

<p>Institution: University of Manchester</p>
<p>Unit of Assessment: 31 (Classics)</p>
<p>Title of case study: The Mirror of Health: Medical Science during the Golden Age of Islam</p>
<p>1. Summary of the impact</p> <p>The contribution of Muslim civilisation to the development of medicine is often minimised, and differences between Islam and the West accentuated. Pormann’s research attempts to correct this distortion by showing links of intellectual kinship between Islam and the West in the area of medicine. Through partnerships with medical, educational and non-governmental organisations, these findings impacted on large audiences and effected changes in medical, educational, and security discourse. One result was greater appreciation of the role played by Muslim physicians in the history of vital clinical trials. Moreover, users responded positively to the emphasis on Muslim contributions to medicine, and reported that their perspective had been widened. Pormann’s research thereby helped foster community cohesion and educational achievement.</p>
<p>2. Underpinning research</p> <p>The impact is based on research that took place in Manchester between February 2012 and June 2013. The first major publication resulting from the research was Professor Pormann’s <i>Mirror of Health</i> (3.1) (London: Royal College of Physicians), which appeared in May 2013 and on which the exhibition <i>The Mirror of Health</i> is based (5.1). Pormann’s research aimed at:</p> <ol style="list-style-type: none"> 1) studying the special collections of the Royal College of Physicians, London, related to the Islamic world; 2) highlighting the many examples of shared heritage and intellectual kinship between the medical traditions as they unfolded in Europe and the Islamic world; 3) revealing the innovative nature of medicine as it developed in the Islamic world. <p>The Archive Manager at the RCP, states that Pormann’s ‘original academic research of the collection of Islamic manuscripts and printed books in the RCP’s collection was vital to the development of the themes and narrative of [the <i>Mirror of Health</i>] exhibition’ [5.1]. In this research, Professor Pormann built on earlier work, which has won him prizes (notably the British-Kuwait Friendship Society Book Prize in Middle Eastern Studies) and led to significant media exposure (notably BBC radio and television programmes). His work in this area has also attracted significant grant income of c. £2m. Through his research at Manchester, he arrived at the following conclusions:</p> <ul style="list-style-type: none"> • Physicians in the medieval Islamic world were far more innovative than previously thought, as the examples of such as al-Rāzī (d. 925) and Avicenna (d. 1037) show. (3.1-2) • It was primarily the institutional set-up—and notably the Islamic hospital—that led to some innovative research by physicians such as al-Rāzī. (3.1) • Renaissance medicine owes a tremendous debt to the Arabic medical tradition in Latin translation, as demonstrated by the example of the Royal College of Physicians in London. (3.1) • The eighteenth century saw a peak interest in al-Rāzī’s innovative work. The main interest of physicians such as Dr Richard Mead (1673–1754) in al-Rāzī’s work <i>On Smallpox and Measles</i> was clinical, not historical. (3.1). <p>Therefore, the Islamic medical heritage is rich and sophisticated on a number of levels. Yet, as Alain de Libera has shown for philosophy, this heritage has largely been forgotten, at least in certain circles. This amnesia is not an innocent one, but can be linked to ideas about racial and religious purity. This is as true for the Renaissance as it is for today, as the examples of Leonard Fuchs and Sylvain Gouguenheim illustrate.</p> <p>The rich heritage of the Royal College of Physicians and its special collections offer an important corrective to this perception: it provides a wake-up call, raising us from this amnesia. This strand of research is still productive: Pormann recently gave papers on various aspects related to it at NYU Abu Dhabi, the 10th International Security Forum (Geneva), the British Muslim Heritage Centre (Manchester), and the Royal College of Physicians (London). These talks and related publications continue to feed into the impact.</p>

Impact case study (REF3b)**3. References to the research** (AOR – Available on request)

The quality of research can be evidenced by the following key outputs, all published by esteemed presses or high-quality journals. 3.1 is based directly on work funded by the Royal College of Physicians.

3.1 Pormann PE 2013a: *The mirror of health: discovering medicine in the Golden Age of Islam* (London: Royal College of Physicians), xii + 92 pp. This is a short book accompanying the exhibition that contains many novel insights both into the development of medicine in the Islamic world and interest in the Islamic medical tradition at the Royal College of Physicians. (AOR)

3.2 Pormann PE 2013b: 'Avicenna on Medical Practice, Epistemology, and the Physiology of the Inner Senses', in: Peter Adamson (ed.), *Interpreting Avicenna* (Cambridge: Cambridge University Press), 91–108. This article makes a number of novel points about Avicenna's medical theory and practice. (AOR)

Other outputs related to the this project include:

3.3 Bhayro S, Hawley R, Kessel G, Pormann PE 2013: 'The Syriac Galen Palimpsest: Progress, Prospects and Problems', *Journal of Semitic Studies* 58, 131–148. A research article in a top peer-reviewed journal that deals with a question of detail, namely how Galen's *On Simple Drugs* was translated into Syriac; this research also fed into 3.1 and the exhibition. DOI: 10.1093/jss/fgs042

4. Details of the impact**Context**

Classical Greek culture and thought represents a shared heritage that joins East and West. This is particularly true for the history of medicine where a constant exchange of ideas took place across the different shores of the Mediterranean: throughout the medieval and early modern period, authors from different countries and creeds—including Muslims, Jews, and Christians—partook in the same medical and scientific discourse.

And yet, even today, one can tell the history of medicine with virtually no reference to the important Muslim heritage. For instance, a prominent academic wrote a thirty-part BBC radio programme entitled 'The Making of Modern Medicine' with nearly no reference to the Arabo-Islamic contribution, although he started with the Greeks. History of medicine is sometimes similarly taught at GCSE level in schools. Pormann's research helped rectify this situation.

Pathways

Professor Pormann's research attempts to counter this approach and replace it with a different narrative. It impacts on four groups of people through a variety of pathways:

- physicians and health professionals through collaborations with the Royal College of Physicians, and the James Lind Library (JLL);
- Muslims or those interested in Muslim heritage through collaborations with the Foundation for Science, Technology and Civilization (FSTC) and the British Muslim Heritage Centre (BMHC), Manchester;
- educators through work with the National Curriculum initiative, called Curriculum Enrichment for the Future (CE4TF) and animated by FSTC;
- security professionals through the development of a cultural security strategy.

The main pathways for the impact are:

- the exhibition 'Mirror of Health' at the Royal College of Physicians in London;
- the outreach activities by the RCP surrounding this event, including lectures, gallery talks, school visits etc.;
- lecture activities based on the research by Professor Pormann (e.g., at the International Security Forum [ISF] in Geneva);
- the collaborations with the institutions listed above.

Impact on Public Knowledge

'The Mirror of Health – discovering medicine in the golden age of Islam' is an exhibition revealing the story of how the medical tradition of Europe and the Middle East developed through the transmission, translation and transformation of knowledge, using the collections of the Royal College of Physicians. It is based directly on the research commissioned by the RCP and published in 3.1, but also draws on the other outputs listed above. As the exhibition space at the RCP is in a central place within the building, many visitors have seen it; to date the number of visitors, most of them health professionals, is estimated as 'several thousand' [5.1] One visitor left the feedback 'What an amazing insight into the Islamic roots of the history of medicine' [5.1]. The Archive Manager of the RCP adds that '[w]ithin the exhibition display and catalogue Professor Pormann demonstrates how ideas and complete texts continued to be translated and retranslated from Ancient Greek to 10th century Arabic, to 16th century Latin, to 19th century English. Displaying these texts side by side gives visitors a real sense of how ideas and works survived through time. The visitor feedback has been overwhelmingly positive, with many comments on how their appreciation of the history of medicine and the cultural roots of medical science had been widened' [5.1]. Further feedback from lecture evenings and other outreach activities organised by the RCP document its wide impact, as does its web presence [5.1]. The exhibition was also covered on al-Jazeera, Arabic, and thus reached millions of Arabs and Muslims [5.1].

Impact on Professional Knowledge and Practice

The impact of Pormann's RCP exhibition and underpinning research has also reached high profile medical professionals. One such example is one of the founders of the Cochrane Collaboration and coordinator of the James Lind Library (JLL). Both initiatives aim at helping to promote and understand fair tests of treatments in health care. The founder comments that, 'Pormann's research ... offers interesting insights into the testing of therapeutic procedures that have resonance today; and it shows that our own medical tradition owes much more to the contribution of Arab and Muslim scholars than one is normally led to believe' [5.6]. He adds that, 'The (Mirror of Health) exhibition, which aims to reveal the role of Islamic innovation in the development of western medicine, is of great significance in that it corrects several misconceptions perpetuated by centuries of scholarship'. [5.6] He has publicised the exhibition on his award-winning James Lind Library website [5.6], and also published Pormann's 'Qualifying and quantifying medical uncertainty in 10th century Baghdad: Abu Bakr al-Razi' (later reprinted in the Journal of the Royal Society of Medicine 106 (9): 370-2) as part of 'Commentaries on the history of treatment evaluation' [5.8]. This is a short piece that tries out a new idea, namely that a tenth-century physician already adhered to the notion of the 'patient group', which became a key aspect of medical trials later.

Furthermore, audiences consisting largely of security professionals at the 10th International Security Forum, Geneva, commented positively on Pormann's research and how it changed their perspective: an 'eye opener', according to one delegate [5.4].

Impact on Heritage Organizations and Users

The Foundation for Science Technology and Civilisation made extensive use of Pormann's research. This British not-for-profit, non-political, and non-religious organisation, dedicated to researching and popularizing the impact of Muslim civilization upon our scientific and cultural heritage, publicized the RCP exhibition on four websites (FSTC, MH.com, CE4tF, 1001inventions) and via its considerable Facebook presence. This meant that the exhibition reached new audiences, including young Muslims and Muslim community leaders. But Pormann's research also influenced FSTC itself, as the General Manager of FSTC, observes: 'The exhibition and the underlying research has influenced our way of thinking and will continue to be reflected in our policies. By raising awareness of, and increasing our understanding of a shared medical heritage, Professor Pormann has not only helped develop and disseminate the ideals held by the FSTC; he has also offered new views and additional insight into many of the issues the Foundation strives to promote' [5.2]. For instance, they have come to a much greater appreciation of al-Rāzī's relevance to early modern medical practice, especially in the area of fighting small pox and measles.

Impact case study (REF3b)

Another user of Pormann's research is the British Muslim Heritage Centre (BMHC), which aims at 'inspiring all communities to embrace diversity, and be instrumental in the shaping of a cohesive society'. It organised a conference open to both scholars and the wider public, and notably the Muslim community in Manchester. A Professor and Senior Researcher at the BMHC writes that Pormann's lecture on the Mirror of Health, 'made a great contribution to our understanding of the history of medicine and particularly the contributions of Arabic-Islamic scholars to the history of Western medicine and also continuous exchanges between both civilizations. We had a great positive feedback from the Muslim community who frequently visit our centre' [5.3].

Impact on the Curriculum

The FSTC prominently advertised Pormann's exhibition on their website for Curriculum Enrichment for the Future (CE4tF) — an organization which seeks to 'enrich school curricula in order to highlight the shared cultural and scientific inheritance of humanity'. The Chief Executive Officer of CE4tF writes that Pormann 'has addressed us in meetings ... in order to help us shape our curriculum agenda. His research, as published in Pormann's Mirror of Health (RCP 2013) directly informs the content of the educational materials that we produce. The initiatives not only affect pupils and students in the UK, but also in the Middle East. For instance, we have recently signed an agreement for teacher training in Saudi Arabia for which, again, we are using some of Professor Pormann's research' [5.7]. Moreover, Pormann has recently joined the advisory board of CE4tF, which shows that his research continues to inform current and future practice.

The impact of Pormann's research in the Middle East is also visible from the testimony of a lecturer in ancient history at the most prestigious Muslim University, Al-Azhar in Cairo. She describes the effect of Pormann (3.1) on Egyptian undergraduate students as follows: 'Its impact has been apparent during lectures, in which students proved eager to draw from the manuscripts' [5.5].

The partnerships with the RCP, FSTC, CE4tF, BMHC and the JLL constitute, in themselves, incidences of impact [5.1, 5.2, 5.3, and 5.6]. But these partnerships also function as pathways to impact in that the lives of a significant number of people have been touched by the results of the research outlined above.

5. Sources to corroborate the impact

All claims referenced in section 4.

[5.1] Testimonial letter from the Archive Manager at the Royal College of Physicians, which also details the online impact of the *Mirror of Health* exhibition (external websites, Facebook, Twitter), plus Visitor Feedback, RCP website hits, and tours of the exhibition.

[5.2] Correspondence with FSTC, highlighting their use of the research

[5.3] Correspondence with BMHC, highlighting their use of the research

[5.4] Confidential document- 10th International Security Forum, Geneva evaluation summary

[5.5] Testimonial letter from the Al-Azhar University, Cairo, highlighting use of research.

[5.6] Testimonial from the Co-ordinator of the James Lind Library / Initiative

[5.7] Confidential document from CE4tF

[5.8] Pormann, P.E. (2013). Qualifying and quantifying medical uncertainty in 10th century Baghdad: Abu Bakr al-Razi JLL Bulletin: Commentaries on the history of treatment evaluation

<http://www.jameslindlibrary.org/illustrating/articles/qualifying-and-quantifying-medical-uncertainty-in-10th-century-b>