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Tokens of Knowledge: *Outline of Western Theories of the Body* and the Jesuit Medical Mission

By

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‘The detailed images of the body present within this text were drawn by an artist who studied the dissection of a dead body, a process by which the muscles, tendons and bones of the body were revealed. Such images were drawn with beautiful levels of detail’[1] - Preface of *Outline of Western Theories of the Body*[2]

The exchange of a golden pocket watch from the Portuguese Jesuit Melchior Nunes Barreto to the governor-general of Canton Chen Rui in 1558 marks the effective beginning of Jesuit presence in China[3]. The Jesuit mission was driven by a desire to proselytise to the large population of China, a process through which they hoped to eventually open the entirety of Asia to Catholicism. The Jesuits adopted a ‘top-down’ dissemination of Catholicism, by appealing to the local elite, or the literati, by offering access to their knowledge of the natural sciences, philosophy, mathematics and astronomy[4]. During the almost 250 years of Jesuits presence in China, they were responsible for the introduction of many new ideas and technologies. The introduction of western calendars, clocks, mathematics and astronomy, alongside the work completed on the Imperial Calendar and within the Imperial Astronomical Bureau, are but a few examples of the considerable work completed by the Jesuits during their time in China[5]. Especially in the late Ming and Qing dynasties, the Jesuits worked closely with the Imperial government and at times with the Emperor himself, a relationship that greatly benefited the Jesuit's proselytising mission. In contrast, another aspect of the

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[1] Terentius 1643.

[2] All translations of *Outline* are the work of the author

[3] Fülöp-Miller 1963, 235.

[4] Wadell 2015, 10.

[5] Elman 2005, 25.

Jesuit project, the medical mission, seems to have done little to garner patronage for the Jesuits, and scholars have for the most part regarded it as having little significance. It is this understudied and 'failed' intellectual mission that is the primary concern of this paper.

Outline of Western Theories of the Human Body, or *Outline*, was the first medical treatise to be published by the Jesuits in China. The text was translated by the German Jesuit Johann Schreck Terrentius, edited by the Chinese literati Bi Gongchen and published in 1643. As a European medical text translated into Mandarin for a Chinese audience, *Outline* is situated at the intersection of multiple significant knowledge frameworks. This paper proposes that an analysis of *Outline* and its various influences will shed new light on the specifics of the medical mission. *Outline* is thought to be a translation of the 1597 edition of *Theatrum Anatomicum* by Caspar Bauhin, which famously borrowed from the seminal anatomical text *De Humani Corporis Fabrica*, or *Fabrica*, by Andreas Vesalius[6]. As a text, *Fabrica* is perhaps most well known for its detailed and unique woodcut engravings that depict the human anatomy. Such diagrams were arguably the first of their kind and to this day are marvelled worldwide for their beauty. Similarly, *Outline* contains a series of medical diagrams based on the very imagery within *Fabrica*. The images in *Outline*, however, have largely been ignored, both within the history of medicine and the history of the China Jesuits. Furthermore, histories of the China Jesuits often conflate text and image as one, so that all knowledge within a book is considered a singular form of knowledge dissemination[7]. This paper proposes to look at the Jesuit medical mission from the lens of image, or t*u* (图). Through an exploration *Outline* and the images within the text, this paper hopes not only to

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[6] Farrington 2008, 49.

[7] Wu 2017, 18.

unearth previously unknown details regarding the medical mission but also to situate the medical mission within certain textual and intellectual traditions.

As a history of two intellectual traditions coming together, it can be tempting to conceptualise the medical mission as the meeting of 'East' and 'West'. Such a historiographical approach can at times be helpful, but can also lead to the essentialisation of both China and Europe[8]. The idea of a cohesive 'West' and 'East', or even 'China' and 'Europe', is firmly rooted in an orientalist understanding of the self and the other, an approach that often conflates more than it reveals[9]. To claim that a small group of individuals were representative of an entire intellectual movement is a statement with very little merit. It is now accepted amongst historians of the Jesuits that there was great diversity in thinking amongst the Jesuits themselves. Wu Huiyi highlights how Matteo Ricci, who is often considered the Father of the China Mission, was not merely a Jesuit priest but an 'Italian, who submitted to the Portuguese empire, was obedient to the general in Rome, and lived for a longer time in China than in any other part of the world'[10]. The story of the China Mission is no longer one of success or failure, or 'West' and 'East' but a complex web of interactions between specific groups of people that can at times illustrate larger networks, structures and traditions, but in no way defines them. Similarly, there was much internal diversity amongst the Chinese literati as well. Not only did members of the literati belong to various schools of thought, where certain schools were more receptive to forms of western thinking, but the

[8] Wu, Statman & Cams 2017, 15.

[9] Togo 2001, 280.

[10] Wu, Statman & Cams 2017, 18.

individual literati also possessed their own beliefs regarding Catholicism[11]. In short, the interaction between the Jesuits and the literati was not that of two homogenous groups sharing contrasting ideas with one another, rather it was a much more complex and individualistic interaction.

This paper will consist of two sections, the first titled 'Stories of the Medical Jesuits' and the second titled '*Outline of Western Theories of the Human Body*'. The focus of the first section will be to introduce the existing history of the Medical Jesuits and how such historiography has informed the conclusion that the Ming medical mission was unsuccessful. This section will begin to challenge some dichotomies that exist within the history of the Jesuits, while simultaneously questioning certain assumptions that have been made regarding the medical mission. The second section of the text will have two points of intervention, the first, to situate *Outline* and the Jesuit medical mission within the intellectual traditions of the time, and the second, an analysis of the skeletal medical imagery within *Outline*. Through such an analysis of the detailed skeletal images, this paper argues against the strict categories of 'science' and 'art', in favour of a more flexible understanding of knowledge. In doing so, the legacy of *Outline* and the Ming medical mission is broadened.

Section 1. Stories of the Medical Jesuits

1.1 A Brief History of the Jesuit Medical Mission

'Whoever desires to serve as a soldier of God beneath the banner of the cross in our Society, which we desire to be designated by the name of Jesus…to strive especially for the defence and propagation of the faith and for the progress of souls in Christian life and doctrine' - Pope Julies III, *The Constitution's of the Society of Jesus and Their Complementary Norms* [12]

[11] Shelke & Demichele 2010, 26.

[12] Padberg 1996, 1.

The Society of Jesus was founded by Ignatius of Loyola in 1540 to counter the protestant movements in Europe through the spread of the Gospel. The Jesuits through the cultivation of 'learned and pious men' hoped to reform the Church both in Europe and in 'those regions which were newly discovered.'[13] There was a sincere conviction within the Jesuit colleges that an understanding of philosophy, mathematics and the natural sciences would greatly aid in the development of solid theological reflections[14]. As such, Jesuit fathers were not only well versed in theology but all matters of natural philosophy. The China mission technically began with Francis Xavier in 1551, but it wasn't till the founding of the city of Macao in 1557 that the China mission began to truly gain traction. As a hybrid European-Chinese settlement, Macao functioned as both a safe haven and a confinement zone for foreigners in China.[15] Such confinement arose from a sense of hostility towards foreigners by the Ming court, hostility that stemmed from Ming perceptions of Portuguese merchants. The Jesuits, who were aware of such hostility, positioned themselves not as fellow foreigners to the Portuguese, but rather as intermediaries between the two groups, exploiting Ming anxieties towards the Portuguese. The detention of three Portuguese merchants for illegally entering Canton in 1558 provided the Jesuits with the opportunity to showcase their utility as an intermediary between the Chinese and the Portuguese. The Jesuit Fathers Baretto and Goes undertook negotiations with Chinese authorities over the ransom of the merchants. After negotiations concluded, Baretto presented the Chinese governor of Canton with his

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[13] Shelke and Demichele 2010, 26.

[14] ibid.

[15] Brockey 2007, 15.

watch, a watch he had previously noted as being greatly coveted by the governor[16]. In return, the Governor permitted the two missionaries to remain in Canton, marking the beginning of Jesuit presence in mainland China. During the early stages of the China Mission, in the late Ming dynasty, the Jesuits were focused on keeping a low profile and 'learn[ing] characters with all possible diligence in order to read their books.'[17] During this time, the Jesuits began translating European texts into mandarin in order to aid in the dissemination of European knowledge. One such text was *Western Techniques of Cultivating Memory* (1595). This text marks the introduction of the European idea of the brain as the seat of memory in China[18]. The late 16th century for the China Jesuits was not about mass-proselytisation, but rather about the gradual introduction of European beliefs and knowledge to the Chinese elite. The great appeal of certain forms of knowledge was noted and communicated back to the Jesuit superiors in Europe.

On the 16th of April 1618, a ship departed from Lisbon with twenty-two Jesuits each selected due to their unique knowledge of disciplines known to have great appeal to the Chinese literati. Amongst these Jesuits were Johann Terrenz Schreck, Jacobus Rho and Johann Adam Schall von Bell, perhaps the three most influential Jesuits involved in the medical mission[19]. Johann Schreck, a physician from Switzerland, had been called upon by Matteo Ricci due to his existing reputation as a mathematician and his works on astronomy. Most of Schreck's achievements during his time in China were related to astronomy,

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[16] Fülop-Miller 1963, 15.

[17] Brockey 2007, 13.

[18] Fu 2011, 75.

[19] ibid.

including his work on the Imperial Calendar for the Emperor Chongzhen alongside his many publications and translations of astronomy texts[20]. Schreck also worked on translating *Outline*, which he began in 1622. It was not until 1643, after Schreck had left the now fully translated *Outline* in the possession of Schall, that Bi Gongchen was made aware of the existence of this text and arranged for it to be published[21]. Considering that the Ming dynasty ended in 1644, the release of *Outline* was greatly overshadowed by the overturning of the Ming dynasty by the Manchus, and only 5 hand-transcribed copies of *Outline* are known to have existed[22]. While the original edition of the text may have had a limited impact on Chinese intellectuals, at the beginning of the Qing dynasty Rho compiled a text, in collaboration with Schreck, titled *Illustrated Explanations of the Human Body,* or *Illustrated Explanations*. *Illustrated Explanations,* for all intents and purposes, can be considered the second edition of *Outline*, since the illustrations within the two texts are identical[23]. *Illustrated Explanations* was a part of an intellectual continuity that began with *Outline;* apart from how the text was organised and some minor differences in content, the two texts remain functionally the same.

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[20] Golvers 2020, 321.

[21] Fu 2011, 77.

[22] ibid.

[23] Despeux 2006, 650.

1.2 Jesuits in China: A Story of Success or Failure

'In the history of intercourse between civilisations there seems no parallel to the arrival in China in the 16th century of a group of Europeans so inspired by religious fervour as were the Jesuits, and at the same time so expert in most of the sciences which had developed with the Renaissance and the rise of Capitalism' - Joseph Needham[24]

As arguably one of the most influential early modern exchanges between China and the 'West', the Jesuit China mission has been the focus of extensive historical study. The China Mission is conceptualised as a tumultuous, diverse and complex intellectual exchange, one that is simultaneously perceived as a success and equally as often deemed a failure[25]. This tension largely stems from the fact that the China mission spanned hundreds of years, over two dynasties and multiple individual Jesuit priests, not to mention the range of European knowledge that was disseminated. Considering the complex nature of the mission, it is hard and arguably unreasonable to make a judgment of the China Mission in its entirety. Even histories of more specific portions of the mission, like late Ming histories of the medical mission, cannot escape this framework of 'success and failure'. One such history is Louis Fu's *Medical Missionaries to China: the Jesuits*, a text that outlines the influence of the Jesuits on medicine in China. Fu concludes that their influence was limited, deeming the Ming medical mission, for all intents and purposes, a failure[26]. It is this very assessment of the medical mission as a 'failure' that this section hopes to challenge.

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[24] Needham 1958, 5.

[25] Standaert 2001, 779.

[26] Fu 2011, 79.

Through an exploration of 'success and failure' within the Jesuit mission as a whole, we begin to see the reasons as to why there is limited scholarship on the medical mission. Intellectual histories of the Jesuits in Ming China often treat astronomy, philosophy and mathematics as the 'pillars' of the Jesuit Mission. This is because these disciplines were so closely tied to the 'success' of the Jesuit mission in its entirety. Success here is defined by whether the Jesuits succeeded in receiving patronage from the literati, a process that hinged on the dissemination of European science and technology. As such the literati's attitudes and reactions were carefully considered, and it was noted that astronomy and mathematics were highly coveted by the Ming court, whereas matters of philosophy and ethics were central to the social milieu of the time[27]. Considering how effective these disciplines were in garnering patronage, the Jesuits greatly favoured astronomy, mathematics and philosophy within the China Mission. Much like how these disciplines fuelled the China Mission, intellectual histories of the Jesuit are often framed and limited within this narrative of 'opening' China up to Catholicism. Within this narrative, the medical mission has almost no place or relevance. While such histories have their obvious value, they do significantly narrow what is considered worthy of study. When the Jesuit mission is no longer limited to this restricted definition of success, so many facets of the mission become worthy of study.

'Success' in the context of the wider Jesuit mission was limited to that of proselytisation, but 'success' in the medical mission took on another form. The primary definition of success within the medical mission was the successful implantation of western medical theories within China. The need for such implantation of foreign ideas stems from a common conceptualisation of the Ming dynasty as a period of intellectual decline. While not

[27] Brockey 2007, 55.

necessarily untrue, such characterisations are often ahistorical, where the role of science is grossly overemphasised. It is perhaps more accurate to conceptualise the Ming dynasty as a period of scientific stagnation that often relied on scientific innovations from past dynasties[28]. Ming intellectuals were greatly influenced by Wang Yangming, a scholar who developed 'inner learning' and the Neo-Confucian School of Heart. The Neo-Confucian School of Heart was a school of thought that petitioned for rationality and morality to be intuitive rather than based on evidentiary reasoning[29]. This very philosophy is what Joseph Needham points to as the reason for the 'intellectual decline' of the Ming[30]. Essentially the Jesuit medical mission is considered a failure as it was unable to guide the Chinese out of this scientific stagnation and usher them into a new world of European science. However, once a Eurocentric and science-oriented lens is removed from our analysis of the mission, are 'success' and 'failure' relevant parameters by which we can judge the mission?

Even if we accept 'failure' as a parameter by which we can judge an intellectual mission, upon closer inspection it does not fully apply to the medical mission. Upon the Jesuit's arrival in Canton, they translated and published European medical texts to be distributed amongst the literati. Yet, it is unknown who read the texts, how far they travelled and as a result how much impact these translations had. Scholars have, rightly so, concluded that the lack of evidence seems to indicate that the reach of the texts was limited, as had they reached more individuals there would be more records[31]. Another influential factor was that

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[28] Needham 1986, 5.

[29] Anderson, Barnes and Shackleton 2011, 20.

[30] Needham 1958, 15.

[31] Shelke and Demichele 2010, 57.

upon reading the texts, many Ming physicians outright rejected the knowledge presented[32]. Many concluded that the reason China and Europe has such different systems of the body was simply that Europeans had different bodies[33]. From such a perspective, it is reasonable to claim that the Jesuits did not succeed in implementing their understanding of the body upon the Chinese. However, while European notions of the body and medical practices may not have impacted the Chinese that does not mean the mission was without influence. Rather when the dissemination of knowledge is considered outside the broad category of medicine and instead looked at simply as knowledge, the conclusion regarding the mission's influence may change. This is the primary concern of the following section.

The very claim that the Jesuit medical mission ‘was considered a failure ’ is one that evokes much concern in the history of knowledge. In thinking about the dissemination of knowledge, how do we judge success or failure? Is it a limited reach? A rejection of the knowledge? An inability to effectively and efficiently communicate knowledge to the masses? Even if such a ‘failure’ can be defined, what purpose does labelling an exchange of knowledge a ‘failure’ serve? In that, even if rejected, the very exchange of knowledge and existence of an intellectual contact zone warrants historical study. This section has highlighted how the concept of ‘success’, both in the wider Jesuit Mission and the medical mission, often functions as a vessel for generalisations and assumptions. Moreover, even if we take ‘success and failure’ at face value, it does not fully apply to the medical mission or arguably any intellectual interaction. Rather, this paper argues to abandon this framework of

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[32] Standaert 2001, 778.

[33] ibid.

'success and failure' so that our understanding of the Jesuits and of the medical mission is no longer limited by grand, and at times false, historical narratives.

Section 2: *Outline of Western Theories of the Body*

The publishing of European scientific and religious texts by the Jesuits in China was part of a desire to extend Jesuit influence across the mainland. As foreigners who lived in Macao and were only residents in a small part of the mainland, a residency that depended on patronage from the local governor, the Jesuits required a form of knowledge dissemination and proselytisation that did not rely only on physical contact[34]. As such, there is a rich textual tradition of Jesuits translating European seminal texts into classical mandarin. As tokens of Jesuit beliefs and scientific knowledge, the analysis of these translated texts can provide insight into aspects of the China mission that were previously unknown. O*utline* is one such text that details European knowledge regarding human anatomy. The text is of importance for two primary reasons, the first is because it reveals previous unknowns regarding the specifics of the medical knowledge disseminated by the Jesuits and the second is that the anatomical images represent a shift in Chinese visual culture.

Prior to the analysis *Outline*, it is important to reassert a claim made earlier in this paper that a cohesive Jesuit science, let alone medicine, did not exist. Rather, as a widespread religio-intellectual network, the Jesuits were just as different as they were similar[35]. This diversity applies to the China Jesuits just as much as it does to their European counterparts. As such, the medical knowledge in *Outline* is not one that defines Jesuit medicine as a whole, rather it is perhaps more reflective of both Schreck and Rho's medical schooling. As such, we

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[34] Fülöp-Miller 1963, 250.

[35] Wu, Statman and Cams 2017, 15.

must consider *Outline* to be a work reflective of Schreck-Rho medicine, a form of medicine that may inform but should not define our understanding of Jesuit medicine as a whole.

Little is known regarding the intentions behind translating *Outline*, except that it was part of a larger movement of European knowledge dissemination by the Jesuits. Historians believe that the text was translated from the 1597 edition of *Theatrum Anatomicum* by Caspar Bauhin[36]. There is overwhelming evidence to support this, considering the content, imagery and the fact that this edition of *Theatrum Anatomicum* was in Johann Schreck's personal collection of books that he brought to China[37]. While there is little doubt that Schreck modelled *Outline* on his copy of *Theatrum Anatomicum*, there is evidence that points to his use of *Theatrum Anatomicum* being motivated by convenience. In the preface of *Outline*, written by Bi Gongchen, there is a discussion of a seminal text that contained images with 'beautiful levels of detail' modelled after the dissection of a dead body[38]. The text itself is not named in the preface, yet the author of the text is. What is interesting here is that it is Andreas Vesalius who is named and not Caspar Bauhin, leading to the assumption that the text detailed in the preface is *Fabrica* and not *Theatrum Anatomicum*. There are multiple interpretations of this. Considering the overwhelming evidence of the presence of *Theatrum Anatomicum* in the translation of *Outline*, and the fact that the preface was written by a literati member 20 years after *Outline* had been translated, it could be plausible that the information in the preface was simply a miscommunication, translation error or the result of a misunderstanding. Alternatively, if we take what is written in the preface at face value, there

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[36] Bauhin 1605.

[37] Golvers 2011, 16.

[38] Terrentius 1643.

becomes a much richer textual continuity within *Outline*. Had it been that Schreck was using *Theatrum Anatomicum* as an intellectual 'placeholder' or proxy for *Fabrica*, the visual imagery of the text begins to take on a much more significant role.

Theatrum Anatomicum was the amalgamation of Bauhin's anatomical research, research that borrowed heavily from the work of Vesalius, to the extent where the medical imagery in the text is almost identical to that in *Fabrica*. Had *Fabrica* been the text that Schreck had intended to translate, one may wonder why it wasn't *Fabrica* itself that Schreck had translated. This was likely an issue of convenience. Depending on the edition of *Fabrica*, the text is approximately 600 pages long, with each page measuring 30 centimetres wide and 43 centimetres long. Considering the size and the detailed woodblock illustrations, *Fabrica* was more of an intellectual artefact than a text or manual that could be transported across the world[39]. Even if *Fabrica* had been brought to China, translating and recreating the entirety of the text would have taken years. Moreover, as noted in the preface of *Outline*, *Fabrica* was also written in a form of Latin popularised during the Humanism movement that was renowned for being difficult to comprehend. Considering all of these factors, it would likely make sense that the Jesuit father would opt for a smaller, more concise version of the text that could be easily and efficiently translated. Regardless of which of the two narratives surrounding *Outline* is true, *Fabrica* as a text was very influential in the creation of *Outline*, and as such should inform an analysis of *Outline* as a text.

Outline as text is 320 pages, split into two *juan*, or sections and is written in a question and answer format. The first *juan* details bones, cartilage, muscle, tendons, fat, skin,

[39] Oldfield 2014, 20.

flesh and blood[40]. The second *juan* explores perception, eyes, ears, nose, tongues, sensation in the four limbs and contained a series of detailed anatomical images[41]. These images can be broadly put into two categories: outlines of the entire body and detailed images of specific parts of the body. The detailed images of specific parts contained images of the organs and skeletal structures, of which there are 13 in the text. It was common to find organs and specific bones as the subject of medical imagery during the Ming dynasty. Such images often used organs and bones to aid in the localisation of acupuncture points, while also portraying the flow of qi or energy[42]. Medical images of the entire skeletal body, however, were almost unheard of[43]. Considering the unique nature of the skeletal medical diagrams in *Outline*, these will be the primary focus of this section. The exploration of *Outline* will be split into four sections, the first exploring how the body was visualised in 16th century Europe and China, the second a detailed exploration of the skeletal medical images within *Outline*, the third an exploration of Chinese textual traditions and finally the legacy of these images in China.

2.1: Visualising Bodies: Skeletal Medical Diagrams in Europe and China

Visual representations of the skeleton have a longstanding history in both China and Europe, where oftentimes the skeleton has become a symbol of death. In Europe, the skeleton is famously associated with the grim reaper or the personification of death, whereas in China skeletal images often evoke the dead or the ghostly realm[44]. The imagery of skeletons, in both

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40 Terentius 1643.

41 ibid.

42 Despeux 2006, 636.

43 ibid, 640.

44 Hay 1998, 102.

China and Europe, was not limited to the field of medicine, but rather there existed a diverse tradition of visualising the skeletal body amongst all fields. The skeletal images in *Outline* borrowed heavily from a European tradition but were created and distributed for a Chinese context, and as such both artistic traditions must be considered in the analysis of these images. Through an investigation of the role that skeletal images played in both China and Europe, this section hopes to highlight how artistic influence is not limited to the binary that is art and science, but rather much more free-flowing. This section proposes to view visual cultures as a homogenous entity, or intricate web, that is relational and constantly in flux. In doing so, this section argues that *Outline* is the intersection of these traditions, an intersection that incorporates diverse artistic traditions into the medical mission in China.

Considering the visual continuity that exists between *Theatrum Anatomicum* and *Fabrica*, alongside the overwhelming influence *Fabrica* had on *Theatrum Anatomicum*, it seems fair in the analysis of visual influences to see them as coming from a singular visual tradition. *Fabrica* as a text must be understood as a product of both 16th-century artistic and scientific traditions. As a medical treatise that contains detailed medical diagrams, it may seem confusing to the modern reader as to how this seminal text was a product of 16th-century European art. This understanding in part stems from contemporary understandings of the perceived dichotomy that existed and, to an extent, currently exists, between 'art' and 'science'. Early modern European understandings of art were that it was the 'work of the human hand' through 'practice and experience'[45]. Science on the other hand referred to the acquisition of 'certain' theoretical knowledge obtained through deductive reasoning[46]. As seen through these descriptions, neither is diametrically opposed. One must understand

[45] Smith 2006, 85.

[46] Smith 2006, 85.

Fabrica's medical illustrations not simply as a 'piece of art' but also not purely as a work of science[47].

It would be an incorrect representation of the investigation of nature in 16th century Europe to claim that medical illustrations were simply the intersection between art and science. Rather, medical illustrations were the joint product of two, deeply intertwined, movements in understanding nature; the humanist and the naturalist movements[48]. The rise of naturalism in fine art and painting normalised the notion that art could be a 'model of vision and perception'[49]. As objects of 'vision and perception', art pieces became a new mechanism for investigating reality, and thus became an integral part of knowledge-making in Europe. As such, in the transference of the 'materially real, physical world' into a 'single, universal point', images became the primary mode in which one could record and catalogue the natural world, a methodology that would soon be co-opted by 'science'[50]. William Irvis argues that 'visual artists furthered science by making a new mode of visual communication possible.'[51] In doing so, both art and science must be understood as 'image-making' and 'knowledge producing' activities, instead of ascribing the former to art and the latter to science[52]. While neither artistic naturalism nor scientific humanism were the direct causes of one another, once the two converged it became difficult to understand one without consideration of the other. As a result, the skeletal imagery of *Outline* is no longer just a medium by which European

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[47] Kusukawa 2012, 185.

[48] ibid.

[49] Smith 2006, 90.

[50] ibid, 95.

[51] ibid.

[52] Nutton 2017, 12.

anatomical knowledge was communicated, but rather is an artefact of two deeply intertwined intellectual movements within 16th-century Europe. With such a fact in mind, the Jesuit medical mission is no longer simply restricted within the parameters of European science and medicine but rather situated in a more complicated and diverse intellectual culture of visualising nature.

Unlike in Europe, it was quite uncommon to find images of the skeleton that existed within the field of medicine in China. Rather, the earliest examples of skeletons as the subject of images were largely popular and religious. One such example is the Yuan Dynasty painting 'Ghost Who Died a Violent Death', as seen in Image 1[53]. In the back of the image, we see Zhong Kai, or 'the demon queller', represented by a skeletal figure. Zhong Kai was often seen as a protector of the 'ghostly realm'[54]. Outside of popular representations of the skeleton, the large majority of skeletal illustrations were guides created for autopsy reports. These images were created for ostensors (those that performed autopsies in Ming China) in order to trace the origins of wounds through the examination of bones[55]. As such, skeletal illustrations primarily functioned as a legal tool during the Ming dynasty, where anatomical knowledge was not the primary focus of such images. Rather, as a legal tool, skeletal imagery often portrayed knowledge on the individual scale, where the origin of wounds for that specific person was the primary goal of the image, not the presentation of human anatomy. As such, drawings of the skeleton were often incredibly simplistic, where it was common to not have the correct number of bones nor were the skeletons properly proportioned. The skeletons in these early autopsy reports represented the general idea of a skeletal body, rather

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[53] Zeitlin 2009, 58.

[54] ibid.

[55] Despeux 2006, 645.

Image 1: 'Ghost Who Died a Violent Death' - Yuan Dynasty (14th Century)

than aiming, like in *Fabrica*, for the accurate visualisation of the human skeletal system. In comparison to the existing skeletal imagery in China, the images in *Outline* were considerably more anatomically correct and, perhaps more importantly, created specifically in order to visualise anatomical knowledge. Thus, the arrival of *Outline* marks the beginning of skeletal imagery that was considered part of medicine, rather than used as a legal tool or part of popular culture.

While skeletal images in both China and Europe shared the same subject, i.e the human skeleton, these images were representing fundamentally different things. In China, skeletal images always portrayed the dead human body, whereas, in Europe, skeletal medical

imagery always portrayed the living human body. In Ming China, there seems to be a general consistency amongst skeletal images, where images of the skeleton in some shape or form related to death. As mentioned in the introduction, skeletons were often employed in ghost tales and autopsy reports always portrayed the skeleton as a dead body. These legal documents indicated the portrayal of the dead human body in two ways. The first was through an understanding of the very process by which the document was created for. Autopsy reports in Ming China were used as part of evidentiary hearings in order to ascertain the cause of death and, in cases of foul play, could be used to determine whether or not an individual was considered a criminal[56]. The very nature of legal autopsies was the exploration of death, where the skeleton diagram was simply a record of what caused this individual's death. These illustrations were often accompanied by a checklist of the bones of the body, alongside a series of red and white dots scattered around the skeleton. The red dots on the illustration indicated trauma that had been observed, while the white dots indicated the different 'fatal points' of the body[57]. By way of the very nature of the images, Ming autopsy report portrayed the dead human body. The second factor to consider are the images themselves. As seen in Image 2[58], the skeletons in Ming autopsy reports are flat, unmoving, the bones remain disconnected and sit lifelessly on the page. The skeleton is suspended in a white background, and the bones have no depth or shading, which seems to indicate that the skeleton itself is to be understood as the same. Both factors point to the portrayal of the dead human body in Ming dynasty autopsy reports.

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[56] Despeux 2006, 650.

[57] ibid.

[58] ibid.

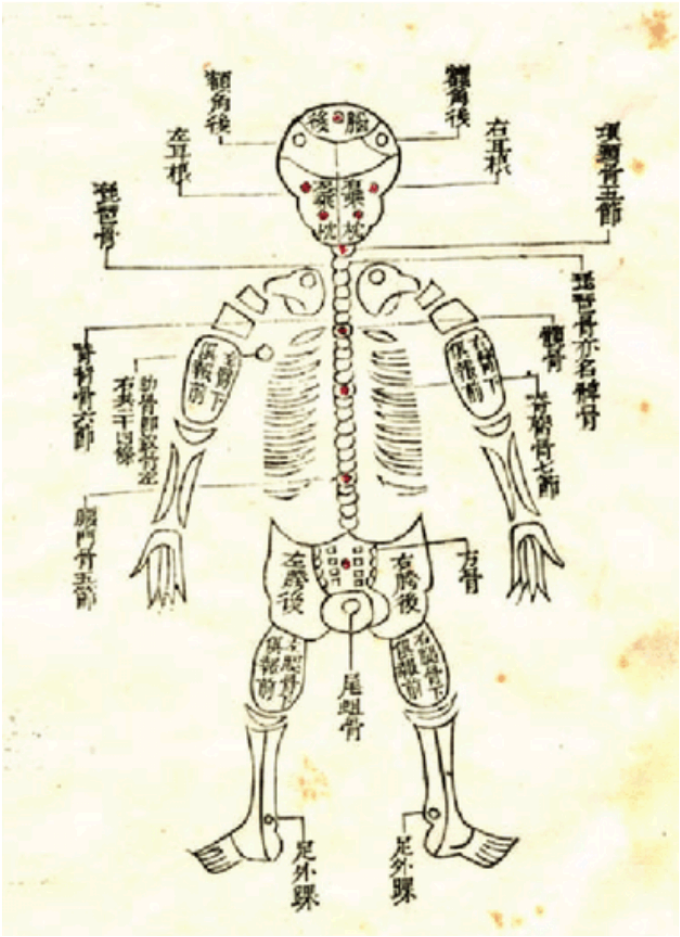

Image 2: 捡骨格 Jiangu Ge (Form for the autopsy of bones) - 1760

In contrast to the largely consistent representations of the skeleton in Ming China, European representations of the skeleton were considerably more diverse. Popular images of the skeleton often portrayed the grim reaper, with his scythe or hourglass, where his very presence represented death[59]. Medical images of the skeleton, conversely, portrayed the living body. Upon first glance, such a statement may seem unfamiliar, but this tradition is one that carries on into modern medicine. Modern diagrams of the human body often portray the body in movement, upright and dynamic. This portrayal stems from the understanding that anatomical knowledge, or perhaps all medical knowledge, exists in order to serve the living body[60]. As such, even dissections, a process by which "the flesh was incised in order to gradually gain access to the different layers of the body, to make representations of different

[59] Kusukawa 2012, 220.

[60] Oldfield 2014, 50.

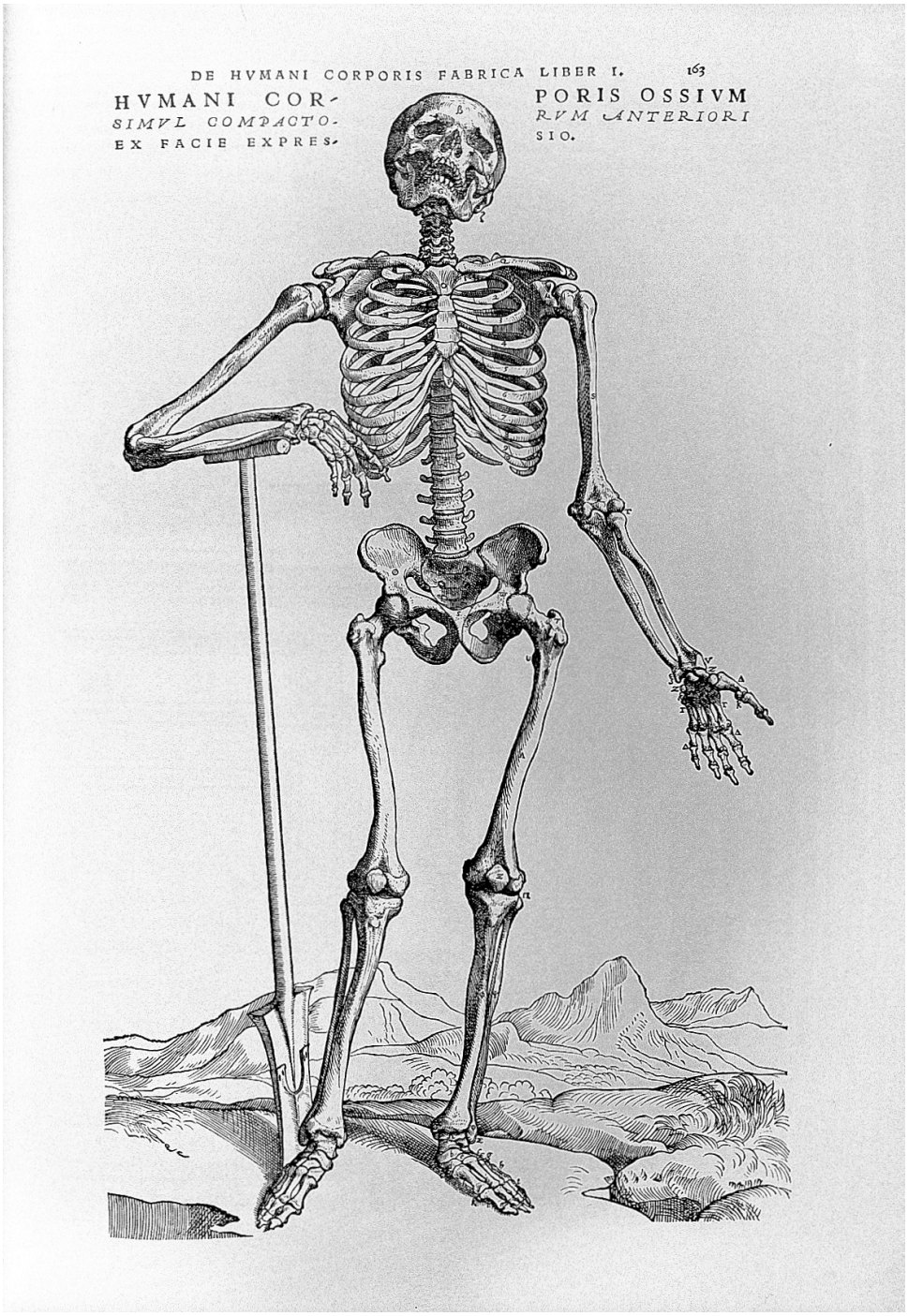

Image 3: Skeletal Imager in De Humani Corporis Fabrica - 1543

systems of muscles, nerves, organs and bones", that occurred on a dead body, was part of a desire to learn more about the body in motion[61]. *Fabrica* is perhaps the most famous and extreme example of this in early modern Europe. All of the full-body anatomical images in *Fabrica* are in motion and in many cases actively interacting with the world around it. An

[61] Despeux, C., 2007. The contribution of forensic medicine to knowledge and representation of the skeleton in China, pp. 645.

example of this can be found in Image 3[62], where the skeletal figure is resting its elbow on a shovel, its other arm extended out and even with a facial expression that seems to denote exasperation. Vesalius's skeletons are in no way dead, rather in many images, there are tufts of hair, skin and even muscle that remain on parts of the skeleton as if to remind the viewer of its status as something alive[63]. To further this, all full-body images in *Fabrica* are situated in the Italian countryside. Through this, we can see that Vesalius's skeletons are not only alive, but they are interacting and moving within the very same world that we do.

As a product of 16th-century humanism and naturalism, the images in *Outline* were part of a wider movement in visualising the natural world. In contextualising *Outline* within the European tradition of visualising the 'materially real world', *Outline* is then no longer simply the introduction of European anatomical knowledge in China, but rather a vestige of a much broader intellectual and visual continuity. Explorations of *Outline* should thus not be limited to modern understandings of science, rather *Outline* should be seen both in context and in eventual influence as part of a wider web of visualising nature. Furthermore, the release of *Outline* in 1643 marks a shift in the representation of the skeletal body in Ming China. The extent of this shift is the focus of the following section. How did the images in *Outline* function in relation to these skeletal images in China? Were they simply absorbed into the Chinese tradition, or did they firmly mark the introduction of European traditions of the skeletal body? This section has highlighted how in order to properly understand the importance of *Outline* it is important to explore the various intellectual contexts from which the text was born.

2.2 Visualisations of the Body: Skeletal Images in *Outline*

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[62] Oldfield 2014, 25.

[63] ibid, 65.

Upon first glance of the images in *Outline*, one may notice there is a considerable disparity in detail to those images in *Fabrica*. This disparity was noted by Catherine Despeux in her exploration of skeletal images in China, where she presents the images in *Outline* as being 'inferior' and lacking in precision[64]. While such judgments regarding the quality of these images are in a sense accurate, to posit an equal comparison between images created in vastly different contexts could be considered ahistorical. The images in *Outline* did not have the same monetary benefits as that of *Fabrica,* nor was there a surplus of time and resources whilst creating such images[65]. Vesalius hoped through *Fabrica* to create a comprehensive anatomical text that explored, in great visual detail, the 'Fabric of the Human Body'. *Outline*, much like the title demonstrates, was created as an introductory overview or *Outline* of European anatomical knowledge. It was thus logical, if not necessary, for the images in *Outline* to be of a much simpler nature. This paper chooses to not assess the quality of these images, but rather to view the images within the specific contexts from which they were created. In doing so, the images are not evaluated on what they are not, but rather seen as they were intended. Interestingly, this difference in detail allows the historians an interesting vantage point, as one can clearly see which aspects of the anatomical figure the Jesuits were hoping to highlight. In doing so, we can see, through a visual medium, what specific medical knowledge was to be disseminated to the Chinese. From here the historian may elude to what medical knowledge was privileged by the Jesuits, which is a detail often missing from histories of the Jesuit medical mission.

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[64] Despeux 2006, 650.

[65] Oldfield 2014, 56.

The aforementioned difference in detail amongst the images in *Outline* with that of *Fabrica* highlights what aspects of the skeletal body the Jesuits hoped to display to the literati. Only very specific portions of the illustrations in *Outline* have any discernible detail, whereas a large majority of the image seem only to evoke the general *Outline* of a body. To then compare this stark contrast in detail to the images in *Fabrica* allow the historian to see what parts of the skeletal body were privileged in specific images. It is perhaps easier to comprehend this difference through the analysis of an actual image, which this section will do with Image 3 and 4[66], which are from *Fabrica* and *Outline* respectively. It is important to note, however, that the simplifications made between the images in *Fabrica* and *Outline* do not reflect Vesalius's intentions in the images, but rather the intentions of Schreck and the Jesuits. Image 3 is a woodblock print taken from *Fabrica* portraying a detailed skeletal image of a figure standing straight in the Italian countryside. The image, like most of Vesalius' woodblock prints, is extraordinarily detailed where each part of the human anatomy is drawn to equally clear/representative detail. As a text that hoped to produce detailed and anatomically accurate images of the body, this level of detail is expected, as it was the portrayal of the entirety of the human body that Vesalius was hoping for[67]. The same however does not apply for *Outline*. Here it is important to consider the intellectual contexts from which the texts were created. *Fabrica* was a seminal medical text that was part of Vesalius's desire to elevate the role of dissection from its subordinate role, a role that was often the lowest paid academic profession, into an integral part of a physician's job. To further this, through the championing of visual images, Vesalius altered the expectations of what an

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[66] Terentius, 1643.

[67] Smith 2006, 85.

Image 4: Skeletal Image from Outline - 1643

anatomy book could and should look like[68]. In short, *Fabrica* was a text that revolutionised medical thinking. In order to revolutionise a knowledge system, however, there needs to be an existing understanding of such knowledge. Without the longstanding medical traditions of viewing the skeletal body as being a part of medicine, not only would Vesalius have been unable to create such a text, but it would have never resonated with his audience. Similarly, *Outline* was created as an introductory text to western theories of the body and thus could not, and arguably should not have, presented theories of the body in such detail. Rather the Jesuits had to choose what the focus of each image would have to be. In Image 4, is it clear

[68] Smith 2006, 85.

that the shoulders, arms, hips and legs are the primary focus of the image, where details regarding the ribs, neck, hands and toes are limited. One may wonder if the shoulders, hips and legs are the focus of the image, why the image wouldn't simply portray just those bones? The images were not just to portray specific knowledge of certain bones, but also to illustrate how the body works in its entirety, not just in an artificial vacuum portraying certain parts of the body. Thus, the purpose of Image 4 is two-fold: the first to illustrate knowledge regarding the aforementioned body parts and the second to situate such knowledge within the entirety of the body. This is a pattern that can be observed amongst all of the skeletal images present within *Outline.*

The history of skeletal imagery in China is a field still very much in its infancy, and as such, there is limited knowledge regarding skeletal medical imagery in China. To the best of this paper's knowledge and research, *Outline* is the first example of a text in China that portrays the skeletal body as one that is alive[69]. As aforementioned, this is a tradition taken straight from Europe, where medical representations of the body always portrayed the living body. The simplicity of the images within *Outline* has been a central point in this paper, yet a detail deliberately included by Schreck in the skeletal imagery is the interactions the skeletons have with everyday tools and objects. In Image 3, Vesalius's skeleton is holding a shovel and in Image 4 the skeletal figure is holding a long stick. None of the detail remains on the shovel, but the important thing is that the skeleton is interacting with this object. One may argue this was simply a necessity in order to justify the pose of the skeleton, however, it is not unusual for skeletal images to be placed in a variety of poses in order to portray certain

[69] Farringdon 2008, 60.

parts of the body without having the cadaver interact with other objects[70]. Another argument may be that Schreck had absent-mindedly copied the image without much thought. While this may hold merit there is some detailing within the image that points to the contrary. The first, and perhaps most noticeable, is that Schreck's skeleton has a human face, a face that does not appear in *Fabrica*. As mentioned in the above section, the skeletal face in Image 3 has an almost exasperated expression, but it remains distinctly skeletal. The face in *Outline* does little to connote any emotion but remains distinctly human. Upon first glance, the face in *Outline* draws similarity to Ming dynasty physiognomy images, especially in the detailing of the eyebrows and the eyes. Yet, considering the lack of evidence surrounding the inclusion of the face, this remains unconfirmed. The inclusion of the face and hair in Image 4, however, seems to draw directly from *Fabrica*, where many of Vesalius's images included skin, hair and muscles on parts of skeletal diagrams. Interestingly enough, Image 3 does not contain any of this additional skin/hair detailing. Rather, the inclusion of hair and the human face was a decision made by Schreck, or Bi Gonghchen, the editor. Such detailing compels the writer to claim that it was out of a desire to continue the tradition of portraying the skeletal body as being alive. If so, *Outline* then marks the introduction of two distinctive ideas; the first is the incorporation of skeletal imagery into medicine in China and the second, the portrayal of the living body in skeletal imagery in Ming China.

2.3: Textual Tradition: The relationship between text and image in *Outline*

The imagery within *Outline* marks the distinctive introduction of European visual traditions into Chinese medicine. As a text formulated by European priests, based on the seminal European text on anatomy, it seems evident that European scientific and artistic

[70] Smith 2006, 86.

traditions deeply informed the content of the text. Additionally, the text was created in order to 'educate' Chinese intellectuals on European anatomy. As such, this section explores how *Outline* adheres to and differs from Ming textual traditions. Through an exploration of *Tu* and *Hua*, or image and painting, and the relationship between text and image, this section hopes to explore how *Outline* functioned within Ming textual traditions.

Tu or image throughout Chinese history functioned as a distinctive visual category. *Tu* was understood as a specialist term denoting graphic images that encoded technical, skilled or specialist knowledge[71]. In contrast, *Hua* or paintings were the creations of elite, or literati, artists that often portrayed landscapes in an abstract style. At first glance, it may appear that *Tu* was the work of science and *Hua* was the work of art, but upon closer inspection, the categories of *Tu* and *Hua* are not as discrete as one may presume. Francesca Bray proposes that it is helpful to view *Tu* as a part of 'visual expression in knowledge production' and as contributing to 'the aesthetics and rhetoric of explanation and persuasion'[72]. Not only does such a position eliminate 'artificial boundaries between science and non-science' but also between that of the technological and technical, which as Bray asserts is an 'indispensable prerequisite for any serious study of science as culture'[73]. Thinking in terms of visual cultures reconciles art and science as another method of knowledge production. This sentiment is shared by Craig Clunas in 'Pictures and Visuality in Early Ming China', where he claims that 'drawing hard lines between modern visual categories often obscures more than it reveals'[74].

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[71] Lo 2018, 25.

[72] ibid.

[73] Bray 2007 521.

[74] Clunas 2006, 6.

As such the aforementioned approach of treating artistic and scientific visualisations of nature as an intricate web was not uncommon in China. Rather, there are many similarities to European and Chinese visualisations of nature. While the subject, i.e skeletons, may have been unfamiliar in Chinese medical technical imagery, the 'complex and diverse intellectual and artistic context' from which *Outline* and *Fabrica* were born, remains distinctly similar to the relation between *Tu* and *Hua*.

Tu must also be seen as an intrinsic part of the dissemination of knowledge outside of the upper and literate classes. Lucille Chia argues that the quality of certain *Tu* was determined by how 'simple and schematic certain *Tu* were', a quality that was indispensable in the portrayal of technical knowledge to the illiterate[75]. That being said, there was no hard line between where 'technical' or 'functional illustration' ends and decorative illustration begins, in that an image may fall within both categories depending on context[76]. The art historian Wu Hung contrasts *Tu* and *Hua* as 'two fundamental semiotic systems' where both aimed to represent the universe but neither aimed at 'mimesis'[77]. From such an understanding *Tu* and *Hua* are complementary iconographies that both reveal different characteristics of the natural world. As two semiotic systems that represented Nature, one may argue that the difference between *Tu* and *Hua*, was not that one is situated as science and the other as art, or that one was representational and the other purely aesthetic, but the socio-economic classes in which each circulated. That being said, the imagery within *Outline* seems to broadly fit within the category of *Tu*, as the skeletal images were encoding technical information

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[75] Chia 2002, 250.

[76] ibid.

[77] Wu 2012, 5.

regarding the human anatomy. Yet, as noted above, the Jesuits were mainly interested in the dissemination of European knowledge amongst the literati, or upper classes. Considering the existing beliefs regarding *Tu's* position as being subordinate to *Hua* and to the text, this detail points to a dependence on European textual traditions within *Outline*.

Works containing *Tu* often had them as an accompaniment to the text, where text was seen as the primary and more effective medium for information transmission[78]. Scholars often point to the structure of the bencao, or pharmacopoeias, as evidence for this, where the text is almost always before the *Tu*[79]. Francesca Bray in her exploration of T*u* in farming manuals, notes that 'when it came to practical, technical matters like farming, it seems that those educated Chinese who recorded changes of improvement [to existing illustrations] were satisfied with the power of words to convey material processes, and felt no need or desire to resort to graphics.'[80]Rarely in bencao literature are there any textual references to the *Tu*, rather it is presumed that the presence of the image alone suffices in satisfying its function. What can be extracted from this understanding is that in no way does the information presented in the text rely on the image. The text, from a knowledge transmission standpoint in China, exists as a standalone. *Outline*, however, petitions for the exact opposite, where the images seem to be placed in a superior position to that of the text. To begin, unlike in Chinese texts where text always superseded images, the images within *Outline* all supersede the text. The images within *Outline* are labelled with the Ten Heavenly Stems which are used as a key of sorts that connect with the text in the following pages. The Ten Heavenly Stems are a

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[78] Bussotti 2007, 461.

[79] Bian 2020, 6.

[80] Bray 2007, 525.

Chinese system of ordinals that are used to name the ten days of the week. More commonly, the Ten Heavenly Stems are often used in a labelling system much like the alphabet[81]. The information presented in the text does not offer any new knowledge to the reader, rather the text is largely relational. The text indicates which parts of the body connect in relation to one another, information that is portrayed visually in the images that precede[82]. The text is also very simple for the most part, where it is either that the bones are simply named, or described in relation to nearby bones. It is rare to see in the descriptions a detailing of function, rather the most detailed descriptions only go as for as highlighting the importance of certain bones. As an introductory text that essentially places skeletons within the Chinese medical corpus, it seems logical that the information presented in such a text is simplistic and introductory. Yet, in comparison with technical books containing *Tu*, *Outline* is a complete departure from existing Ming textual traditions. It is unclear whether this departure was part of a desire to champion a new relationship between text and *Tu*, or simply out of a desire to authentically recreate European texts. Regardless, this text represents a distinct shift in the relationship between *Tu* and text in technical books.

2.4: Legacy of *Outline*

Outline is a text that sits at the intersection of a multitude of intellectual traditions, traditions that inform and expand our understanding of the medical mission as a whole. In doing so, this paper has re-situated the medical mission in a longstanding narrative of visualising nature, rather than simply as a portion of the China mission that did little by way

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[81] Berthong 2003, 373.

[82] Golas 2015, 91.

of garnering patronage. Yet, while such discoveries indicate why the medical mission is worthy of study, it does not address the central 'problem' with the mission: the Ming medical mission is often believed to have had little influence in China. While in the field of medicine, this conclusion may ring true, once we remove discrete categories of knowledge this conclusion changes. In the spirit of treating visual cultures as an intricate web of visualising nature, this section highlights two examples that took clear influence from *Outline* and European visual cultures: Luo Ping's *Guiqu Tu* and the Qing dynasty autopsy guide *Xiyuan lu xiangyi.*

The painting *Guiqu Tu*, or Ghost Amusement Scroll, was clearly influenced by the skeletal imagery in *Outline* and *Fabrica*. This painting was produced by the famous Qing dynasty painter Luo Ping as seen in Image 5[83]. The scroll is a collection of 8 paintings that portray ghosts in different situations. The painting, firmly situated within the Yangzhou eccentric art scene, however, borrows from a Western source[84]. The two skeletons present in the painting are taken and modelled after the skeletons in Vesalius's *Fabrica*. Not only does the painting borrow from a western anatomical text, it actively rejects past artistic and scientific illustrations of the skeleton. Luo Ping's painting is far more anatomically correct than skeletal imagery of the past[85]. The structure and proportions of the skeletons much more match that of Vesalius than of past Chinese art pieces. The title of the painting is also incredibly illuminating. In that, the scroll is entitled *Guiqu Tu* and not *Guiqu Hua*, and thus the title firmly places the scroll within the world of *Tu*, or image. Luo Ping was thought to

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[83] Karlsson 2009.

[84] Hay, 1999, 205.

[85] Karlsson 2009, 5.

Image 5: Eighth Image in Guiqu Tu - 1766

have a unique ability due to his blue-jade-coloured eyes: the ability to see ghosts[86]. As such it can be argued that *Guiqu tu* is a vehicle for Luo Ping's specialist knowledge: that of the existence of ghosts. Here again, we see not only how flexible the categories of *Tu* and *Hua* are, but also the influence of *Outlin*e on visual works.

The role of vision, or visuality, is an important part of both *Guiqu tu* and *Outline*. The images in *Outline* are clearly derivative of Vesalius's desire to privilege the vision of the physician. Prior to the release of *Fabrica*, the act of dissection in Europe functioned very differently from how we now understand it. The physician would be atop a lectern reading from an ancient anatomical text dictating the work of the surgeon-barber who would be

[86] Yeewan 2009, 66

physically performing the dissection[87]. Vesalius championed the reconciliation of physician and surgeon-barber into one, thus resulting in what he believed to be the "true physician"[88]. It is the observations, or visuality, of this "true physician" that is exemplified within the medical illustrations of *Fabrica* and *Outline*. This idea of visualising the human body is core to both *Guiqu tu* and *Fabrica.*

While *Guiqu tu* seems in many ways to adhere to the Western tradition, it remains unclear if the skeletons in the image are depicted as 'living bodies'. As part of a series titled 'Ghost Amusement School', the figures in the Image 5 seem to be depicting the ghostly body. This ghostly body is distinctly dead, yet the figures are animated like those in *Fabrica*. Here it seems as if the image is borrowing from both traditions, animating the body but firmly situating the body as one that is dead. This understanding of the eighth image has further merit considering the fact that it is also the only image of the series to contain a background landscape. In depicting the skeletons in such landscape, clearly modelled after the Italian countryside of Vesalius's images, Luo Ping is insisting on the existence of ghosts in the human world. To further this, the two skeletons present within the eighth image are not originally a part of one image within *Fabrica* and *Outline,* rather are two separate images. Farringdon makes the observation that the Italian landscapes in the back of Vesalius's images when placed next to each other create one cohesive background[89]. In re-uniting Vesalius's images into one landscape, it can be argued that Luo Ping played an integral role in the final construction of Vesalius's images into one cohesive *Tu.* Regardless of the plethora of

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[87] Nutton 2017, 12.

[88] Smith 2006, 85.

[89] Farringdon 2008, 8.

conclusions that can be drawn from *Guiqu tu*, the very existence of the image indicates that the Ming medical mission, alongside *Outline*, influenced Chinese visual culture. This influence was not a wholesale acceptance of the European method of visualising nature, as indicated by the portrayal of the dead body, but was one that had an impact on China.

Similarly, by the mid-nineteenth century, skeletal diagrams in autopsy reports had developed greatly. In 1854, the Qing dynasty judge Xu Lian published the text *Xiyuan lu*

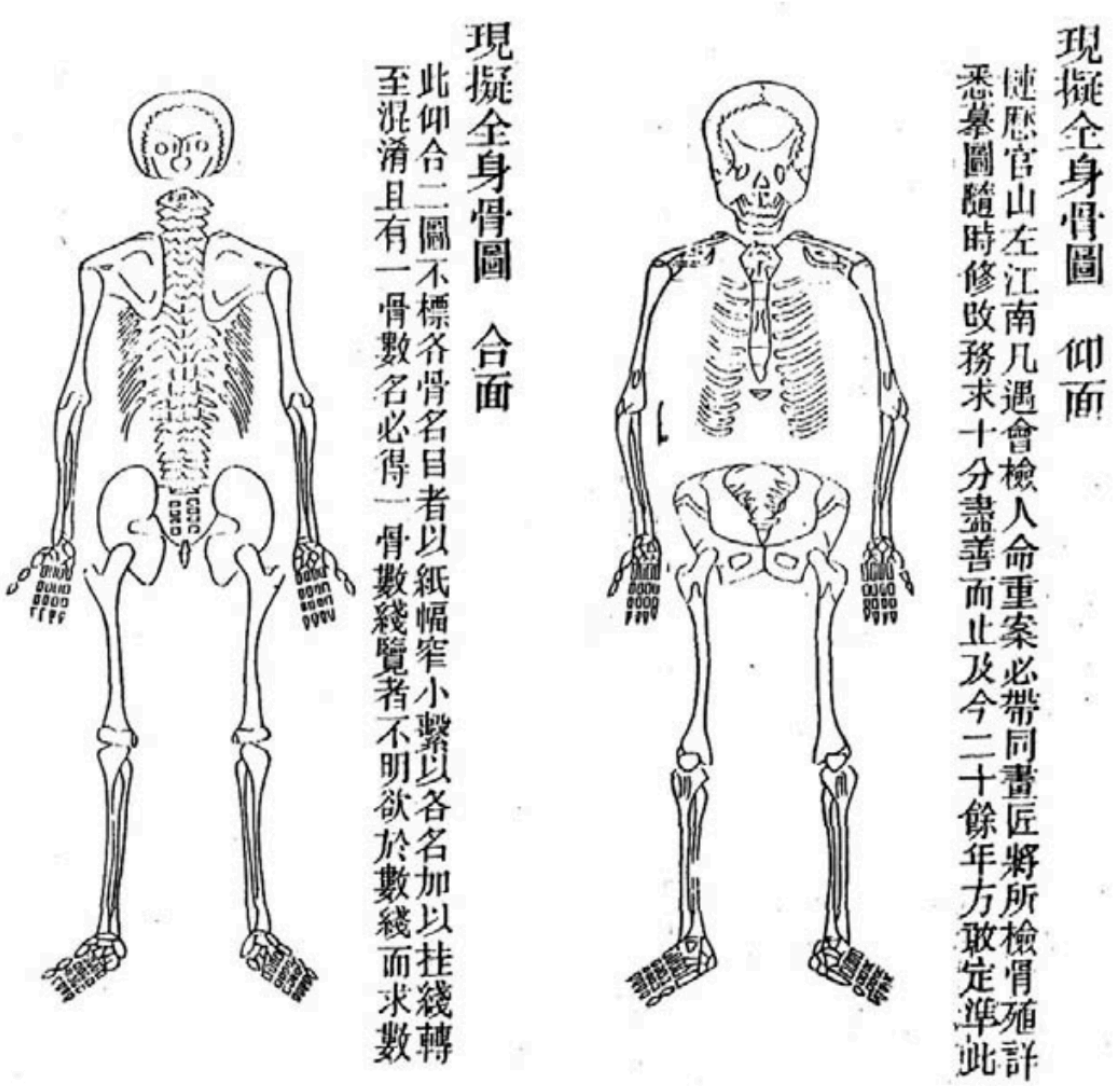

Image 6: Skeletal Diagram from *Xiyuan lu xiangyi* -1854

xiangyi, as seen in Image 6[90]. He included two detailed skeletal images, of which he described as being part of a 'modern formulation'. The bones no longer represent the vague idea of a bone, but rather have a much 'refined form' and are proportional to the body. The skeleton is no longer disconnected, rather every bone is connected to one another. Catherine Despeux also highlights how there is a 'hint of perspective in the drawing: for example, in the engraving of the front view skeleton, the pelvis is shown in perspective'[91]. The image has depth and volume, where the image as a whole is significantly closer to the actual human skeleton. It is unclear in such a text whether the skeleton being visualised is alive or dead, but the influence of European visual traditions is much evident. Despeux notes that 'the skeleton has acquired volume and has been westernised, shedding its empty and pneumatic character'[92]. Through *Xiyuan lu xiangyi* we can observe how the influence of *Outline*, and of the medical mission, was not limited to discipline of medicine nor popular art. Rather, as skeletal images were largely considered part of a legal framework, *Outline's* influence was limited to European conceptualisations of the skeleton, but rather that of the Chinese.

Conclusion:

To situate *Outline* in a much broader narrative of visualising nature is in part a process by which the Jesuit medical mission is brought out of its status of perceived failure. The history of the Jesuits is one that is largely confined according to a narrative of 'opening' China up to Catholicism. As a proselytising mission, such a historiographical approach has its merits but does to an extent limit what is considered worthy of study. Similarly, histories of

[90] Despeux 2006.

[91] ibid.

[92] ibid.

the medical mission often exist within this paradigm of ‘success and failure’, a paradigm that does arise much concern in the history of knowledge. Through the exploration of the intellectual context from which *Outline* was born, this paper has proposed to view visual expressions of knowledge as a homogenous identity. While recognising the utility of distinguishing between visual expressions of knowledge, such as *Tu* and *Hua*, especially in tandem with certain knowledge categories, such as art and science, this paper is championing a generally more flexible understanding of knowledge, and knowledge dissemination. Similarly, through an analysis of how *Outline* functioned in relation to Ming textual traditions, this paper highlighted how European approaches to visualising nature differed to that of the Chinese. Through such a methodology, this paper situates *Outline* in a much broader intellectual continuity, one that also points towards a wider visual legacy of the skeletal images within the text. Where through a close analysis of the imagery in *Outline*, the medical mission is incorporated within a wider visual history.

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