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## Florentine anatomical models and the challenge of medical authority in late-eighteenth-century Vienna

Anna Maerker

Department of History, King's College London, Strand, London WC2R 2LS, United Kingdom

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### ABSTRACT

This paper investigates the reception of a set of Florentine anatomical wax models on display at the medico-surgical academy Josephinum in late-eighteenth-century Vienna. Celebrated in Florence as tools of public enlightenment, in the Habsburg capital the models were criticised by physicians, who regarded the Josephinum and its surgeons as a threat to their medical authority. The controversy surrounding these models from the empire's periphery temporarily destabilised the relationship between surgeons and physicians in the Austrian capital. The debate on the utility of the Tuscan anatomical models in Vienna highlights the fact that the centre of the Habsburg empire was by no means medically homogeneous, and that the implementation of reforms could be as difficult to achieve in the capital as in the provinces.

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### 1. Introduction: Florentine anatomical models in Vienna

After the death of Grand Duke Gian Gastone, last of the Medici, in 1737, Tuscany fell to the Habsburg-Lorraine dynasty of Francis Stephen, Holy Roman Emperor and husband of Empress Maria Theresia of Austria. In 1765 Francis Stephen was succeeded by his second son, Peter Leopold. Now known to his Tuscan subjects as Pietro Leopoldo, the young Grand Duke used Tuscany as a 'laboratory' of political and social reform. Intellectuals and governments around Europe observed his political experiments with great interest, not least Pietro Leopoldo's elder brother Joseph II, who succeeded his father Francis Stephen as Holy Roman Emperor in 1765, and his mother Maria Theresia as Austrian emperor in 1780 (Beales, 1987–2009). Tuscany was never formally incorporated into the Habsburg Empire. However, the relationship between the Italian state and Pietro Leopoldo's homeland remained close, mediated by a steady exchange of expertise in the form of texts, objects, and people. Medicine and public health, in particular, were shaped by exchanges between Austria and the Northern Italian territories under its control or within its sphere of influence.

Thus, for instance, in the 1780s the physician Johann Peter Frank was sent to Lombardy, a Northern Italian state in Austrian possession, to reform public health care. The Austrian Royal surgeon Giovanni Alessandro Brambilla sent a set of surgical instruments to Tuscany, while the Tuscan government reciprocated with copies of the regulations for the newly reformed General Hospital in Florence.<sup>1</sup>

This paper investigates one particular instance of the traffic in medical objects, the transfer of a set of anatomical wax models from the Tuscan capital to Vienna, the centre of the Austrian Empire. In Florence, such wax models of the healthy human body were part of a new museum which displayed natural objects and scientific instruments to the general public; the models were celebrated as outstanding scientific and artistic achievements and as suitable tools of public education. In Vienna, however, the anatomical waxes were to serve the training of students at a new military medico-surgical academy, the Josephinum. Many of the previous reforms, both in the metropolis and the provinces, had built on existing institutions, networks and infrastructure.<sup>2</sup> The foundation of the Josephinum in 1785, however, introduced a radically new

E-mail address: [anna.maerker@kcl.ac.uk](mailto:anna.maerker@kcl.ac.uk)

<sup>1</sup> On Frank, see, e.g., Lesky (1969); on Brambilla's instruments, see Belloni (1971); on the hospital Santa Maria Nuova, see Covoni Girolami (1783, 1789).

<sup>2</sup> See also the contributions by Bräunlein and Krász in this issue.

element into the creation of medical experts in state service. Central to the reform of surgical training, the new academy was intended to provide competent practitioners for the Empire's military and its provinces, and to elevate surgery to the same legal status as medicine. However, these reforms were perceived as a threat to the medical status quo in Austria, after the successful reform of the Vienna Medical faculty a generation earlier under Empress Maria Theresia and her personal physician Gerard van Swieten (1700–1772), who had strengthened the role of Faculty members as medical experts in state service.<sup>3</sup> The importation of anatomical waxes from the periphery destabilised the relationship between surgeons and physicians at the centre of the empire, rather than advancing medical training, and it opened a rift between the sovereign and the medical elite. The conflict between the new Academy and the Faculty mirrored to some degree the conflict between military and civil authorities investigated by Atalic in this volume. The implementation of central policies proved as problematic in the imperial capital as in the provinces—the debates surrounding the Josephinum and its anatomical models remind us that the centre itself was by no means homogeneous. Ultimately, the models' arrival in Vienna prompted both doctors and surgeons to articulate their expertise and their utility for the state. Throughout the paper, I use the concept of 'articulation' to highlight the fact that professional identity and expertise were defined and attributed not only through verbal and textual descriptions of areas of competency and its basis, but also through gesture and physical interactions, e.g. with patients and models, which were considered to improve or damage the sensibility and empathy of the medical practitioner.<sup>4</sup>

The models in question were first produced in Florence to contribute to one of Pietro Leopoldo's experiments in public enlightenment, the Royal Museum of Physics and Natural History ('La Specola'), which opened in 1775 (Contardi, 2002). Following the Grand Duke's conviction that only adherence to natural law would guarantee political legitimacy and public happiness, the museum was meant to be a place where expert naturalists could produce natural knowledge in state service, and enlighten the public to understand and accept these laws. The museum represented a microcosm of creation, from minerals, plants, and animals to models of human bodies, machines and physical apparatus. Using body parts collected from local hospitals and illustrations from anatomy textbooks, naturalists and artisans at the museum collaborated in the production of a spectacular collection of anatomical models. The models, life-sized representations of whole bodies and body parts in coloured wax, were admired by contemporary visitors as impressive displays both of artisanal skill and scientific accuracy. In the mid-1780s, a set of models from La Specola was sent to the newly founded medico-surgical academy Josephinum in Vienna at the Austrian emperor's instigation, to serve in the recently reformed training of military surgeons. Like its Tuscan counterpart, the expensive Austrian model collection was displayed on silk cushions in decorated showcases. As in Florence, the models aroused considerable public interest in Vienna. Translated into the different disciplinary and institutional context of the Austrian military medical academy, however, the Florentine models were ultimately rejected as useless toys by medical professionals and middle-class commentators in Vienna, despite being largely accepted as accurate representations of human anatomy.

On a visit to Florence in 1780, Joseph II went to see La Specola accompanied by his personal surgeon, Giovanni Alessandro Brambilla (1728–1800).<sup>5</sup> Brambilla had worked as a military surgeon in the Austrian army before he became Joseph's personal surgeon in 1764. In this position, Brambilla not only acted on behalf of the sovereign's personal health, but increasingly as Joseph's advisor on the reform of the medical system, to which Joseph turned after his coronation as Holy Roman Emperor in 1764 and his elevation to co-regent at the side of his mother Maria Theresia. In 1778 Brambilla was charged with the direction of military medical care. On their visit to Florence, the emperor and his surgeon were particularly taken with the museum's spectacular collection of wax models of normal human anatomy, and the Austrian sovereign requested copies for Vienna. And so, between 1784 and 1786, a total of 1192 wax preparations arrived in the Austrian capital via the Alps on the backs of mules and men. The model collection consisted of lifesized bodies of men and women, upright and reclining, showing different features of the body such as the nervous system, muscles or digestion, miniature figurines of flayed men in various poses, demonstrating the muscle layers, and enlarged or isolated studies of anatomical details such as individual organs. The artificial anatomies were highly detailed and meticulously executed. The gloss and partial translucency of the coloured wax gave the models a particularly lifelike quality. In addition, the scientific practitioners and modellers at the Florentine workshop took care to emulate poses and perspectives from authoritative anatomical textbook illustrations so as to support the models' claim to accuracy.<sup>6</sup> The Florentine waxes were part of a long tradition of anatomical modelling, from votive offerings to the baroque *memento mori*. Unlike most earlier artificial anatomies, the models of La Specola, in their context of enlightened reform, were envisioned as elements of a secular educational project designed to combat public superstition, and to promote rational and economically productive engagements with nature. However, like many other projects of visualising anatomy up to the recent Body Worlds plastinates, the artificial bodies were open to multiple interpretations which threatened to undermine their intended mission.<sup>7</sup> Upon their arrival in Vienna, the models were put on display at the new military medico-surgical academy known as the Josephinum. The academy was an attempt by the emperor to diminish the power of the Viennese Medical faculty over medical education. This threat was clearly perceived by the faculty and the physicians who supported it, and thus the new institution had been contested since its foundation in 1785.

The anatomical waxes aroused considerable public interest. Some visitors to the collection praised their accuracy and lifelike appearance.<sup>8</sup> Nevertheless, the Florentine models were ultimately rejected by medical professionals in Vienna. Brambilla's instructions for the new academy stipulated that the Florentine models be used for teaching purposes. However, other printed sources point to the possibility that the wax anatomies were not much used in teaching practice. None of the early Josephinum teachers incorporated the models in their textbooks. In his surgery textbook, for instance, Professor Johann Hunczovsky drew on some of the existing material resources at the Josephinum such as the collection of surgical instruments. He also explicitly attempted to coordinate his own teaching with parallel courses, such as the dissector's anatomy class. However, when he enlarged later editions, published after the wax models' arrival, he made no reference to the new model collection.<sup>9</sup>

<sup>3</sup> For these earlier reforms, see, e.g., the contribution by Krász in this issue.

<sup>4</sup> On the concept of articulation, see Latour (2004, esp. pp. 6–8); for a use of the concept in the context of medical training see Prentice (2005, esp. pp. 840–844).

<sup>5</sup> On Brambilla, see, e.g., the contributions in *Centro per la storia dell'Università di Pavia* (1980).

<sup>6</sup> On the production of the Florentine models, see, e.g. Lanza et al. (1997); on problems of accuracy and authority at the model workshop, see Maerker (2011, esp. chap. 3).

<sup>7</sup> For tensions between diverging receptions of anatomical representations secular and religious, professional and popular, see, e.g., Maerker (2011, esp. chap. 4) (for La Specola), Castillo (2010, esp. pp. 8–18) (for Body Worlds).

<sup>8</sup> For contemporary responses to the models at the Josephinum see, e.g., Gröger (2007, esp. pp. 321–322).

<sup>9</sup> Hunczovsky (1785). After his death, further editions were prepared by an anonymous editor—possibly Hunczovsky's successor to the chair of surgery Anton Beinl—who did not mention the models either.

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