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**Philanthropy, Practitioners and Infants: The Role of the Foundling
Hospital in the History of Eighteenth-century Medicine**

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Practitioners, Philanthropy and Infants: The Role of the Foundling Hospital in the History of Eighteenth-century Medicine.

*This is one of the most useful among the numerous charities that are an honour to this age and nation.*¹

The Foundling Hospital², established in 1739 for the ‘Maintenance and Education of Exposed and Deserted Young Children’³ has retained a high status among both contemporaries and some later historians as a ‘useful’ charity. It has enjoyed the reputation of being one of the first public art galleries in England and is seen as the forerunner to the Royal Academy. Through studies of the patronage of Handel and Hogarth, it has been placed firmly within accounts of charity and the arts in the eighteenth century.⁴ However, despite several of the governors being practising physicians or surgeons, and the extent of the support given to the Hospital by many other eminent physicians of the day, there has been little exploration of the Foundling’s relationship with medical issues, and it is conspicuously absent from most histories of medicine in the eighteenth-century.⁵

¹ Anon, *The Curiosities of London and Westminster Described in four Volumes. Embellished with elegant Copper Plates, Vol. II* (London, Printed for E. Newbery) 1783.

² Hereafter the Foundling Hospital will be referred to simply as ‘the Foundling’.

³ *Copy of the Royal Charter, Establishing an Hospital for the Maintenance and Education of Exposed and Deserted Young Children*, (J. Osborn, London) 1739.

⁴ For example: R. McClure, *The Captain and the Children: Captain Thomas Coram, 1688-1751, and the London Foundling Hospital, 1739-1799*, (University Microfilms International, Michigan) 1975; R. Nichols and F. Wray, *The History of the Foundling Hospital*, (Oxford University Press, London) 1935.

⁵ Most accounts where the Foundling would be relevant contain only a passing reference, see for example S.C. Lawrence, *Charitable Knowledge: Hospital Pupils and Practitioners in 18th Century London*, (Cambridge University Press, USA), 1996; D.T. Andrew, *Philanthropy and Police: London Charity in the Eighteenth-century*, (Princeton University Press, New Jersey), 1989. Alys Levene’s recent work ‘Childcare, Health and Mortality at the London Foundling Hospital, 1741 – 1800, “Left to the Mercy of the World”’ does begin to redress this balance, but remains very focussed upon an internal history of the Foundling rather than placing it within the wider context of the history of medicine in the eighteenth-century.

The eighteenth-century has been characterised by Roy Porter as ‘teetering on “modernity”’⁶, and it was a time of profound change in society and culture. Rapid industrialisation ‘threatened the old ways’⁷ and what has been described as the ‘consumer revolution’⁸ was firmly in place. The rise of the ‘middling-classes’ populated by people who were “getting before-hand in the World, [and] must have fine Clothes, fine Houses, and fine Furniture; their wives grow gay, as the Husbands grow rich,”⁹ coupled with a new “bourgeois consumer ethic”¹⁰ was transforming the way in which society operated. The introduction of affordable tea and coffee into Britain revolutionised the manner of social gathering. The etiquette and ritual of tea-drinking within the home inspired a whole new range of goods from silverware, porcelain and tea-tables as well as a new set of manners. Coffee-houses sprang up in the towns as a place for entertainment, discussion, business and politics. London especially became a centre for the dissipation of these new goods and their incumbent behaviour, described by Addison as ‘a kind of Emporium for the whole Earth.’¹¹

⁶ R. Porter, *English Society in the 18th Century*, (Penguin, London) revised ed., 1991, p. 4.

⁷ R. Porter, *ibid*, p.4.

⁸ N. McKendrick et al *The Birth of a consumer society : the commercialization of eighteenth-century England*, (Indiana University Press) 1982; J. Brewer and R. Porter (eds.) *Consumption and the World of Goods* (Routledge, London) 1994; M. Berg and H. Clifford (eds.) *Consumers and Luxury: consumer culture in Europe 1650-1850*, (Manchester University Press, Manchester) 1999.

⁹ Defoe, *The Compleat Tradesman*, (C. Rivington, London) 1727, p.118.

¹⁰ C. Campbell, *The Romantic Ethic and the Spirit of Modern Consumerism*, (Basil Blackwood, Oxford) 1987, p. 35.

¹¹ J. Addison, in *The Spectator* May 19th, 1711.

London as a city was changing and expanding rapidly throughout the eighteenth-century, having begun this process late in the previous century. This expansion was accompanied by a population rise, and a change in demographic settlement. By the mid-eighteenth century London held eleven per cent of the population of England, compared to four per cent in the sixteenth century.¹² Roy Porter comments that ‘people were sucked into London’¹³ and with an estimated population of over 490,000 in 1700, this had risen to 675,000 by the mid-century,¹⁴ changing the nature of the capital.

Health care and medicine is very much a part of these changes. ‘In the consumerist eighteenth century, medicine expanded fastest of all the superior occupations.’¹⁵ During the later half of the eighteenth-century new ideas in the treatment and perception of disease, linked to the rise of hospitals as a place of treatment of the sick, began to transform the practice of medicine. New sections of practice such as man-midwifery were created and the relationship of power between patients and practitioners began to change.¹⁶ New models and expressions of authority were being formed and re-worked, as physicians, surgeons and apothecaries competed for business, legitimacy and authority.¹⁷

¹² M. Jenner, and P. Griffiths, (eds.) *Londinopolis. Essays in the cultural and social history of early modern London* (Manchester University Press, Manchester) 2000, p. 2.

¹³ R. Porter, *London, a Social History* (Hamish Hamilton, London) 1994, p. 133.

¹⁴ M. Jenner, and P. Griffiths, (eds.) *Londinopolis....* 2000, p. 2.

¹⁵ J. Lane, *A Social History of Medicine: Health, Healing and Disease in England, 1750-1950*, (Routledge, London) 2001, p. 11.

¹⁶ N. D. Jewson, ‘The disappearance of the sick-man from medical cosmology’ *Sociology* vol. 10, 1976, pp. 225-244.

¹⁷ See S.C. Lawrence, *Charitable Knowledge: Hospital Pupils and Practitioners in 18th Century London*, (Cambridge University Press, USA), 1996, passim.

Where does the Foundling Hospital fit within this tumult of change? Did it have a role to play within it and if so, how important was it? By examining the Foundling within the medical context of the second half of the eighteenth-century, this paper aims to explore the question of the Foundling Hospital's place within historical accounts of medicine and its influence upon the medical community of the time.

The Foundling Hospital is a point around which many of the major themes running through social and medical histories of the eighteenth century converge, making it a useful tool to examine the relationships between these themes. There are two frameworks of historical narrative which are most relevant to an examination of the Foundling's connection with medicine. The first looks at the relationship between charity and medicine, and the development of charitable institutions throughout the eighteenth-century, best embodied by the work of Donna Andrew and Susan Lawrence. That the Foundling was perceived by contemporaries as belonging within the category of charity is clear from the opening quote. Why then haven't historians equated this charity with a medical charity and included it among their diagnoses? The relationship between this charity and the medical community needs to be explored in order to answer questions about the situation of the Foundling within this strand of historiography.

The second framework is concerned with the development of a more 'scientific' medicine, and the techniques of observation and experimentation which were beginning

to be used. ‘Rational empiricism’¹⁸ and the development of controlled and above all, quantified clinical trials towards the end of the eighteenth-century have been linked with the favourable conditions for such studies provided by institutions of the time.¹⁹ The use of the attendant physicians made of the circumstances provided by the Foundling needs to be examined. How does the work connected with the Foundling fit into this historical framework?

Despite having the title of ‘hospital’, the Foundling was a unique institution within eighteenth-century society, which may partly account for its lack of inclusion in medical histories. It is necessary to point out that the Foundling differed from every other medical institution of its time in one crucial aspect – it was an institution devoted primarily to preserving health rather than curing. The aim of the Foundling was ‘the Maintenance....of Young Children.’²⁰ This does not, however, merit an exclusion from medical history. Despite its differing aims, the Foundling was very much a part of the ‘network of relationships’²¹ which eighteenth-century medicine consisted of, and was influential in promoting an interest in child health-care, as shall be shown.

¹⁸ That is, the combination of notions derived from theoretical thinking with observations made in the real world. Tröhler, U., *‘To improve the evidence of medicine’: The 18th century British origins of a critical approach*, (Royal College of Physicians of Edinburgh, Edinburgh) 2000, p. 7.

¹⁹ See Tröhler and S.C. Lawrence *Charitable Knowledge: Hospital Pupils and Practitioners in 18th Century London*, (Cambridge University Press, USA), 1996, p. 20.

²⁰ *Copy of the Royal Charter, Establishing an Hospital for the Maintenance and Education of Exposed and Deserted Young Children*, (J. Osborn, London) 1739.

²¹ S.C. Lawrence, *ibid*, p. 20.

It is important here to define the concept of ‘medicine’ as it will be used throughout this paper, in order to clarify any historical connotations. The term ‘medicine’ is used in a very broad sense throughout this paper, especially when referring to ‘the history of medicine’, encompassing ideas of general health and well-being, and the prevention of disease, as well as the more usual connotations of curing and healing. In using the term ‘medicine’ in this way, a reflection of the wide interests of eighteenth-century medical practitioners can be achieved. The changing nature of terms such as ‘hospital’ and ‘nurse’ will also be explored, as by placing these terms within the context of eighteenth-century society a very different understanding of their meanings emerges.

The first half of this paper aims to examine the health- and medical- care used within the Foundling and to place this within the wider context of eighteenth-century institutional medical care. In doing so, an analysis of the Foundling’s role within both this structure and the wider discipline of medicine will be effected. In order to demonstrate the way in which the Foundling influenced (and was influenced by) the medical community, an examination of William Watson’s work on inoculation will be made in the second half of this paper. Physician at the Foundling from 1762, Watson’s paper ‘An Account of a Series of Experiments, Instituted with a View of ascertaining the Most Successful method of Inoculating the Small-Pox’ attempts to overcome some of the main difficulties facing inoculation in the eighteenth-century. Having been called ‘the first controlled clinical trial’,²² the extent to which the opportunities provided by the Foundling for research into preventative medicine influenced Watson’s method will be investigated.

Care at the Foundling Hospital

A brief outline of the foundation and regulations of the Foundling is necessary first to provide an understanding of the spirit in which it was created and managed. The story of the foundation of the Foundling Hospital is indeed a tribute to the ‘philanthropist of extraordinary vision and conviction’²³ who campaigned for seventeen years for the institution to be set up. Captain Thomas Coram, returning from the Americas, was horrified at the sight of abandoned children lying on the streets of London and gathered support through a petition for the foundation of an institution to care for these unwanted infants. George the Second, ‘graciously pleased to satisfy the Petitioner in his Request’²⁴ granted a Royal Charter in 1739, and the Hospital received its first children in 1741. The governmental structure of the Foundling Hospital was similar to other charitable institutions of the time.²⁵ It was to have a body of governors, who would meet annually ‘on every Second Wednesday in the Month of May’²⁶ to elect the President and Vice-Presidents of the corporation, who were effectively to manage the Hospital. The term ‘governor’ covered any man who donated a sum of money to the Foundling and was

²² Shein-Chung Chow and Jen-Pei Liu, *Design and Analysis of Clinical Trials: Concepts and Methodologies*, (Wiley-Interscience) 2003, p. 108.

²³ Kit Wedd, *The Foundling Museum*, (The Foundling Museum, London) 2004, p. 8.

²⁴ *A Copy of the Royal Charter, Establishing an Hospital for the Maintenance and Education of Exposed and Deserted Young Children*, (J. Osborn, London) 1739, p. 3.

²⁵ Susan Lawrence provides a brief summary of the structure of hierarchy within the London charitable Hospitals; governors ‘had the ultimate power over everything, including medical affairs.....patients on the wards had control over nothing, except leaving if they could walk or get carried out.’ The similarity ends with the freedom of the patient – the foundlings had no choice over their surroundings. *Charitable Knowledge: Hospital Pupils and Practitioners in 18th Century London*, (Cambridge University Press, USA), 1996.

²⁶ *A Copy of the Royal Charter*.....p. 16.

elected by the current members. General Committee meetings took place weekly, with sub-committees created to deal with specific issues, such as clothing and diet. The arrangement of the government of the Hospital thus left it very dependent upon the continuance of both charitable interest and donations.

The children, after being accepted into the Foundling Hospital (entry was by no means guaranteed, at times of high volumes of applicants, a lottery system was introduced), were sent to wet-nurses in the country until the age of three years.²⁷ The arrangement of regular inspections of each nurse to reward the employee when the child was well-cared for, as well as checking upon the conditions in which the child was being cared for is indicative of the thorough care with which the governors undertook their task.

That healthcare was of the utmost importance to the governors of the Foundling is clear from the title of the Hospital: 'for the *Maintenance and Education* of deserted and exposed young children [my italics].' The Hospital existed to care for the physical and moral well-being of the children. It is interesting to note briefly the lack of explicit interest in the emotional well-being of the children, perhaps a product both of medical as well as the social conditions of the time. What then, were the measures provided for the children's health?

²⁷ *A Sketch, of the General Plan For executing the Purposes of the Royal Charter, Establishing an Hospital for the Maintenance and Education of Exposed and Deserted Young Children; as reported by the Gentlemen desired to consider of a General Plan, for the executing of the Charity, to the Committee transacting the Affairs of the Hospital, on the 16th of July, 1740*, (J. Baskett, London) 1740, p. 7.

The paramount importance of the health of the foundlings is demonstrated by the conditions of entry into the Foundling. No child who had ‘French pox, Evil [the King’s evil - scrofula or tubercular swellings of the neck], Leprosy or Disease of the like Nature’²⁸ could enter, and each child was to be inspected by the ‘Chief Nurse (with such other Nurse as she shall think fit to call to her Assistance) and the Apothecary of the House.’²⁹ This emphasis upon good health continues throughout the plan given for the running of the Foundling, mainly through matters pertaining to the day-to-day regimen of the children such as providing ‘wholesome but plain’ food, warm and appropriate clothing, and a court-yard to give fresh air and a space for exercise. A later book of regulations states that the children should be ‘at proper Intervals exercised in the open Air, and employed in such a Manner as may contribute to their Health, and induce a Habit of Activity, Hardiness and Labour.’³⁰ Specific medical measures were visible in the form of an infirmary and apothecary. The Infirmary, ‘with proper attendants’ was to be ‘separate from the other Parts of the Hospital’ and under the ‘Care and Inspection’ of the apothecary. This personage was to ‘follow no business, but in the Hospital’,³¹ which included the care of the servants.³² There are two important points to be taken from this

²⁸ *A Sketch, of the General Plan* p. 4.

²⁹ *A Sketch, of the General Plan*..... p. 4.

³⁰ *Regulations for Managing the Hospital for the Maintenance and Education of Exposed and Deserted Young Children*, (London) 1757, p. 49.

³¹ *The Report of the General Committee For the directing, managing, and transacting the Business Affairs, Estate, and Effects of the Corporation of the Governors and Guardians of the Hospital for the Maintenance and Education of Exposed and Deserted Young Children*, (J. Baskett, London) 1740, p. 20.

³² ‘The Servants, when sick, shall be taken Care of by the Hospital, in the Infirmary, or otherwise, as the Daily Committee shall direct.’ *The Report of the General Committee*p. 19. Examples from the apothecary’s prescription book for the year 1748 include ‘the lawndry maid’ (17th April), ‘nurse monk’ (4th June) and ‘Mrs Madgick’ (28th March). A/FH/A18/6/1.

list of provision. The first is that the governors (through the nurses) were able to control every aspect of the children's regimen, which thereby offered the perfect opportunity to view the effects of various factors upon health. Secondly, it is clear that the health of the children was a topic of the utmost importance to the governors, necessitating in the services of an apothecary who served the Hospital alone. The continued focus upon daily health and the maintenance of this health is illustrated by the guidelines for establishing hospitals outside of London, due to the large numbers of children which 'the Hospital at London cannot conveniently contain.'³³ They were to be established somewhere where the atmosphere was healthy, with a good supply of cheap food and fuel.

The plan continues to mention that 'whenever there shall be Occasion for further Assistance, the Committee shall, as they think fit, apply to such Physicians and Surgeons who are willing to attend: For no Physician or Surgeon shall have any Fee or Reward for his Attendance.'³⁴ A later publication of the regulations of the Hospital in 1757 gives more specific instructions about the care of the sick, stating that the Infirmary should be 'at a proper distance from the Hospital' and that 'the Physicians and Surgeons are desir'd to visit the Infirmary alternately; so that one Physician and one Surgeon may attend every Day.'³⁵ It is clear both that the governors expected to have no trouble in asking at least one physician to visit every day, suggesting that the Foundling was an influential and significant institution amongst the medical community.

³³ *Regulations for Managing the Hospital.....1757*, p. 51.

³⁴ *The Report of the General Committee.....p. 20.*

³⁵ *Regulations for Managing the Hospital.....1757*, p. 28.

The infirmary records show the most common ailments as what were called ‘fevers’ and ‘agues’, along with ‘the Itch’ and various ‘sore mouths or heads.’ There were periodical outbreaks of contagious disease, such as measles, chicken pox and small pox. Diseases for which there was no preventative medicine occurred particularly frequent. In the year 1761, no fewer than three separate outbreaks of measles occurred, involving at least 30 children at the highest point of each infection.³⁶ The isolation of the infirmary from the rest of the institution does seem to have prevented the spread of disease to larger numbers of children however.

To what extent these regulations were carried out is however, uncertain. A committee was created in March 1790 to look into Dr Mayo’s allegations that the Infirmary was being run in an unsuitable manner,³⁷ and an aristocratic lady complained that in a visit to the Foundling the children’s heads were dirty and crawling with lice.³⁸ A letter read to the Committee on the 24th January 1749 describes how, on enquiring to the Matron of the Foundling as to the success of the method described in Cadogan’s ‘essay upon nursing’, ‘you may imagine I was a little surpris’d to find she seem’d puzzled at my question; and

³⁶ Infirmary Weekly Reports, 1761, A/FH/A/07/005.

³⁷ ‘Minutes of the Committee of Enquiry upon Dr Mayo’s Representation. Begun the 7th January 1790 and continued to 26th March 1790.

³⁸ ‘Yesterday went there [the Foundling Hospital] she [Lady Vere’s sister] to divert herself with the children, and I to pay the Princess of Wales and some others Yearly Gift. As Lady Temple was playing with a girl whose name is White, she saw a Living Creature Crawl in Her Head...’ Letter from Lady Vere to the Governors, A/FH/A/06/001/005/002. To what extent this is the horror of an aristocratic woman unused to the infestations that generally occur when there are large numbers of children in one area is uncertain, but it is an interesting instance of the standard of care not reaching the expectations of the Foundling’s supporters.

told me she knew of no alteration from their former method'.³⁹ This letter also gives an insight into the perception of the Foundling from the public's point of view. The correspondent enquired at the Foundling in order to benefit from their experience of nursing, upon the birth of his own child. This idea that the Foundling was a useful institution and was offering a public service is repeated in the question 'how is the Publick to profit from such a Nursery?' It is clear that at least from this author's point of view, the Foundling was perceived as an institution which employed the best methods in child-care, for the benefit of the general public. Again we see that the Foundling has promoted an interest in and given legitimacy to the previously female-dominated area of child-care. Tellingly however, his wife replies on hearing that the advice in the publication is not followed: 'ay, ay, my dear, tis like the men, they are fond of novelty.'⁴⁰

What is arguably more important from a historical point of view however, is not whether the suggestions made by the governors was carried out exactly or not, but that the issues were examined in the first place. In the founding of the Hospital, the governors were confronted with the necessity to look into a topic previously unexplored by the medical community. To what extent did the Foundling create an interest in child-care among the medical community?

The key question for the Committee, which remained a point of debate throughout the first decades of the Foundling, related to the various advantages and disadvantages of

³⁹ There is no record of the author of this letter, it is stated only that it was read out to the committee 24th January 1749. A/FH/A/6/1/2.

⁴⁰ 24th January 1749. A/FH/A/6/1/2.

wet-nursing over dry-nursing for infants. It is this issue which attracted the most debate from medical sources, and indeed the Committee looked to the medical community for advice. ‘In order to be informed of the best Method of bringing up young Children, we have consulted the College of Physicians thereupon, who are of Opinion, that it is most advisable for this Corporation, that no Children be suckled but such as cannot be brought up by Hand; and that Opiates ought never to be administered by Nurses.’⁴¹ An earlier copy of the report suggests asking the College for ‘the best Method to bring up young Children’⁴² followed by a list of questions. That this is the only occasion upon which the authors feel it necessary to bring in outside expertise, and the only area in which they are unsure of the best course illustrates the ambiguity and relative ‘newness’ of the subject as an object of medical attention. This enquiry seems to have stimulated an interest in the topic, and several other letters were addressed to the Foundling on the subject. Sir William Cadogan’s ‘Essay upon Nursing’ addressed to the General Committee of the Foundling explicitly states the new nature of this enquiry to the medical community. In writing his essay, he comments that he ‘cannot find, that any one Man of Sense, and publick Spirit, has ever attended to it [the Treatment of Children] at all’,⁴³ suggesting that it is the necessity of the enquiry for the management of the Foundling Hospital which has brought the topic into the realm of legitimate consideration for medicine. Cadogan advocates against the previous advice of the College of Physicians, for the simpleness of

⁴¹ *The Report of the General Committee* 1740, p. 8. I have been unable to ascertain the exact source for this advice, but it seems likely that William Cadogan and Richard Mead, who were both active governors of the Foundling, provided the basis for this advice.

⁴² *A Sketch, of the General Plan* 1740, p. 6.

⁴³ William Cadogan, *An Essay Upon Nursing, and the Management of Children, from their Birth until Three Years of Age*, (J. Roberts, London) 1748, p. 6.

the care of the ‘lower Class of Mankind’ where the ‘Mother who has only a few Rags to cover her Child loosely, and little more than her own Breast to feed it, sees it healthy and strong.’⁴⁴ Sir Hans Sloane is in agreement with Cadogan in a private letter of the same year that ‘dry-nursing I look upon to be the most unnatural and dangerous method of all.’⁴⁵

Sloane’s letter is also an example of the way in which the Foundling stimulated medical research into previously unexamined territory. Sloane’s reaction to the advice of the College regarding dry-nursing is that ‘this being much against my opinion, from the ill effects I had observed by it (as I had previously told you and the rest of the Governors), made me some time after...inquisitive about the event of it’,⁴⁶ prompting him to examine the Hospital’s books and analyse the levels of mortality compared with the numbers dry- or wet-nursed. The creation of the Foundling Hospital, in the era of fashionable philanthropy, allowed the subject of child healthcare to gain both relevance and necessity. The governors’ enquiry into the best method of caring for children lent legitimacy to the subject as well as creating new interest. In forming the enquiry within the predominantly male, well-educated and philanthropic society of governors, the question of the most suitable methods of child-rearing becomes a suitable topic for medical enquiry.

⁴⁴ William Cadogan, *An Essay*.....p. 7.

⁴⁵ William Cadogan, *An Essay*p. 25.

⁴⁶ Extract from letter from Hans Sloane to John Milner Esq., 28th October 1748. From J. Brownslow, ed. *Memoranda or Chronicles of the Foundling Hospital including Memoirs of Captain Coram*, (Sampson Low, London), 1847, p. 216.

One of the main ways in which the Foundling Hospital influenced and was influenced by the medical community is in the level of interest and research into specifically child-related health issues that its inception stimulated. The most interesting point is that this subject was being discussed by the male medical community at all. Traditionally a female-dominated area, the idea of the necessity of scientific enquiry into the best methods of child-rearing is symptomatic of the beginning of a wider trend within medicine. This is perhaps best illustrated by the rise of ‘an entirely new subject, midwifery, as an object of tuition’⁴⁷ within hospitals. Traditionally the job of women to attend other women in child-birth, the growth of a number of male-midwives or ‘accoucheurs’ throughout the eighteenth-century reflects the idea that the domain of male-dominated medicine was seeking to reform all areas of healthcare ‘with what they deemed rational, principled practice.’⁴⁸ William Cadogan’s essay upon nursing is a startling example of this mentality. His opinion that ‘this Business [the Preservation of Children] has been too long fatally left to the Management of Women’⁴⁹ and that ‘most Nurses, Aunts, Grandmothers &c...they have hitherto been in the wrong.’⁵⁰ He paints a strong picture of ‘Men of Sense’ using a ‘Philosophic Knowledge of Nature...acquired only by learned Observation and Experience’⁵¹ overcoming the ‘effects of ignorance’

⁴⁷ C. Lawrence, *Medicine in the Making of Modern Britain, 1700-1920* (Routledge, London) 1994, p. 19.

⁴⁸ C. Lawrence, *ibid*, p. 19.

⁴⁹ William Cadogan, *an Essay* p. A2.

⁵⁰ William Cadogan, *An Essay* p. 5.

⁵¹ William Cadogan, *An Essay* p. A2.

which rely upon 'superstitious Practices and Ceremonies....the artifices of designing Quacks....and traditional Prejudices.'⁵²

Despite this interest, the daily care of children was still very much in the female domain, even in the opinion of the General Committee of the Foundling Hospital, who ask for the 'Assistance of the Fair Sex, who....are by their natural Tenderness and Compassion peculiarly enabled to advise in the Care and Management of Children.'⁵³ That the male servants of the Foundling were involved in managing the books and orders, while the nurses were exclusively female also illustrates the continuance of traditional roles despite new trends within medicine. The Foundling Hospital thus provides an excellent example of the tension between the emerging professionalisation of the medical care of children with the continuing thought that the performance (if not the management) of childcare as a whole is more suitable for women.

⁵² William Cadogan, *An Essay* p. 4.

⁵³ *The Report of the General Committee* 1740, p. 5.

Eighteenth-century medicine and society

Institutional medical care in the eighteenth century can be split into three main categories. Firstly, there were the large General Hospitals, such as St Bartholomew's and St Thomas' which dated back to medieval times, along with a surge of new hospitals built in the early eighteenth century, such as Guy's and St George's. Secondly smaller, specialised hospitals provided care for specific conditions, ranging from 'lying-in' hospitals for expectant mothers to institutions which dealt only with cases of small pox or venereal disease.⁵⁴ The third category consisted of dispensaries, differing from the first two categories by generally providing an out-patient service only.

All of these were aimed at those who were unable to pay a physician to attend them in their own home, which explains their mainly charitable status. Where does the Foundling come within this structure? It undoubtedly belongs within this framework, not only because of its title of 'hospital', but because its establishment is clearly connected to the philanthropic movement of the time. Why, therefore, is it missing in so many assessments of charitable medicine in the eighteenth century?

Many of the hospitals in Britain were set up or significantly expanded in the first half of the eighteenth century. All were supported by charitable donations or legacies, making them vulnerable to changes in philanthropic trends. Looking at the seven main hospitals in London, three were endowed while the remaining four relied solely upon voluntary

⁵⁴ For example the City of London Lying In Hospital, established in 1750, the London Small-Pox Hospital in 1746, and the Lock Hospital for venereal Diseases in 1746.

donations in the form of legacies, subscriptions or cash donations. Of these London hospitals, five were founded in the period 1719-1745, and the other two were expanded during the same period.⁵⁵ This conclusive evidence of a surge in the construction of the ‘hospital’ is not limited to the capital, with 35 provincial voluntary hospitals being set up in England during the eighteenth century, the majority before 1750.⁵⁶ That the Foundling Hospital too was established during this period perhaps explains its similarities to the hospitals.

However, these were not necessarily general hospitals in the sense that we would understand today. The word ‘hospital’ was applied to what would be perceived in the modern era as a wide range of differing institutions. Johnson’s dictionary, first printed in 1755, gives two separate functions to the principle meaning of ‘hospital’: as ‘a place built for the reception of the sick, *or* support of the poor.’⁵⁷ Interestingly there is no understanding of a hospital as a place in which to *cure* the sick, but both definitions describe places where support is given. The strict entrance criteria which most of the general hospitals operated illustrate the extent to which a hospital was a place of reception. No contagious or incurable diseases were admitted, and children were also barred, as they were deemed to be more infectious than adults.⁵⁸ This narrow set of

⁵⁵ The seven hospitals are: St Bartholomew’s, founded 1123, enlarged 1739; St Thomas’s, founded 1173, enlarged 1730s; Guy’s, founded 1726; Westminster, 1719; St George’s, 1734; London, 1740 and Middlesex, 1745. S. Lawrence, *Charitable Knowledge: Hospital Pupils and Practitioners in 18th Century London*, (Cambridge University Press, USA), 1996, p. 39, Table 2.1.

⁵⁶ Williams, A.N., “‘The joy to bless and to relieve mankind’: child healthcare at Northampton General Infirmary 1744’, *Archive of Diseases of Childhood*, vol. 90, 2005, p. 1227.

⁵⁷ Johnson’s Dictionary of the English Language, entry under ‘hospital’, (London) 1755.

criteria this was perhaps simply a measure to protect the institutions both financially and health-wise. If they offered shelter to incurable patients, they would be doing no more than providing a home for them until they died, which was not within their remit. With highly contagious diseases, the danger to both staff and patients was too great. Patients had to be recommended to the governors by one of the contributors or other governors of the hospital, who would undertake to pay for the patients' stay. St George's hospital in London produced a standard printed 'letter to recommend in and out patients', with appropriate blank spaces for the sponsor to complete the name of the patient and their own.⁵⁹ This letter included a brief reminder of the by-laws of the charity, which emphasised that only those patients who were 'proper Objects'⁶⁰ of charity would be admitted. Another reminder that these were establishments for the *receiving* of the sick, is given in the reminder printed in this letter that 'all recommendations are to be delivered every Wednesday Morning by Nine of the Clock.'⁶¹ This illustrates the extent to which the meaning of 'hospital' has evolved, as a hospital with only one day on which it accepted admissions would be unthinkable today.

⁵⁸ St George's hospital, London 'The letter to recommend in and out patients' (1740?); Admission criteria of the Leicester Royal Infirmary, in A.N. Williams, "'The joy to bless and to relieve mankind': child healthcare at Northampton General Infirmary 1744', *Archive of Diseases of Childhood*, vol. 90, 2005, p.1229; S. Lawrence, *Charitable Knowledge: Hospital Pupils and Practitioners in 18th Century London*, (Cambridge University Press, USA), 1996, p. 45.

⁵⁹ The formula goes thus: Gentlemen, I recommend the Bearer.....blank.....of the Parish of.....blank.....for an...blank....Patient, believing h.....to be a proper Object of the Charity. [Space for date], Your Humble Servant.....blank..... Note the emphasis again upon the persons receiving care as being *deserving* poor. St George's hospital, London 'The letter to recommend in and out patients' (1740?).

⁶⁰ St George's hospital, London 'The letter to recommend in and out patients' (1740?).

⁶¹ St George's hospital, London 'The letter to recommend in and out patients' (1740?).

In many ways, the Foundling Hospital was extremely similar to these charitable hospitals. Like them, it was maintained by charity, and the system of governors and donations was almost identical.⁶² The Foundling too operated a very necessary set of regulations governing the health of children being admitted, to avoid the risk of contagion. During the Foundling's general admission of 1756-1760, in which every child presented at the Foundling under the age of two months was admitted, mortality rates soared drastically to peak at 81% for the years 1758-60.⁶³ Comparatively, the rate in the year 1741-42 was just under half, at 44%. This illustrates the importance of entrance criteria to the survival of an institution, as even with the regulations, a fairly large number of children died. The general admissions policy had only been instigated at the insistence of the state, who stipulated it as a condition of their lending financial support to the Foundling. The soaring mortality rates were the main reason behind the abolition of general admission at the end of 1760, even though it meant that parliamentary funding had to be abandoned.

It is possible then that the Foundling Hospital was named as a 'hospital' in order to be associated with this philanthropic trend and thereby benefit from a similar level of attention. It is clear that the Foundling did compare itself to the Hospitals of the day, at least in terms of administration. The overall structure of the hospital is most similar to

⁶² Lawrence describes the hierarchy of general hospitals as 'governors had the ultimate power over everything, including medical affairs. Staff men had authority over patients' medical treatment...Patients on the wards had control over nothing.' Lawrence, S.C., *Charitable Knowledge: Hospital Pupils and Practitioners in 18th Century London*, (Cambridge University Press, USA), 1996, p. 35.

⁶³ R. McClure, *The Captain and the Children: Captain Thomas Coram, 1688-1751, and the London Foundling Hospital, 1739-1799*, (University Microfilms International, Michigan) 1975, Appendix III, p. 508.

that of the other hospitals of the day, with the hierarchy of governors at the top, progressing down to the patients or children. Many of the similarities between the Foundling and the general hospitals stem from their comparable administration, as detailed earlier, but the Foundling also fits into the social and political framework in which charitable hospitals have been placed.

Charitable hospitals have attracted a large amount of historiographical interest, due mainly to the 'new' type of medicine which was developed within them. Recent focus upon the importance of the 'collective nature' of these charitable hospitals leaves the question of where the Foundling belongs within this structure unanswered. Although Susan Lawrence's work focuses upon the general hospitals, excluding specialist institutions such as the Lock Hospital, it is important that the Foundling should be considered within this framework, as will be discussed. As has been shown, the Foundling shared many characteristics with the general hospitals, and was specialist only to the extent that it was focussed upon children. Although it is necessary to bear in mind that the Foundling was an institution primarily concerned with preserving good health, rather than curing ill health, in placing it within the context of the other charitable hospitals its nature is more easily understood, and in turn enriches our understanding of the other hospitals.

The idea that the London hospitals were only important collectively is a central theme to Lawrence's argument. If, however, hospital medicine should be viewed as a network of

relationships⁶⁴ as she states, does it still hold true when extended to include institutions such as the Foundling? That the Foundling considered itself very much to be among the tradition of the hospital has been made clear previously. What did it contribute to this network of relationships described by Lawrence? Firstly, the charitable and philanthropic ideals of the time clearly connected all three groups of medical institutions.

In common with other hospitals, the Foundling's profile within society provided physicians with the opportunity to care for suitable 'objects' of charity, thus illustrating their philanthropic ideals. The Foundling particularly took away the necessity of dealing with parents of the children, thus enabling the physicians to be associated with the care of 'deserving' children. This public display of philanthropy could be used by physicians to further their reputations within society. This network provided physicians (along with surgeons and apothecaries) with the opportunity to form relationships advantageous to their careers, as well as to be seen in a favourable light. The association with a hospital marked 'a man with prestige, learning and expertise from the common run of ordinary practitioners'⁶⁵, therefore making it a highly advantageous career move.

From a purely medical point of view, this network allowed the opportunity to oversee many patients at a time, thereby expanding individual knowledge and experience as well as medical knowledge as a whole. Unlikely cures effected or discoveries made in the institutions could be brought to the attention of an influential group of people almost immediately, thus enhancing the practitioner's reputation. William Watson presented a

⁶⁴ S.C. Lawrence, *Charitable Knowledge* 1996, p. 20.

⁶⁵ S.C. Lawrence, *Charitable Knowledge* 1996, p. xii.

girl whom he had performed an uncertain cure upon to a committee of governors, who 'expressed their amazement at her, so unexpected, recovery.'⁶⁶ It is noticeable that in reporting this incident in a letter to the Royal Society, Watson adds his title as 'Physician to the Foundling Hospital' along with his medical degrees and fellowship of the Royal Society, suggesting that it was a position which he felt it was important to inform others of, to lend his account more authority. Many of the physicians of the general hospitals also gave their credentials in a similar manner, suggesting that such an appointment lent the physician and any subsequent successful experiments not only authority, but legitimacy as a member of the medical community.

The specialist institutions making up the second group in the structure of eighteenth-century establishments are essentially similar to general hospitals in administration and structure. However, each was devoted to the treatment of patients with a specific disease, often those who were excluded from the general hospitals. It could be assumed that the Foundling had more in common with specialist institutions than general hospitals, being a place where children were treated. However, there were very few specialist institutions dealing with only one section of the population. The lying-in hospitals cannot be seen as an exception, as they provided care only for a certain condition – pregnancy and childbirth. Although by its nature this condition is only found in one section of the population, these hospitals did not provide care for women who were not expectant

⁶⁶ W. Watson, 'Observations upon the Effects of Electricity applied to a Tetanus, or Muscular Rigidity, of four Months Continuance. In a Letter to the Royal Society. By William Watson, M.D. F.R.S., Member of the Royal College of Physicians of London and Madrid, and Physician to the Foundling Hospital.' *Philosophical Transactions (1683-1775)*, vol. 53 (1763), p. 18.

mothers. Although some diseases are specific to childhood, and the range of complications found from adult diseases in children can differ, childhood in itself cannot be seen as a medical condition, and there is little evidence to suggest that it was seen as such in the eighteenth-century.⁶⁷ The difference between specialist institutions and the Foundling is in the wide range of complaints which were treated within the Foundling, as opposed to the specific disease treated within the others. The Foundling cannot then be directly compared to specialist medical hospitals, as the Foundling received a section of the population, rather than a section of disease.

The Foundling, however, offered an opportunity for entertainment as well. A supplementary definition of the term 'hospital' in Johnson's dictionary is of 'a place for shelter or entertainment.'⁶⁸ Hogarth's instigation of the Foundling as a location for displaying works of art transformed it into a fashionable and popular place for the general public to visit. Handel's patronage ensured that the chapel services were well attended by the public, and one of the first performances of the Messiah was held in the Foundling's chapel on 1st May 1750, to such success that it was repeated in the middle of the month.⁶⁹ The Foundling was perceived as a place of entertainment to such an extent that the children themselves were viewed as an attraction. A witness in a trial of highway robbery in 1750 describing his movements said that 'I remember I had some discourse with them

⁶⁷ A. Benzaquén, 'The Doctor and the Child', in Müller, A (ed.) *Fashioning Childhood in the Eighteenth-century*, (Ashgate, Aldershot) 2006.

⁶⁸ Johnson's Dictionary of the English Language, entry under 'hospital'. 1755.

⁶⁹ McClure, R. *The Captain and the Children: Captain Thomas Coram, 1688-1751, and the London Foundling Hospital, 1739-1799*, (University Microfilms International, Michigan) 1975, p.177.

about the Foundling-Hospital, I had been there to see a christening',⁷⁰ and visitors could look around the Foundling and observe the children at any time of day.

The final category of medical institution, dispensaries, really comes into prominence in the second half of the eighteenth-century, with thirteen dispensaries opened in London between 1770 and 1800.⁷¹ The reason for the 'second explosion of philanthropic activity',⁷² at this time has been attributed to the ways in which dispensaries were structured, mainly in that 'they were able to give more charity per guinea...thus providing charity on the cheap.'⁷³ Dispensaries provided a solely out-patient service, thus overcoming the problem of insufficient beds which occurred in the hospitals. Patients who were excluded from hospital treatment were attended by dispensaries, such as those with contagious diseases and 'fevers.' Although dispensaries did have a set of governors who, as in the hospitals, contributed a certain amount each year,⁷⁴ unlike the hospitals they did not play an active role in the running of the dispensary, which was left to the physicians. Normally founded by physicians, this fundamental difference in administration resulted in greater freedom for the practitioners in their treatment. The

⁷⁰ Evidence of Robert Walker in case against James Theobalds and John Dangerfield for Violent theft, 12th September 1750. The Proceedings of the Old Bailey, reference number: t17500912-15.

⁷¹ R. Kilpatrick, '“Living in the Light” dispensaries, philanthropy and medical reform in late-eighteenth-century London', in Cunningham, A., and French, R., (eds.), *The Medical Enlightenment of the Eighteenth-century*, (Cambridge University Press, Cambridge), 1990, p. 254.

⁷² R. Kilpatrick, '“Living in the Light” p. 254.

⁷³ R. Kilpatrick, '“Living in the Light” p. 256.

⁷⁴ For the General Dispensary, founded in 1770 by John Coakley Lettsom, the price was a guinea per year. 'Persons subscribing one guinea annually to the support of the charity, are governors during the continuance of their subscriptions, and intituled to have One patient at a time upon the Dispensary list.' John Coakley Lettsom, *Medical Memoirs of the General Dispensary in London, For part of the Years 1773 and 1774* (Edward and Charles Dilly, London) 1774, p. xxvi.

first dispensary to be established in London,⁷⁵ George Armstrong's Dispensary for the Infant Poor opened in 1769 in Red Lion Square in London, providing 'advice and medicine gratis to the children of the industrious poor, from birth til the age of ten or twelve years'⁷⁶ is certainly an example of this freedom, in treating a category of patient excluded by hospitals. An example of the increasing interest in child health in medical circles, supplanting the attitude that 'the best doctor for a child, is an old woman',⁷⁷ this dispensary was very much a medical service, as opposed to the explicitly preventative nature of the care given at the Foundling. An explicit link between the Foundling and the Dispensary for the Infant Poor has not been established, but it seems likely that the Dispensary would not have been supported to the extent it was, had it been established before the Foundling.

The reasons as to why dispensaries became popular at this specific time have been attributed to a perceived lack of efficiency in hospital medicine. This was preceded by a general (and governmental) re-evaluation of the role of charity in medicine, one of the symptoms of which was the commencement of the general admission at the Foundling.

Despite these similarities and alliances with hospitals, the Foundling differed from all of these medical institutions in one crucial aspect. The Foundling Hospital was not an

⁷⁵ R. Kilpatrick, 'Living in the Light' p. 255.

⁷⁶ G. Armstrong, *An Account of the diseases most incident to children, from birth to the age of puberty, with a successful method of treating them*, (T. Cadwell, London) 1783, p. 197.

⁷⁷ G. Armstrong, *An Account* p. 2. The whole quote is: 'the care of infants, even with regard to medicine, has commonly been left to old women, nurses and midwives, so that it has long been a common saying in this country, that the best doctor for a child, is an old woman.'

institution for curing children, but for *maintaining* health, therefore the emphasis was upon preventative medicine and measures, as evidenced by the admissions criteria. The ‘patients’ in the Foundling were long-term, which none of the other hospitals could provide.

Obvious similarities existed between the Foundling and both general and specialist hospitals, not only in the structure of medical care provided, but in the general administrative and managerial frameworks. The system of electing governors, the method of donation, and the system of patronage by medical practitioners was almost identical. It is clear, therefore, that the Foundling belonged firmly within this system of medical charity of the eighteenth century. However, I would suggest that it does not belong entirely to either the first category of general hospitals, or the second of specialist institutions, but overlaps with both. To what extent it can truly be called a ‘specialist’ institution is doubtful, as it was not focussed upon only one disease. It is clear on the other hand, that it did not belong completely in the category of general hospitals. This overlap is what makes the Foundling such a useful and interesting tool for historians looking at charitable medicine in this era. By combining aspects of both, yet being a separate institution, the Foundling forces an analysis of the structure of eighteenth-century medical institutions to be effected, thereby placing it very much within this structure. What is clear is that the Foundling was very much a part of the ‘network of relationships’ and charity which embodied the hospitals of the eighteenth century.

Inoculation

*'Of all professions in the town
 To humour each condition,
 There's none as thrive so well you'll own
 As that of a physician;
 They hum, and haw, and do what not,
 To win your approbation;
 But now a rare device they've got,
 And that's – Inoculation.'*⁷⁸

The technique of inoculation, or 'transferring the small pox from an infected person to one who is sound'⁷⁹ was widely considered to have been introduced into Britain by Lady Wortley Montague in 1721, following a visit to Turkey,⁸⁰ where it had been practised since mediaeval times.⁸¹ Its popularity in Britain⁸² stemmed not only from the fear of the disease⁸³ but from the relative simplicity of the procedure. However, scepticism and criticism of the technique, as shown in the opening quotation, was prevalent throughout all sections of society. Excluding religious considerations, the lack of consensus as to

⁷⁸ Song CIII, 'Inoculation', sung at Sadler's-Wells, from 'Lyrick Chaunter, gent.', *The Universal Melody; or Songster's Magazine*, (J. Brown, London) 1766, p. 99.

⁷⁹ Mead, R., *A Discourse on the Small Pox and Measles* (J. Brinley) 1748, p. 82.

⁸⁰ I. and J. Glynn, *The Life and Death of Smallpox*, (Profile Books, London) 2004, p. 53.

⁸¹ It was thought that it originated from the economic necessity of the Circassian people of preserving the beauty of young girls' faces, thus allowing the girls to retain their value as future wives and members of harems: 'the Circassions, being poor, and having beautiful Daughters, furnish the Seraglios of the Turkish Sultan.' *Gentleman's magazine* vol. 3, October 1733, p. 515; and R. Mead, *A Discourse on the Small Pox and Measles* (J. Brinley) 1748, pp. 84-85.

⁸² *Grubstreet Journal*, October 4th 1733, No. 197 'Of Inoculation'. The author estimates that '10,000 children at least, of persons of condition owe in this Manner their lives', clarifying in a footnote that '20,000 or 15 000 children at least in England' had been inoculated. The speed of the reception of inoculation if this was the case is phenomenal. From *Gentleman's Magazine*, (London) vol. 3, 1733, pp. 514-515.

⁸³ Mead remarks upon the 'uneasiness, which arises from the continual apprehension of its [the disease's] coming upon us' Mead, R., *A Discourse on the Small Pox and Measles* (J. Brinley) 174, p. 83, and the fear of contracting small pox is continually remarked upon by writers on the subject.

what the most effective method and preparation consisted of fuelled much of the apprehension and criticism of inoculation.

The next verse of the above song, published in 1766, begins ‘The Small-Pox is a sad disease/There’s no one here can doubt it’ and indeed small-pox was one of the most feared diseases at the beginning of the eighteenth-century. One author spoke of it as ‘one of the most dangerous and universal [diseases] that infests Mankind.’⁸⁴ Symptoms included ‘a Chilness, Rigor, succeeded by a Fever and constant Heat, a certain Splendour or Shining in the Eyes,’⁸⁵ followed by ‘reddish spots [which] appear scatter’d over...the whole Body.’⁸⁶ These spots change colour and texture as the disease continues, and this change was the chief method by which the progress of the disease was able to be measured. The state of the swellings at certain times of the disease indicated the fierceness of the disease as well as the likelihood of survival. These pustules would wither and fall off, and those who were not killed by the disease often bore the scars or ‘pockmarks’ in various numbers for the rest of their lives.

Inoculation involved deliberately exposing a person to the small pox disease, thereby inducing a mild form of the disease. This was achieved through a variety of methods. The first was the insertion of matter taken from a small-pox pustule, either dried or moist, into

⁸⁴ J. Arbuthnot, *An essay concerning the nature of aliments, and the choice of them, according to the different constitutions of human bodies. In which the Effects, Advantages and Disadvantages of Animal and Vegetable Diet, are explain’d. To which are added, Practical rules of diet in the various Constitutions and Diseases of Human Bodies*, (J. Tonson, London) 1732, p. 412.

⁸⁵ J. Arbuthnot, *An essay* 1732, p. 414.

⁸⁶ R. Holland, *Observations on the Small Pox: or, an Essay to discover a more Effectual Method of Cure*, (J. Brindley, London) 1728, p. 33.

an incision in the skin. This was by far the most popular method in eighteenth-century England, with variations as to the manner of incision and type of matter applied. What was called the ‘Chinese’ method involved the introduction of ‘the skins of some of the dried pustules’⁸⁷ through the nostrils. This method was deemed as being ‘attended with much more danger’⁸⁸ by Richard Mead, who used it in the first trial of inoculation in England,⁸⁹ and was seldom used in England. The third method relied upon the transference of the small pox disease through skin contact alone, sometimes with the use of friction, ‘for by this means we may make the cuticle as thin as we please, and the warmth induced by friction will dilate the mouths of the absorbent vessels, and draw a moderate flux of juices to the part, so that they may take in a sufficient quantity of variolous matter to bring on the disorder.’⁹⁰ Apart from a few individual experiments, this method again was not often used, probably due to the uncertainty of the disease being transferred.

Inoculation differs from vaccination, in which matter from cow pox pustules was introduced into the human body, thus occasioning a very mild reaction compared with inoculation, which uses the small pox disease itself. Vaccination was brought into widespread medical practice by Edward Jenner, who first made conclusive experiments

⁸⁷ R. Mead, *A Discourse on the Small Pox and Measles* (J. Brinley) 1748, p. 86.

⁸⁸ R. Mead, *A Discourse*1748, p. 87.

⁸⁹ The King had ordered a trial of inoculation to be made in 1721 upon ‘seven condemned malefactors’, in order ascertain the safety of the procedure ‘both for the sake of his own family, and of his subjects’ R. Mead, *A Discourse*..... 1748, p. 88.

⁹⁰ R. Brooke, ‘A Letter from Mr. Rich. Brooke, Surgeon, to James Parson, M.D. Secretary to the Royal Society for foreign Correspondence, concerning Inoculation’, *Philosophical Transactions*, vol. 47 (1751-1752), p. 471.

in May 1796, but had been experimented with by others, notably Benjamin Jetsy in 1774.⁹¹

Inoculation against small pox was hailed as a ‘great and noble blessing’,⁹² yet despite the purportedly large numbers undergoing the process, it remained a controversial technique, mainly due to the lack of consensus as to the safest and most effective method.

The simplicity of the technique gave rise to many of the criticisms and objections levelled at it. By 1758 there were publications detailing the best ways of ‘avoiding the dangers of inoculation’⁹³ and in 1765 a treatise was published entitled ‘Inoculation made easy.’⁹⁴

Some commentators complained by the 1770s that it was becoming such a common procedure that even women were practising it, and an anonymous author in the *Gentleman’s magazine* is not unusual in relating how ‘without any skill in physick or surgery, I ventur’d to inoculate five of my own family, which had a very happy effect.’⁹⁵

It is clear from these examples that by the second half of the eighteenth-century

⁹¹ D. Baxby, *Oxford Dictionary of National Biography*, entry under ‘Jenner, Edward’.

⁹² R. Houlton, *The Practice of Inoculation justified. A sermon preached at Ingatestone, Essex...in Defence of Inoculation*, (L. Hassall, Chelmsford) 1766, p. v.

⁹³ *A Serious Address to the Public, concerning The most probable Means of avoiding the Dangers of Inoculation*, (M. Cooper, London) 1758.

⁹⁴ *Inoculation made easy. Containing a Full and True Discovery of the Method Practised in the County of Essex. In which County alone, upwards of Nine Thousand People have been Inoculated within these Two last Years, without the Loss of One Single Patient, or the Least Dangerous Circumstances. Being Intended for the Benefit Of Masters and Mistresses of Families, and the Public in General. The Whole Art being laid down in so Clear and Easy a Method, as to render any one capable of Inoculating themselves and others, with the greatest Ease and Safety.* (London) 1765.

⁹⁵ Anonymous, *Gentleman’s Magazine*, Vol. 20, 1750, p. 206. The letter states that it was written from Sherborn on May 10th 1750.

inoculation against small-pox was a popular technique. However, it was still a highly debated topic among both medical and lay communities. What were the main points of contention?

The criticism of inoculation can be divided into three categories. Firstly, there were objections to the idea of preventative medicine in general. Apart from what can be termed 'medical' criticisms, there was a strong objection by some people from a religious point of view. Secondly, a debate over the risks of inoculation versus the risks of the natural disease persisted. And thirdly, there was a lack of consensus over the safest and most effective method of performing inoculation. The second category was influenced by the third, as the lack of a formalised method resulted in a higher likelihood of risk. An exploration here of the objections and problems of inoculation will allow a greater depth of analysis of Watson's paper in the following section.

The preventative nature of inoculation meant that the technique was fiercely criticised by some religious sources. The greatest problem for this group was that inoculating to ensure protection from a disease goes against 'what our Lord hath taught us concerning the Providence of God the Father, how all his Creatures are numbered before him, and none fall without him.'⁹⁶ The quote from the bible 'they that be whole need not a Physician, but they that are sick'⁹⁷ forms the basis for a typical sermon against inoculation, delivered in 1722 by Edward Massey, when the practice was first introduced. It is this idea that it is

⁹⁶ E. Massey, *A Sermon against the Dangerous and Sinful Practice of Inoculation, Preach'd at St Andrew's, Holborn, On Sunday July the 8th, 1722*, (W. Meadows, London) 1722, p. 13.

⁹⁷ E. Massey, *A Sermon*.....1722, p. 2.

sinful to be cured before one is ill, therefore going against the natural order of the world which persisted throughout most detractors' work within this category. It is the 'presumption' of physicians in advocating a 'Practice, which is so very inconsistent with the Will of God.'⁹⁸ The ambiguities of inoculation also laid it open to attack within this sermon as going against not only God, but common sense, as to purposefully infect oneself with a disease argues a lack of reason. However, there is surprisingly little evidence that this argument played a significant role in the objections of most of the population. By the 1750s there are very few sermons preached against inoculation in particular,⁹⁹ suggesting that it had become an accepted medical technique, if not one which was viewed as being completely safe.

The dangers of inoculation were not unknown. Among advocates, the risk of one person in one hundred dying was preferable to eighteen or more of this hundred dying from the natural disease.¹⁰⁰ The exact proportion of people likely to die under inoculation varied from author to author, the highest being two in one hundred, the lowest less than one in one hundred.¹⁰¹ The London Small-Pox Hospital estimated that one in seven people died of natural small pox, while only one out of the five-hundred and ninety-three persons inoculated by the hospital between 1752 and 1755 had died.¹⁰² However, understandably

⁹⁸ E. Massey, *A Sermon*..... 1722, p. 2.

⁹⁹ Of four sermons published between 1750 and 1770, three advocate the practice of inoculation whilst only one preaches against it as morally culpable.

¹⁰⁰ *Gentleman's Magazine*, vol. 22, March 1752, pp. 126-127.

¹⁰¹ *Gentleman's Magazine*, vol. 22, March 1752, pp. 126-127; vol. 22, July 1752, p. 313.

for private patients, the chance of death made it a difficult decision to make, especially as it was most frequently parents who decided to have their children inoculated.¹⁰³

There were many publications advocating inoculation as a safe, effective and advisable technique *when properly carried out*, but what did this correct method consist of? There was very little medical consensus and even less agreement among the general population. The main barrier to consensus was a lack of medical knowledge concerning the mechanisms of inoculation. It was known that it was successful, but *how* it worked was unknown, thus making it difficult to discover the most effective method.

The contributing factors to the success of an inoculation can be arranged into four groups. Firstly, the condition of the individual being inoculated, such as their age and general health was one variable. Secondly, what preparatory treatment was given was seen to affect the outcome. Most importantly, the treatment itself, and lastly the after-treatment given. The various interpretations of the effects of each of these variables, and of the symptoms displayed, will also be examined in this section as these were the only method by which the practitioner could judge the success (or failure) of the treatment. The effects of each of these variables was debated, and various different methods and combinations of methods were proposed. Due to the high volume of texts and manuscripts written on

¹⁰² *A Representation from the Governors of the Hospital for the Small-Pox and for Inoculation*, (London) 1756, p. 1.

¹⁰³ One correspondent writing in the *Gentleman's Magazine* asks for advice about having his child inoculated: 'Whether a father, by the law of nature, and by the divine law, may cause his child, in perfect health, and incapable of giving its own consent, to be treated in the manner aforesaid? And, in case of death should happen from this cause, Whether the parent is not, by the laws of the land, liable to be questioned for the death of the child?' This type of moral dilemma, along with the worry of killing a child who might otherwise have been healthy and lived a long life, seems to be common among letters from parents asking for advice. *Gentleman's Magazine*, vol. 22, March 1752, p. 126.

this subject, the following analysis has been based upon published works and material from the 'Gentleman's Magazine' only. Works in the public domain have a higher likelihood of being gainsaid if there is disagreement about them, therefore resulting in a slightly more representative view than private manuscripts and letters. The inclusion of material from the 'Gentleman's Magazine' allows some opinions and anecdotal evidence to be examined, as well as illustrating the extent of the lay population's interest in medical knowledge.¹⁰⁴ It is recognised that this selection of material excludes the opinion of large sections of society, most notably women, but as this essay seeks to identify the main points of contention in the process of inoculation, the selection of sources is deemed appropriate.

What preparation was necessary to ensure the success of the inoculation? Most practitioners prescribed a series of purges, in order to prepare the body, combined with a special diet of some sort. The advantages and disadvantages of an animal or vegetarian diet were discussed, some advised an abstinence from 'all Salt Provisions whatever, nor must you eat any Kind of Meat or Butter'¹⁰⁵ while others' suggestions that 'Chearfulness of Mind is the best Preparative for, and Restorative in the Small Pox'¹⁰⁶ illustrates the very wide range of advice given.

¹⁰⁴ See R. Porter 'Lay medical knowledge in the eighteenth century: the case of the Gentleman's Magazine.' *Medical History*, vol. 29, 1985, pp. 138-168.

¹⁰⁵ *Inoculation made easy*..... 1765, p. 6.

¹⁰⁶ W. Douglas, *A Practical Essay concerning the Small Pox*, (W. Innys, London) 1730, p. 93.

The treatment itself was the most debated point. What sort of patient was it best to take the infected matter from; one who had the disease naturally, or one who was undergoing inoculation? One who had a mild or a virulent infection? What impact did these decisions have upon the success of the inoculation? How and where should the matter be transferred to the patient waiting to be inoculated? Was it best to use a lance to make only one puncture, just below the skin, or was it necessary to introduce the matter in several places in order to ensure the success of the operation? Was introducing the matter by friction rather than piercing the skin a safer method? Did the introduction of dried or moist variolous matter affect the outcome? These questions remained unanswered apart from small and mainly anecdotal reports made by practitioners. The treatment of the patient during and after the inoculation was also not agreed upon, with some advocating quarantine-like confinements with others suggesting as normal a lifestyle as possible.

It is clear that the lack of knowledge as to how inoculation worked had a great impact upon the way in which the process was carried out. The prominent physician Richard Mead admitted that he did not understand how inoculation should work,¹⁰⁷ and most subsequent accounts are highly speculative hypothetical attempts to explain the process.

As can be seen from the above examples, the second factor contributing to the general confusion as to the most effective method was the lack of collated and trusted information detailing the advantages and disadvantages of each practice. Medical reports at this time were traditionally anecdotal and centred around the detailed description of

¹⁰⁷ R. Mead, *A Discourse*1748, p. 87.

one or two patients' illnesses. This style of documentation was a reflection of prevailing ideas of disease at the time.¹⁰⁸ Medical doctrines and theories during the eighteenth-century 'became so very numerous that it is rather a difficult matter to co-ordinate them',¹⁰⁹ but the prevailing ideas during the first half of the century rested upon humoral ideas of balance within the body, that 'a sick person's condition was...a combination of errors of various sorts, many of which were held to be a consequence of self-neglect.'¹¹⁰ Very few collective or comparative studies were undertaken, and the emphasis was upon qualitative data. Inoculation was perhaps one of the first areas of medicine where large and quantitative studies were seen as useful. James Jurin published one of the first uses of quantitative reports used in medicine annually from 1723 until 1727, having collated information from Fellows of the Royal Society on inoculation, in a series of pamphlets entitled 'An Account of the Success of Inoculating the Small-Pox'.¹¹¹ Occasional practitioners were using more quantitative data in their reports, for example Hans Sloane's use of hospital data to support his ideas on wet-nursing, but it was not until the 1770s and onwards that it became a more mainstream practice.¹¹²

The collection of the sick in one place, such as hospitals, undoubtedly acted as a catalyst for the collection of statistical evidence in medicine. The first examples of the use of

¹⁰⁸ See N. D. Jewson, 'The disappearance of the sick-man from medical cosmology' *Sociology* vol. 10, 1976, pp. 225-244.

¹⁰⁹ Cumston, C.G., *The History of Medicine. From the time of the Pharaohs to the end of the XVIIIth Century* first published 1926, reprinted (Routledge, London) 1996, p.319.

¹¹⁰ Lawrence, C., *Medicine in the Making of Modern Britain, 1700-1920* (Routledge, London) 1994, p. 11.

¹¹¹ A. Rusnock, *Oxford Dictionary of National Biography*, entry under 'Jurin, James'.

¹¹² Tröhler, U., 'To improve the evidence of medicine': *The 18th century British origins of a critical approach*, (Royal College of Physicians of Edinburgh, Edinburgh) 2000, p. 12.

more quantitative data are in respect to preventative medicine. Why this should be so is again a reflection of the nature of the institutions the studies were based in. In the example of the Foundling, three crucial factors combine to create the ideal conditions for the study of preventative medicine. Firstly, there existed a duty of care among the governors towards the children. Secondly, a vested interest in preserving the health of the infants existed, as not only would it save lives in an environment where infection was likely to spread very quickly, but in doing so would save time and money. Lastly, there was a captive sample of the child population within the institution, who had no real opportunity to avoid the treatment. Hospitals, prisons, work-houses and naval ships all provided similar conditions, and it is no surprise then, that one of the first examples of comparative clinical trials is found in James Lind's study of remedies for scurvy among sailors on board ship, first published in 1753.¹¹³ Institutions provided the opportunity for physicians to observe large numbers of patients, but the first set of studies to use quantitative data came from situations where there existed both a duty of care and a captive set of 'patients', thus creating ideal conditions for the study of preventative medicine.

'These institutional structures were a priori favourable to the application of quantifying methods',¹¹⁴ states Tröhler, yet the conditions alone cannot explain the move towards quantitative analysis. The will and creativity to study medical issues in this manner had to

¹¹³ J. Lind, *A treatise of the scurvy, in three parts. Containing an inquiry into the nature, causes, and cure, of that disease. Together with a critical and chronological view of what has been published on the subject* (Sands, Murray and Cochran, Edinburgh) 1753.

¹¹⁴ Tröhler, U., *'To improve the evidence of medicine': The 18th century British origins of a critical approach*, (Royal College of Physicians of Edinburgh, Edinburgh) 2000, p. 13.

be applied. William Watson's paper 'An Account of a Series of Experiments, Instituted with a View of ascertaining the Most Successful method of Inoculating the Small-Pox' published in 1767, is an example of one of the very first comparative, controlled and quantitative studies in medicine. By examining his method and the role of the Foundling Hospital within his work, a further understanding of the issues surrounding the beginning of the use of quantitative methods in medicine can be reached.

thesis

William Watson and Inoculation at the Foundling Hospital

William Watson, born in 1715, the son of a corn chandler¹¹⁵ is classified in the *Dictionary of National Biography* as ‘a physician and natural philosopher’, yet Watson’s career spans a variety of interests and occupations. An example of the changing medical hierarchy in the eighteenth-century, Watson initially worked as an apothecary,¹¹⁶ before becoming a doctor of physic at Halle in 1757 and being made a licentiate of the Royal College of Physicians in December 1759.¹¹⁷

Watson’s association with the Foundling Hospital began in 1753¹¹⁸ when he became a governor. His appointment as physician to the Foundling came in October 1762, when he was ‘was unanimously elected one of the Physicians of the said Hospital’,¹¹⁹ and continued until his death in 1787.¹²⁰ His contribution of medical papers to the Royal Society seems mostly to be based around his experience at the Foundling, but little is known about his medical work outside of this institution. His other interests in botany

¹¹⁵ S. Schaffer, *Oxford Dictionary of National Biography*, entry under ‘William, Sir Watson’.

¹¹⁶ Watson was apprenticed to the apothecary Thomas Richardson on 6th April 1731, and set up as an apothecary in his own right in 1738. S. Schaffer, *Oxford Dictionary of National Biography*, entry under ‘William, Sir Watson’; and personal correspondence with Dee Cook, archivist at the Worshipful Society of Apothecaries of London.

¹¹⁷ Munk’s Roll, Royal College of Physicians, entry under ‘Watson, Sir William’ http://www.rcplondon.ac.uk/heritage/munksroll/munk_details.asp?ID=5092.

¹¹⁸ ‘Mr. William Watson....elected governor of the Foundling Hospital yesterday.’ *London Evening Post*, Issue 4040, 2nd October 1753.

¹¹⁹ A notice in the *London Chronicle* on October 5th 1762 states ‘Yesterday at a general quarterly meeting of the Governors of the Foundling Hospital, Dr. William Watson, of Lincolns-Inn-Fields, was unanimously elected one of the Physicians of the said Hospital, in the room of Dr. William Cadogan, now in Portugal.’ Issue 903.

¹²⁰ Munk’s Roll, Royal College of Physicians, entry under ‘Watson, Sir William’ http://www.rcplondon.ac.uk/heritage/munksroll/munk_details.asp?ID=5092.

and electricity informed his medical observations. Although not celebrated for his medical work in particular, Watson was an important member of eighteenth-century natural philosophy, being a member of the Royal Society,¹²¹ a friend of Hans Sloane and a trustee of the newly founded British Museum, as well as an authority on electricity. His position at the Foundling enabled him to consolidate his reputation within both society and medicine, leading to his election as a full Fellow of the Royal College of Physicians in 1784.¹²²

Watson's paper published in 1767, entitled 'An Account of a Series of Experiments, Instituted with a View of ascertaining the Most Successful method of Inoculating the Small-Pox' provides a useful insight into both the importance of the Foundling within the history of medicine and the extent to which a professional association with a charitable institution could benefit a medical practitioner.

Watson's paper can be looked at in two different lights within the history of medicine. From one point of view, it decidedly fits into historical narratives of the development of inoculation and preventative medicine, as described earlier; but it is also highly pertinent when placed within discussions of the development of a more dispassionate and clinical medicine. Briefly mentioned as 'the first controlled clinical trial',¹²³ within a medical textbook and again in the occasional notes of a medical journal as 'clinical science began

¹²¹ 'Certificates of Election and Candidature', reference number EC/1741/02, Royal Society Archive; William Watson, elected 8th April 1741.

¹²² Munk's Roll, Royal College of Physicians, entry under 'Watson, Sir William' http://www.rcplondon.ac.uk/heritage/munksroll/munk_details.asp?ID=5092.

¹²³ Shein-Chung Chow and Jen-Pei Liu, *Design and Analysis of Clinical Trials: Concepts and Methodologies*, (Wiley-Interscience) 2003, p. 108.

in 1767,¹²⁴ it appears that it is an important piece within the development of ‘scientific’ medicine. Surprisingly however, after an exhaustive search, these are the only two references to Watson’s work that can be found. Does it therefore deserve the titles it has been given? And if so, why is it missing from accounts of the development of a ‘dry dispassionate’¹²⁵ and scientific medicine?

The aim of Watson’s investigation was to determine ‘what medicines of different kinds, under the same regimen, would produce’,¹²⁶ that is, how medicines taken before inoculation would affect the success of the process. By making this his goal he immediately demonstrates his understanding of the number of variables contributing to the success of inoculation, and has isolated one in order to study its influence on the process. He continues to say that ‘the only difference ... was to consist in their [the children’s] medical treatment’, having ensured that ‘a number of persons of both sexes were inoculated at the same time and place, in the same manner, with the same variolous matter, and observing equally the same regimen.’¹²⁷ This structured, quantitative and experimental approach to medicine is immediately in contrast to traditional methods of experimentation, which relied upon anecdotal evidence and small group numbers. The structure of the Foundling allowed Watson access to hundreds of potential patients, where he could reliably control almost every factor which could influence the outcome of

¹²⁴ A. W. Boylston, ‘Clinical Investigation of Smallpox in 1767’, *The New England Journal of Medicine*, vol. 346, No. 17, April 25, 2002, p. 1328.

¹²⁵ S.C. Lawrence, *Charitable Knowledge.....* 1996, p. 22.

¹²⁶ W. Watson, *An Account of a Series of Experiments, Instituted with a View of ascertaining the Most Successful method of Inoculating the Small-Pox* (J. Nourse, London) 1767, p. 6.

¹²⁷ W. Watson, *An Account.....* 1767, p. 6.

the inoculation. Aware of the contemporary debates over the most effective method of inoculation, Watson used his advantageous position as physician to the Foundling to devise a comparative trial. In doing so, Watson was making use of a pre-existing framework, for inoculation had been used at the Foundling from early on in its establishment.

The practice of inoculating all the children within the Foundling Hospital was not one of the requirements when it first opened in 1741. The regulation of disease, and in particular small-pox, was highly important however, and it is the only disease which is specifically mentioned in the regulations for the employment of nurses, being that ‘she is a person fit for employment, and has had the Small Pox.’¹²⁸ Inoculation for all those children not already immune to the disease upon returning to the hospital at the age of three years old became a statutory requirement in the 1740s. An advertisement in the ‘Gentleman’s Magazine’ indicates that this was after a trial upon ‘14 Children, 3 Years old, in the Foundling-Hospital having been inoculated for the Small-Pox, all with good Success; the Govenors [sic] resolv’d to have all their Children inoculated at the same Age.’¹²⁹ The next book of regulations, published in 1757 specifically states that ‘such Children as have not had the Small Pox in a natural Way, be inoculated at three Years old, (in a Proper Place out of the Hospital) Experience having fully evinced the Utility of this Practice by

¹²⁸ *The Report of the General Committee For the directing, managing, and transacting the Business Affairs, Estate, and Effects of the Corporation of the Governors and Guardians of the Hospital for the Maintenance and Education of Exposed and Deserted Young Children*, (J. Baskett, London) 1740, p. 11.

¹²⁹ *Gentleman’s Magazine*, Vol. 14, Friday 13th April 1744, p. 226.

the Success which has attended the several Inoculations of the Children.’¹³⁰ This suggests that prior to the publication of these regulations most of the children were being inoculated. The acknowledgement that by the age of three it was likely that some children would have been in contact with the disease already, again illustrates the endemic nature of the small pox disease in eighteenth-century Britain. However, separate books for the documentation of inoculations carried out in the Foundling only begin in April 1763, with a separate book for each gender. The majority of the children inoculated were around six years of age, suggesting that inoculation had either not been as successful when given to younger children, or more likely that the age of children returning from the country nurses had increased. There does not seem to be any particular method agreed upon in the early records. Of 41 boys recorded as being inoculated in the year 1763, 17 were given matter taken from a case of natural small pox, the remaining 24 from other children being inoculated.¹³¹ Detailed notes were made on the progress of each child, with later accounts recording the general ‘habit’ of the children as either strong or weak, signalling a recognition of the role played by general health in the success of the process. The use of inoculation did not completely prevent outbreaks of natural small pox occurring among the children, although as soon as a case was detected a programme of inoculation was begun, presumably for those children who were known not to be inoculated yet.¹³²

Following one outbreak in 1766 however, an average of thirty children were inoculated

¹³⁰ *Regulations for Managing the Hospital for the Maintenance and Education of Exposed and Deserted Young Children*, (London) 1757, p. 48.

¹³¹ A/FH/A18/8/1 Inoculation book, Boys 1763.

¹³² For example, the first cases of small pox recorded in 1766 were on the weekly reports of the infirmaries for the 11th of January, a total of 7 children, 6 of whom were girls. The next week 3 new cases were in the infirmary, and the following week although there was only one new case, 30 children were being prepared for inoculation. ‘Weekly report of the sick’, A/FH/A18/005/002.

each month, and there were no further outbreaks recorded for this year, which, in comparison to the rate of measles,¹³³ suggests that it was an effective technique.

Having established the need for investigation, and the method of doing so, Watson proceeds to describe three sets of trials made on separate dates, involving a total of 74 children, just under two-fifths of whom were girls.¹³⁴

The first two trials, carried out on the 12th October and the 1st November, are very structured, with a clear aim and method. The children being inoculated were divided into three groups, the first two equal in number and gender, the third being any remaining children. The last group was in both cases the ‘control’ group, used by Watson in order ‘to be informed of what nature unassisted, not to say undisturbed, would do for herself’.¹³⁵ This group followed exactly the same diet and regimen as the other two groups, and had the inoculation carried out in exactly the same way. Each subsequent trial was made in order to clarify results or hypotheses from the previous trial. For example, the second trial was conducted in order to see whether the preparatory medicines previously given were affecting each other, therefore during the second trial they were given singly.

¹³³ See section entitled ‘Care at the Foundling Hospital’. Outbreaks of measles took a significantly longer time to control, and often took a year to eradicate completely.

¹³⁴ 29 girls and 45 boys.

¹³⁵ W. Watson, *An Account of a Series of Experiments, Instituted with a View of ascertaining the Most Successful method of Inoculating the Small-Pox* (J. Nourse, London) 1767, p. 6.

Watson relied upon the visible signs of the disease to interpret his results, as used in other accounts to measure the success of the inoculation – the number of pustules and the severity of any fever. However, Watson was scrupulous about counting the exact number of pustules on each individual, and they were ‘numbered by the attendants when they are nearest maturity, in every part of the body, the scalp excepted; where, on account of the hair, their number could not be ascertained. The pustules arising from the punctures and about them were never reckoned among the others.’¹³⁶ The number of pustules was used by Watson as the main indicator of ‘the degree of violence in the small-pox’, therefore equating the least number of pustules to the most successful treatment.

It is necessary to emphasise that Watson did still use a great deal of qualitative evidence, and described in depth the details of any individual’s symptoms which were unusual in any way. However, it was the way in which Watson combined this qualitative description with a quantitative comparison which makes his paper significant. The final section of his paper is devoted to a series of tables summing up the results of each set of experiments, in order to make a comparison clearer. His conclusions that ‘this experiment, as far as it extends, is not in favour of the mercurial alterative, previous to inoculation’¹³⁷ and further, ‘that after ten or twelve days abstinence from animal food and heating liquors, the person being in other respects in good health, it is of no very great importance with

¹³⁶ W. Watson, *An Account*..... 1767, p. 10.

¹³⁷ W. Watson, *An Account* 1767, p. 29.

what kind of variolous matter he is inoculated'¹³⁸ come from a comparative analysis made possible by the use of controlled groups of inoculations.

Watson demonstrates an awareness of the novelty of his approach, or at least strives to present his work as using an unusual method. He states that 'nothing hitherto had been done in a comparative view'¹³⁹ and was unlikely to be done 'while practitioners continue in the same track.'¹⁴⁰ Whether he is referring in the latter quote to the methods used by practitioners to record cases and observations or the method of inoculation given is unclear. His words suggest that he clearly felt that there was a need for a systematic and comparative study to be made, and that he was one of the only people in a position to make it.

One possible reason which could explain Watson's unusual approach is his link with natural philosophy from his interest and experiments in electricity. However, even if natural philosophy had been 'ahead' of medicine in using quantitative and controlled studies, most physicians also had interests in other 'scientific' disciplines, meaning that they would have been subjected to similar influences. That they did not also begin trials using any more 'modern' approaches, had they been used in natural philosophy, indicates that the conditions which the Foundling offered a physician were more influential.

¹³⁸ W. Watson, *An Account.....* 1767, p. 31.

¹³⁹ W. Watson, *An Account.....* 1767, p. 3.

¹⁴⁰ W. Watson, *An Account.....*) 1767, p. 5.

Watson's paper does suggest that the development of a more quantitative and objective medicine is directly linked to the access to large groups of people afforded by hospitals and other institutions. This type of medicine emerges from the new structure of caring for the sick. The Foundling is perhaps even more influential in this role, due to the way in which every aspect of the children's daily life could be controlled, and the opportunity for long-term observation which it afforded. The children of the Foundling perhaps also presented an easier group of 'patients' on whom to experiment – there were no parents to object, and the children may have had little choice. Watson himself was aware of the opportunity afforded by the Foundling, stating one of his reasons for undertaking the trials as that 'very few physicians are in a situation of making [the trials]', therefore considering it 'as of no small importance'¹⁴¹ that he himself carried them out. The Foundling was ideally suited to a study of preventative medicine as the governors had a duty of care towards the children, a vested interest in preserving health rather than curing after a child became sick, and a captive pool of potential patients.

Watson was not the first to use the Foundling as a place of medical experimentation and observation. A footnote in Richard Brooke's letter to the Royal Society concerning inoculation mentions that 'the experiment [inoculation by friction rather than incision] has been tried upon four children by Dr. Conyers at the Foundling-Hospital'.¹⁴² Hans Sloane used data from the Foundling's records in order to prove his point that wet-

¹⁴¹ W. Watson, *An Account*.....1767, p. 5

¹⁴² R. Brooke, 'A Letter from Mr. Rich. Brooke, Surgeon, to James Parson, M.D. Secretary to the Royal Society for foreign Correspondence, concerning Inoculation', *Philosophical Transactions*, vol. 47 (1751-1752), pp. 472.

nursing from infants was infinitely preferable to dry-nursing.¹⁴³ Analyses of this use of data has been described as ‘one of the earliest, if not the earliest, to use audit and statistics to guide medical practice’¹⁴⁴ again suggesting that the access to a large group of similar patients which the Foundling was influencing methods of medical practice and argument.

It must be noted however, that far from allowing the children to be used in unpleasant and inhumane experiments, evidence suggests that each instance of ‘trials’ being made was either when no other alternative was available, as in the case of Catherine Field, whose tetanus was cured by the application of electricity,¹⁴⁵ or in trials necessary to determine the efficacy of a method already in use. In the case of the latter, no untoward pain or danger was inflicted upon the patients. The institution of the Foundling genuinely looked after the children entrusted to its care, allowing the children to return at any time until they reached the age of 21 if they felt the need, checking that apprentices were happy within their placements, and caring for those children who were unable to make their own way in the world, often for life.¹⁴⁶ Watson did not attempt any life-threatening

¹⁴³ Extract from letter from Hans Sloane to John Milner Esq., 28th October 1748. From J. Brownslow, ed. *Memoranda or Chronicles of the Foundling Hospital including Memoirs of Captain Coram*, (Sampson Low, London), 1847, p. 216.

¹⁴⁴ P. Dunn, ‘Sir Hans Sloane (1660-1753) and the value of breast milk’, *Archive of the Diseases of Childhood, Fetal and Neonatal Edition*, vol. 85, 2001, p. 74.

¹⁴⁵ W. Watson, ‘Observations upon the Effects of Electricity applied to a Tetanus, or Muscular Rigidity, of four Months Continuance. In a Letter to the Royal Society. By William Watson, M.D. F.R.S., Member of the Royal College of Physicians of London and Madrid, and Physician to the Foundling Hospital.’ *Philosophical Transactions (1683-1775)*, vol. 53 (1763), pp. 10-26.

¹⁴⁶ Evidence suggests that most governors of charitable institutions at this time had a genuine interest in ensuring that patients were cared for properly and humanely. See L.F. Cody, ‘Living and Dying in Georgian London’s Lying-In Hospitals’, *Bulletin of the History of Medicine*, Vol. 78, No. 2, 2004, pp. 309-348.

or particularly dangerous experiments upon the children in his trial, but used methods already in use throughout England. His approach was simply to effect these methods at the same time on as similar patients as he could find, thus allowing a quantitative comparison to be made.

Discussion of Watson's paper is conspicuously absent from contemporary accounts, and there is no evidence of its having been discussed by the Royal Society as in any way unusual or ground-breaking.¹⁴⁷ Has it been highlighted only by later historians, and is this important when looking at its significance?

In highlighting the aspects of Watson's work which demonstrate a connection to what is considered 'modern' medicine, such as the use of a control group, and comparative analysis of quantitative data, a charge of creating an anachronistic and 'Whiggish' history could be given. However, this charge can be avoided for two reasons. Firstly, in comparing the style of this series of experiments with other accounts of medicine at the time, it becomes clear that the approach used by Watson was both relatively new and unusual. The author himself is aware that his trial does use a fairly original approach, and attributes this to his access to favourable conditions. The lack of evidence of a recognition among contemporaries of the significance of this approach could be due to a number of reasons. Although it is unlikely, given the amount of evidence that has survived, any discussions of his paper may not have been kept or survived. The status of

¹⁴⁷ The records of topics of discussion of meetings of the Royal Society make no mention of Watson's paper for both 1767 and 1768.

Watson and the Foundling could be to blame, or a small print run. However, given that there is this lack of evidence, it is important not to over-emphasise the significance of 'modern' elements of his trial, but to view the paper as a whole and within the context of the time.

Very little mention is made of Watson's trial within histories of the development of the inoculation for small-pox, and even less in accounts of the development of clinical medicine. As was mentioned in the beginning paragraph of this section, only two mentions of this trial could be found among papers relating to the development of clinical medicine, and Watson's work is rarely given more than a couple of lines in histories of inoculation. While it is necessary not to highlight the sections of Watson's trial which correlate most closely with modern medicine, it is clear that this paper is part of the beginnings of a change in the approach of medicine to experimentation. Watson's paper emphasises the importance of the role of the Foundling within the history of medicine, as it was the access to large numbers of potential 'patients' which allowed him to use this approach.

Conclusion

The Foundling Hospital was therefore very much a part of the eighteenth-century medical community. When introduced into existing historical explanations of medicine at this time, it is both a pertinent and useful tool for a further understanding of the main themes.

The Foundling Hospital played a key role in the history of medicine in three main areas. Firstly, this paper has shown that the Foundling was intimately connected with medical institutions at the time. These institutions have been analysed by some historians such as Susan Lawrence as only being important when viewed collectively. The Foundling was very much a part of this network of institutions, not only in its administration and management, but in the comparable role it offered physicians in terms of public status and access to large numbers of patients. Through its similarities with other charitable hospitals, it attracted a comparable level of interest from both the public and medical practitioners. It is clear from contemporary sources that the Foundling was viewed as a part of this philanthropic network.

However, it is in the Foundling's differences to other charitable hospitals that its greatest strength as a medical institution lies. Its focus upon maintaining health rather than healing combined with the duty of care held by the governors and the access to large numbers of one section of the population provided the ideal circumstances for the study of preventative medicine. This access to groups of patients is seen as one of the key factors

in encouraging the development of new perceptions of disease among medical practitioners, and in the origins of the use of quantitative analysis in medical reports.

This leads on to the second way in which the Foundling is influential within the history of medicine. It is noticeable that the first recorded instances of comparative and quantified methods being used in medicine were in the area of preventative medicine. The unique nature of the Foundling offered the ideal conditions for a 'controlled' and statistical study. The nature of the debate on small pox inoculation and the lack of consensus created the need for a study of the sort which could be undertaken in an institution like the Foundling. The use of these conditions by William Watson in creating a comparative and quantitative study into the most effective method of inoculation demonstrates the extent to which a position within one of the charitable hospitals influenced the work of a physician. Watson's study not only highlights the importance of the role of the Foundling in the development of new medical approaches, but strengthens the theory that the charitable institutions of the eighteenth-century provided 'the necessary framework for compiling meaningful amounts of clinical and pathological data.'¹⁴⁸

The third aspect of the Foundling's importance within the history of medicine is in the area of child health- and medical care. The establishment of the Foundling created a clear necessity within the existing, male-predominated philanthropic structure for a detailed and medicalised account of child-rearing techniques. The Foundling was instrumental in stimulating a professional interest among the medical community in childhood disease

¹⁴⁸ Tröhler, U., *'To improve the evidence of medicine': The 18th century British origins of a critical approach*, (Royal College of Physicians of Edinburgh, Edinburgh) 2000, p. 13.

and the most successful methods of maintaining health in children. The interest of eminent physicians such as Richard Mead and Hans Sloane in this area, which was due to their connections with the Foundling also helped to promote medical interest among their contemporaries and successors. Because the Foundling was established within the framework of charitable institutions, the subject of child-care became a legitimate area for medical study, and in turn, the Foundling lent these medical enquiries authority.

The Foundling Hospital is a 'useful' charity indeed for the study of medicine in the eighteenth-century. Its previous exclusion from accounts of medicine in the eighteenth-century is unwarranted and ultimately unhelpful to these accounts. The Foundling occupies a very definite place within this area of history, enriching our understanding of existing structures and concepts and highlighting the importance of others which may not have been as fully explored.

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