage of testimony, which might have affected the entire truthfulness of the inquiry, since it was merely based on the witnesses' depositions. Usually this kind of inquiry did not involve any physician, but only the lawyer and the Promoter of the Faith. Nevertheless, in this case, medical knowledge showed all its efficacy in the attempt to resolve a lack of *probatio*.

Soldati agreed with the Promoter of the Faith about the lack of testimony regarding the way in which the foetus was ejected. However, he claimed that neither by means of art nor by means of nature could the foetus's arm have been repositioned to its natural site. He used a mechanical explanation by the means of two drawings, one representing the obstruction of the foetus in the orifice of the uterus and the other the obstruction in the cavity itself. In the former (fig. 1) is drawn a table DE in which is inserted a nail ABC. AB represented the inner part of the foetus inside the uterus, BC the outer part. B represented the orifice of the uterus. In line with mechanics, Soldati claimed that it was easier to pull out the nail by shaking sideways the longer part FG, instead of shaking the smaller one HI. Consequently, the arm of the foetus would enter better, thanks to the movement of the mother's body (i.e., the muscles of the uterus), rather than through the hands of the midwife who could only work the outer part of the foetus (i.e., its arm). The explanation, continued Soldati, was given by the nature of the lever. Mechanics stated that the longer the part of the bar used to lift up a weight, the less was the power needed in the lift. Considering that the force applied by the mother on the inner part of the foetus was not enough to bring him in the natural position, it was impossible that a force even stronger could have been applied on the outer part by the

64 On the cultural switch of the relationship between art and nature see: Paolo Rossi, *I filosofi e le macchine 1400-1700* (Milan: Feltrinelli, 1962); Peter Dear, *Discipline and Experience: The Mathematical Way in the Scientific Revolution* (Chicago: University of Chicago Press, 1995), 151-179; Paolo Aldo Rossi, *Metamorfosi dell'idea di natura e rivoluzione scientifica* (Genova: Erga edizioni, 1999); Pamela H. Smith, *The Body of the Artisan: Art and Experience in the Scientific Revolution* (Chicago: University of Chicago Press, 2004).

65 "Animadversiones fidei promotoris," *Gregorii papae X Positio super dubio* (Rome, 1718), 5-6.

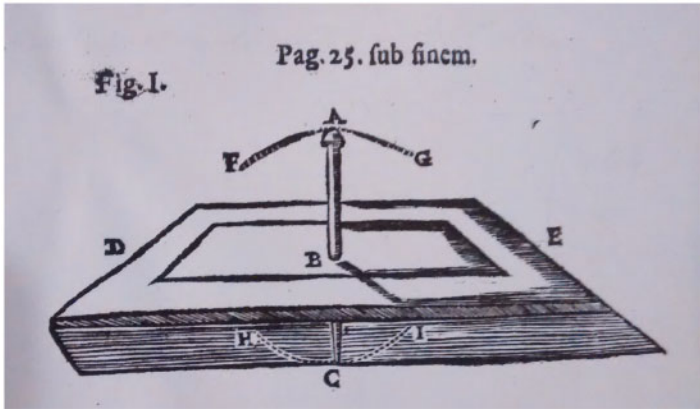


Fig. 1. Table with nail (1) in Sacra Rituum Congregatione [...] Gregorii papae X positio super dubio, (Rome: typis Reu. Camerae Apostolicae, 1718).

midwife, and successfully replaced the foetus in his natural situ. Soldati concluded that if it was impossible to lift a weight with the longer part of the lever, how could one imagine lifting it with the shorter part?⁶⁶ In the case that the impediment was in the cavity of the uterus, Soldati stated that there were two premises to put forward: the similitudes and the differences between a goatskin (*uter*) used to carry wine and the uterus. To explain how it worked in practice, he described their similarities: firstly, they both swelled when you entered a foreign material in them, the uterus due to the foetus, the goatskin due to wine; secondly, they both flagged and flattened when the foetus or the wine was released. Concerning differences, the goatskin never lost its internal measurement and surface, so that the same quantity, which had been introduced, could also be issued. The uterus could not preserve the same internal surface and magnitude, and thus would gradually decrease as soon as the parts of the foetus were delivered, so that no other foetus could be reintroduced without expanding the internal cavity.

At this point of the discussion, Soldati referred to a second image in which a nail BCD had been inserted in a table through the hole C toward D (fig. 2). Due to the presence of a body EF, which nullified the space between A and itself, it is impossible to reintroduce the external part of the nail CD. Consequently, due to the obstruction of the uterus, the midwife could not have reintroduced the arm of the foetus. Regarding the opportunity of returning the arm to the uterus by means of natural force, Soldati claimed this could only be achieved through the movement of the foetus and the uterus simultaneously. When the former was dead, the latter function was to pull out what was inside like the urinary bladder. Therefore, there were only two ways the foetus could be released: if the foetus was expelled in the position as testified by the witnesses and was thus considered miraculous; or, if the foetus was returned to the natural position and then delivered, this would also be considered as miraculous.⁶⁷

66 "Votum Francisci Soldati," *Ibid.*, 25.

67 *Ibid.*, 26.

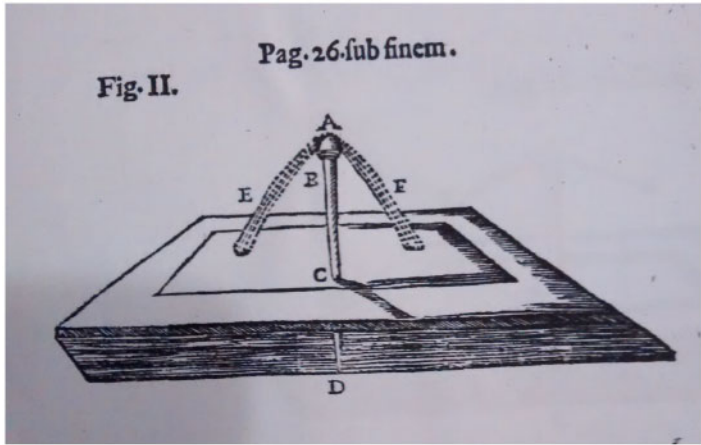


Fig. 2. Table with nail (2) in Sacra Rituum Congregatione [...] Gregorii papae X positio super dubio, (Rome: typis Reu. Camerae Apostolicae, 1718).

Whereas Soldati strictly applied mechanical theories to supply the lack of testimony, Lancisi, along the same lines as his pupil, referred to medicine, discussing the anatomical similarity between the uterus and the urinary bladder. Lancisi stated that both were made of two antagonistic muscles, which worked in opposition to each other, one expanding and the other contracting. This was shown by one positioned at the bottom of the uterus, and the other one covering its sides. If a stone got stuck in the bladder neck, the more one pushed to release it the more the neck would tighten, which would prevent the expulsion of the stone and consequently cause the patient great pain. Equally, when the foetus got stuck in the uterus with an arm or a leg dangling outside, due to the irritation of the orifice of the uterus and to the force of the lateral muscles, it would be impossible to insert any fingers to move the foetus back in a natural position.⁶⁸

In 1719, the Congregation of Rites met together for the second time and requested a new examination; a *positio super miraculis* was printed in the same year, but nothing new was added in terms of medical knowledge or method of analysis.⁶⁹ Here Lambertini insisted again that the only miraculous event was the sudden cure of the woman, not the childbirth since there was no testimony that the foetus was delivered according to that preternatural position. Thus Lambertini did not accept Soldati's and Lancisi's supply to the lack of probation by the means of mechanical explanation.

Up to this point, the Congregation of Rites had not met to judge Alessandra Spadari's childbirth. Although we still do not know whether or not Spadari's childbirth would be judged a miracle, the interpretative potential of mechanics was evident in a context in which the main purpose was to detect the possible presence of natural causes

68 "Animadversiones pro veritate," *Ibid.*, 31.

69 *Sacra Rituum Congregatione [...] Gregorii papae X Positio super miraculi* (Rome: typis Reu. Camerae Apostolicae, 1719).

of an event. Soldati's entire judgment was made on the assumption that *artificialia* were the same as *naturalia*. This equation gave Soldati the right of tracing natural/mechanical boundaries beyond which the supernatural potentially dwelled. The functions of the uterus were explained using the example of a nail and a wooden tablet. If the boundaries of the natural had been previously much more blurred, through mechanical explanation they became visible. This is very clear when comparing Zacchia's expertise with the one made a century after by Soldato. Zacchia did not refer to any mechanical explanation, he referred to the witnesses' deposition as the main source from which to infer the causes of the event.

CONCLUSION

Since the 1970s, historians of science have abandoned the explanation of the relationship between Christianity and science as a conflict. Ronald Numbers and David Lindberg, among others, have edited several studies, showing the intertwined relation of Christianity and science, not reducible to simplistic formulas of harmony and conflict.⁷⁰ Rivka Feldhay reframed one of the most representative episodes of the conflict, the Galileo affair, by focusing on the critical dialogue between Dominicans and Jesuits, rather than limiting the analysis to the political repression brought about by the church.⁷¹ Furthermore, Maria Pia Donato, while pointing out that scientific activity in Rome "was almost never avoid of theological implications," claimed "that in most cases advancements in science occurred because of religious interference, not in spite of it."⁷² However, the exclusively conflictual relationship between Christianity and science remains a powerful commonplace difficult to break down.

More recently, Bradford Bouley has shown how the church fostered and supported anatomical dissections and autopsies on the corpse of the servant of God in order to identify any supernatural characteristic such as the incorruptibility of the body.⁷³ My paper is still focused on the joint between natural philosophy and Catholic church. I have shown how a new method of inquiry such as the mechanical explanation was endorsed and supported by the church and the consequent painstaking reconstruction of the miracle as a fact by medical experts. This reveals the circularity of the relationship between religion and science in early modern Catholicism: the presence of the medical expert legitimized the authentication of miracles against Protestant accusation of

70 David C. Lindberg and Ronald L. Numbers, eds., *God and Nature: Historical Essays on the Encounter between Christianity and Science* (Berkeley: University of California Press, 1986); idem, eds., *When Science and Christianity Meet* (Chicago: University of Chicago Press, 2003).

71 Rivka Feldhay, *Galileo and the Church: Political Inquisition or Critical Dialogue?* (Cambridge: Cambridge University Press, 1995).

72 Maria Pia Donato, "Introduction," in *Conflicting Duties: Science, Medicine and Religion in Rome, 1550-1750*, ed. Maria Pia Donato and Jill Kraye (London: Warburg Institute - Nino Aragno editore, 2009), 6. See also: Antonella Romano, ed., *Rome et la science moderne: entre Renaissance et Lumières*, (Rome: École française de Rome, 2008); Maria Pia Donato, *Sudden Death: Medicine and Religion in Eighteenth-Century Rome*, trans. Valentina Mazzei (Farnham: Ashgate, 2014).

73 Bradford A. Bouley, *Pious Postmortems: Anatomy, Sanctity and the Catholic Church in Early Modern Europe* (Philadelphia: University of Pennsylvania Press, 2017).

superstition, and the employment of the mechanical explanation legitimized its use by natural philosophers.

The question now arises as to whether the interplay of religion and science has conditioned or modified one or both. As Peter Dear pointed out, Catholic countries developed a method of inquiry which was different from those applied by for example England. Catholics were more keen on mathematical explanation and generalisation by means of contrived experiences, whilst Protestants were more familiar with experimental observations. Dear found the reasons of the different approaches connected to the belief in modern miracles that characterised the Catholic world, whereas the Protestants believed in the cessation of miracles after those performed in the New Testament. The basic feature of miracles is to surpass the capability of natural means. This implies the identification of an ordinary course of nature. Consequently, Catholic handling of new miracles fostered more defined natural boundaries necessary for mathematical explanations. According to Dear, in Catholic countries the requirement of clear-cut natural boundaries between the natural and the supernatural was the sociocultural legitimation for a kind of method of inquiry based on mathematical and geometrical disciplines. He stated that the “ordinary course of nature” was a preexisting condition for a natural knowledge in Catholic countries that was absent in England.⁷⁴

On the other hand, Jane Shaw disagrees with Dear since she has proved that the claims for miracles did not cease in England during the seventeenth century and that they were investigated by natural philosophers such as Robert Boyle (1627-1691).⁷⁵ What probably Shaw did not realize was that the difference between Protestantism and Catholicism on the question of miracles was not just an issue of quantity (“the handling of miracles was a more regular and therefore more routinised practice in Roman Catholic France”) but also and mostly an issue of aims.⁷⁶ A canonization process is a trial in which the Catholic church universally recognized the veneration of a servant of God as a saint. The inquiry on miracles did not aim to unmask an impostor and did not end up in discussions on the nature of miracles as it was in England.

In my opinion early modern religion and the new science influenced each other because they shared the same epistemological ground. In this paper I have shown the intimate bond between the ascertainment of the natural boundaries and the mechanical method of inquiry. On the one hand the Catholic church needed an efficacious method to distinguish the supernatural from the natural. On the other hand, natural philosophy was seeking legitimacy for its new method of inquiry, focused on mathematics and mechanical explanations. This was not a pure coincidence. The exam of the inquiries on miracles in canonization trials has revealed the common ground in which early modern Catholicism and the new science grew up: they were both grounded on the distinction of the natural and the supernatural. This distinction guaranteed evidence for miracles, since they were defined starting from the limits of the natural and it guaranteed the

74 Peter Dear, “Miracles, Experiments, and the Ordinary Course of Nature,” *Isis* 81 (1990): 663-683.

75 Jane Shaw, *Miracles in Enlightenment England* (New Haven: Yale University Press, 2006), 78-79.

76 *Ibid.*, 79.

concept of an ordinary course of nature free from any divine intervention in which natural philosophy could establish its domain.

FUNDING

This work was supported by The Wellcome Trust Medical Humanities Studentship.

ACKNOWLEDGEMENTS

The author would like to thank David Gentilcore, Simon Ditchfield and the anonymous reviewers for comments and suggestions.