

Thesis submitted for the Degree of Doctor of Philosophy  
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“That Which Was Missing”: The Archaeology of Castration

by

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**Abstract**

Castration has a long temporal and geographical span. Its origins are unclear, but likely lie in the Ancient Near East around the time of the Secondary Products Revolution and the increase in social complexity of proto-urban societies. Due to the unique social and gender roles created by castrates’ ambiguous sexual state, human castrates were used heavily in strongly hierarchical social structures such as imperial and religious institutions, and were often close to the ruler of an imperial society. This privileged position, though often occupied by slaves, gave castrates enormous power to affect governmental decisions. This often aroused the jealousy and hatred of intact elite males, who were not afforded as open access to the ruler and virulently condemned castrates in historical documents. These attitudes were passed down to the scholars and doctors who began to study castration in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries, affecting the manner in which castration was studied. Osteometric and anthropometric examinations of castrates were carried out during this period, but the two World Wars and a shift in focus meant that castrate bodies were not studied for nearly eighty years. Recent interest in gender and sexuality in the past has revived interest in castration as a topic, but few studies of castrate remains have occurred. As large numbers of castrates are referenced in historical documents, the lack of castrate skeletons may be due to a lack of recognition of the physical effects of castration on the skeleton. The synthesis and generation of methods for more accurate identification of castrate skeletons was undertaken and the results are presented here to improve the ability to identify castrate skeletons within the archaeological record.

## Preface

This project began with the intention of examining the skeletons of known castrates in order to qualify and quantify the changes to the skeleton caused by prepubertal castration. However, it quickly became apparent that there were not enough known castrate skeletons in accessible collections, and the project had to move in new directions. It was initially decided to use animals as proxies for humans, as many zooarchaeological and zoological reports on the effects of castration within mammals closely paralleled the effects reported for humans. This also did not provide enough data, as known sex collections of mammalian species are small, and most agricultural animals are slaughtered and butchered, breaking up the skeletons. Most of the zoological skeletal collections available have already been well researched and published, and it was felt that repeating that work was not profitable. During the literature review, datasets from the early 19<sup>th</sup> and 20<sup>th</sup> centuries were discovered, giving anthropometric and osteometric data for castrates. In combination with the available zoological and modern osteological data, these data provided a large enough sample to begin the assessment of the effect of castration on the development of the male mammalian skeleton.

Most of the modern literature on castration focuses on social, musicological, or medical/psychological aspects. While performing the literature review for the thesis, it appeared that discussions in these topics were beginning to stagnate and that the physical bodies upon which theoretical frameworks were hung were beginning to disappear. It was felt that the introduction of archaeology to the study of the socio-cultural as well as the physical aspects of castration would provide new material for historians and musicologists and better the understanding and interpretation of archaeological remains. Most of the aspects of social theory are self-taught, but it seems like an area that would greatly contribute to the discussion of castrates and castration in the past. I hope that in some small way I have helped to move the discussion in another direction, perhaps calling attention to some points that had previously been missed.

I could not have finished this project without the incredible support of many people who I would like to take the opportunity to thank now. My supervisor, Dr. Rick Schulting, provided guidance, advice, and a critical eye when needed. The FORDISC database was kindly provided by Professor Richard Jantz of the University of Tennessee Knoxville, and access to and advice about the ANSUR database were given by Dr. Bruce Bradtmiller and Professor Matthew Reed. Dr. Claire Aland granted me access to the skeletons and cadavers at the Medical Training Centre at the University of Oxford, and she and Vivien Shaw provided interesting and useful anatomical discussions as well as helping to measure twelve cadavers in one day. Access to the skeleton of the Lyon castrate was granted by Dr. J. C. Neidhardt, the conservator and curator of the Testut Latarje Medical Anatomical Museum at the University of Lyon, Lyon, France. Dr. Karen Exell initially granted permission to examine Nekht-Ankh, and Dr. Campbell Price kindly arranged for me to visit the Manchester Museum in order to carry out the examination despite being only three months away from reopening the archaeology galleries. Dr. Beatrix Patzak of the Pathological Anatomical Museum in Vienna allowed me to examine their records for traces of the Tandler and Grosz castrate skeleton, which disappeared sometime after its publication. Dr. Arlene Shaner of the Library of the New York Academy of Medicine arranged for me to visit and view the 52 volume hand-written manuscript by E. D. Cummings, which was one

of the most comprehensive surveys of the history of castration at its time, and sadly remains unpublished. Professor Dong Hoon Shin of the Seoul National University College of Medicine informed me of the presence of castrate cemeteries in Korea and introduced me to many wonderful new colleagues. Dr. Martha Cannon of the Oxford Cat Clinic graciously allowed me to analyse radiographs from the clinic to determine if changes to the skeletons of cats from prepubertal castration could be traced. Dr. Roberto Portela Miguez, mammal section curator at the Museum of Natural History, London, very kindly granted access to the sheep and Chillingham cattle skeletons curated at the museum. Unfortunately, neither the cat clinic nor the museum data proved very useful and had to be discarded, but the gesture was deeply appreciated. I also received a great deal of support from an amazing team of editors who helped put this document into a readable form. Any mistakes within the text are my own and not a reflection on their abilities.

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## Definitions

**Acetabulum – n.,** The cup-shaped joint cavity on the outer side of the hip bone into which the head of the femur fits.

**Capon – n., 1. a.** A castrated cock.

2. *transf.* A eunuch.

**Castrate – n.,** A castrated man, a eunuch. *arch.* (= French *castrat*, Italian *castrato*.)

**v., 1. a. trans.** To remove the testicles of; to geld, emasculate.

3. **a. transf. and fig.** To deprive of vigour, force, or vitality; to mortify.

**b.** To mutilate, ‘cut down’. *Obs.*

**Castrato – n.,** A male singer castrated in boyhood so as to retain a soprano or alto voice.

**Cranium – n., 1. Anat., etc. a. strictly.** Those bones which enclose the brain (as distinguished from those of the face and jaws); the brain-case, brain-pan, skull.

**Eunuch – n., a. (a)** A castrated person of the male sex; also, such a person employed as a harem attendant, or in Oriental courts and under the Roman emperors, charged with important affairs of state. Also *fig.* (freq. preceded by a descriptive *adj.*).

(b) In the LXX. and the Vulgate the Greek *εὐνοῦχος*, Latin *eunūchus*, following the corresponding Hebrew *sārīs*, sometimes designate palace officials who were not ‘eunuchs’, *e.g.* Potiphar ( *Gen.* xxxix. 1, where A.V. has ‘officer’). Hence the English word has occas. been similarly used in discussions of passages in which the meaning of the word is disputed.

**b.** A male singer, castrated in boyhood, so as to retain an alto or soprano voice. Cf. *CASTRATO n.*

**c.** Used as *adj.*: Emasculated. *Rare.*

**False Pelvis - n.,** The large pelvic cavity bounded by the outer flanged portions of the ilia and the pubic crests; the part of the pelvis above the pelvic brim.

**Gelding – n. 1.** A gelded person, a eunuch. *Obs.*

2. A gelded or castrated animal, esp. a horse.

**Greater Sciatic Notch – n.,** A relatively large notch just above the ischial spine that is converted into the greater sciatic foramen by the sacrospinous ligament (“greater sciatic notch,” 2011)

**Ilium - n.**, The anterior or superior bone of the pelvis, the hip-bone; it occurs in most vertebrates above fishes, and has various forms and relative positions; usually (as in man) it articulates with the sacrum, and anchyloses with the ischium and pubis, forming together with these latter the *os innominatum*.

**Ischium – n.**, The lowest of the three parts of the *os innominatum*, the bone on which the body rests when sitting.

**Kyphosis – n.**, Exaggerated outward curvature of the thoracic region of the spinal column resulting in a rounded upper back. (“kyphosis,” 2011)

**Obturator Foramen – n.**, A large opening in the hip bone, between the ischium and pubis.

**Ox – n., 1. a.** A large cloven-hoofed, often horned ruminant mammal, *Bos taurus* (family Bovidae), derived from the extinct Eurasian aurochs and long domesticated for its milk, meat, and hide; a cow, a bull; (in *pl.*) cattle. Freq. *spec.*: a castrated adult male of this animal, esp. as used as a draught animal; a bullock.

**Pelvis – n.**, The basin-shaped cavity formed (in most vertebrates) by the right and left innominate or hip bones, consisting of the ilium, ischium, and pubis on each side, together with the sacrum and coccyx; these bones collectively constitute the pelvic girdle which supports the hind limbs.

**Prognathic – adj.**, Having projecting or forward-pointing jaws or lower jaw, prognathous; (of jaws or a jaw) protruding.

**Pubis – n.**, The anterior and inferior bone of each side of the pelvis, consisting of a body (which is united to the corresponding part of the opposite side at the symphysis pubis) and two rami, inferior and superior, which form part of the obturator foramen and acetabulum respectively. Also *pubis bone*, †*bone pubis*.

**Sacrum – n.**, A composite, symmetrical, triangular bone which articulates laterally with the ilia, forming the dorsal wall of the pelvis and resulting from the ankylosis of two or more vertebrae between the lumbar and coccygeal regions of the spinal column.

**Sella turcica – n.**, A saddle-shaped portion of the sphenoid, more fully *sella equina*, *sella sphenoidalis* or *sella turcica*.

**Skull – n., 1. a.** The bony case or frame containing or enclosing the brain of man or other vertebrate animals; the cranium; also, the whole bony framework or skeleton of the head.

**Subpubic Angle – n.**, The angle that is formed just below the pubic symphysis by the meeting of the inferior ramus of the pubis on one side with the corresponding part on the other side and that is usually less than 90° in the male and usually more than 90° in the female. (“subpubic angle,” 2011)

**Superciliary Ridge – n.**, A prominence of the frontal bone above the eye caused by the projection of the frontal sinuses—called also *browridge*, *supraorbital ridge* (“superciliary ridge,” 2011)

**Steer – n., 1.a.** A young ox, esp. one which has been castrated.

**True Pelvis – n.**, The smaller pelvic cavity bounded by the pelvic brim; the part of the pelvis below the pelvic brim.

**Wether – n., 1. a.** A male sheep, a ram; esp. a castrated ram. See also BELL-WETHER *n.*

**b.** *transf.* of a man; *spec.* a eunuch.

Unless otherwise indicated, definitions come from the Oxford English Dictionary (***Oxford English Dictionary Online, 2012***)

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For Mom, Dad, Grandma, and Grandpa for always encouraging me to do my best and  
achieve what I want in life and for standing by me while I do.

## Chapter 1: Introduction

### 1.1 Introduction

Human and animal castration are known to have existed for millennia and was widespread both geographically and temporally, though their exact origins are unknown.<sup>1</sup> Considering the extent of this practice, very little is known about this subject archaeologically. Literature published in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries described changes to the human male skeleton that were especially noticeable in the case of prepubertal castrates. However, as castrate skeletons have only been discovered in large numbers in China,<sup>2</sup> where they are recovered from castrate cemeteries but not published, it seems likely that modern archaeologists and osteoarchaeologists in the rest of the world either do not know how to identify castrate skeletons or are not aware that they may find castrate skeletons within the skeletal populations they examine.

The purpose of this thesis is to introduce basic information about the history and use of castration and castrates and to encourage their archaeological study. The working hypothesis is that there are definite, distinctive changes to the male skeleton caused by prepubertal castration, that these changes can be described and quantified, and that once these changes are enumerated, they can be used to detect castrates within wider skeletal populations. This thesis will seek to more clearly define the range of changes to the human male skeleton that are caused by castration and to recommend the best methods by which to detect castrates among skeletal remains. Furthermore, the previously published anthropometric work undertaken on castrates in the early 20th century will be transformed into osteometric data in order to provide additional data for statistical analyses of castrate remains. As castrates held important roles in many of the governments and religions of the world, a better understanding of castrates and castration will help to understand past societies and how they influenced the modern world. Archaeology can contribute much to the study of castration, and a better understanding of this topic will benefit history, music, archaeology, and medicine, amongst other fields.

### 1.2 Terminology

*Eunuch*, a term commonly applied to castrates, did not originally refer only to castrated males. The original Greek term *εὐνοῦχος* (*εὐνή* bed + *-οχ-* ablaut-stem of *ἔχειν* -

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<sup>1</sup> (Davis, 2000; Scholz, 2001; Tougher, 2008)

<sup>2</sup> (Eng et al., 2010; Jay, 1993)

to keep,<sup>3</sup> i.e., keeper of the bed) came to modern Western languages from the Byzantine Empire, via the Persians and the Greeks.<sup>4</sup> There is a great deal of debate as to whether the term specifically means ‘castrated male’ from its first appearance. It appears that some ancient Greek writers may have mistaken an Assyrian or Persian title referring to nobles as meaning castrated male.<sup>5</sup> The term eunuch continued to be used through the Roman Empire and into the Byzantine period, where it took on its modern meaning. In 4<sup>th</sup> century A.D. Byzantium, *eunuch* referred to men with deformed genitals or undescended testicles, men with no natural sexual desire, those who abstained from sexual relations for religious reasons, and castrated individuals.<sup>6</sup> Until the 9<sup>th</sup> century A.D., the term referred to non-reproductive individuals,<sup>7</sup> and by the 12<sup>th</sup> century A.D., castrates were distinguished by specific terminology referring to their mutilation.<sup>8</sup> *Castrati*, the term applied to Western European singers of the early modern period, is derived from the Latin *castrāre* (“to castrate”), and while sometimes used to refer to castrated individuals as a whole, has mostly only been used to refer to the Western European singers.<sup>9</sup> For the purposes of this paper, the term castrate (“a castrated man”)<sup>10</sup> will be applied to those individuals who have had either the testicles or both the testicles and penis removed or otherwise destroyed, unless the term eunuch or castrati is more appropriate.

### 1.3 Reason for Study

The physical effects of castration on the developing male skeleton have not been studied closely for nearly eighty years.<sup>11</sup> Most previous studies of castrate skeletons focused more on how these changes related to hormones or the soft tissues and how an understanding of these changes could be used to combat the effects of conditions that mimic castration.<sup>12</sup> No dry bone study of castrates has been performed for over eighty

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<sup>3</sup> (“eunuch, n.,” 2012)

<sup>4</sup> (Briant, 2002: 276; Herodotus, 2009: 112, 342 (III.92, VIII.105); Hornblower, 2003; Tougher, 2008: 8; Xenophon, 2010 (Cyr. VII.5.59))

<sup>5</sup> (Briant, 2002; Tougher, 2008)

<sup>6</sup> (Hopkins, 1978; Ringrose, 1999, 1994; Scholz, 2001)

<sup>7</sup> (Ringrose, 1999, 1994)

<sup>8</sup> (Ringrose, 1999)

<sup>9</sup> (“castrato, n.,” 2012; Kuefler, 1996)

<sup>10</sup> (“castrate, adj. and n.,” 2012)

<sup>11</sup> (Pittard, 1934; Wagenseil, 1933a, 1927)

<sup>12</sup> (Koch, 1921; Kosowicz and Rzymiski, 1975; Pittard, 1934; Tandler and Grosz, 1910a, 1909; Wagenseil, 1933a, 1927)

years,<sup>13</sup> and there have since been a number of advancements in the fields of osteology and radiology which may shed new light on the effects of castration as they pertain to the developing male skeleton. We now have a more nuanced understanding of how hormones affect bone growth and physical development, which helps us to understand why one skeletal change may occur and not another. This will be one of the first studies of castrates from an archaeological perspective and will attempt to demonstrate that there are many interesting historically and archaeologically relevant areas of study related to castration, increasing our knowledge of historical persons and perhaps improving our understanding of and response to modern medical conditions.

The physicality of castrates has yet to be seriously addressed by modern scholars. While great headway has been made into the social, gender, historical, and musical lives of castrates, they still seem to be a mostly mental construct of scholars, existing in an unreachable past. The discovery and study of castrate remains would allow these previous studies to be tied to real, physical evidence which would either support or contradict many of the ‘myths’ that have surrounded castrates throughout history. For example, the idea that the majority of individuals were castrated in order to obtain a better life for themselves or their families could be tested by examining the stable isotopes of both bones and teeth to assess whether diet improved from childhood to adulthood.

I first became interested in the study of castrate bodies during my search for a topic for my MSc dissertation. I began to investigate castration after recalling the irregular growth of a character in Anne Rice’s castrati-focused novel, *Cry to Heaven*.<sup>14</sup> My MSc dissertation was a literature review focused on the effects of castration on the development of the human male skeleton. This thesis will include some of the views of the MSc but has expanded the research into the actual study of castrate remains, an updated and more in-depth examination of the history and social issues surrounding both human and animal castration, and a statistical investigation of the data available on castrate bodies. Emphasis has also been put on bringing the study of castration into archaeology in order to more rigorously investigate historical data about castration.

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<sup>13</sup> (Becker, 1899; Lortet, 1896; Tandler and Grosz, 1909)

<sup>14</sup> (Rice, 1982)

## 1.4 Aims and Objectives

Castration causes definite changes to the developing male skeleton, in humans as well as in other mammalian species. While these changes have typically been studied from a holistic medical point of view,<sup>15</sup> normally for use in endocrinological research, these changes deserve to be given attention from an osteoarchaeological standpoint. As most archaeological human remains survive in skeletonized form, it is necessary to understand and pinpoint the changes to the skeleton caused by castration in order to discover the remains of castrates from archaeological contexts.

In order to gain a greater understanding of castrates in the past, this thesis will seek to answer these questions:

- ◆ What skeletal changes does castration cause?
- ◆ Can these changes be quantified in order to create a practical and reliable method of detecting castrates in osteological populations?
- ◆ How and to what extent are human and animal castration related historically?
- ◆ Can we currently judge from what area or areas castration originated?

Castration has had widespread and far-reaching effects upon the modern world. The purpose of this thesis is to examine the social and skeletal effects of prepubertal castration, and to open a new area of study into this important topic. Building upon the research undertaken in my MSc dissertation, this thesis will examine the physical effects of castration before puberty through the macroscopic examination of human and animal castrate skeletal remains, the analysis of previously published human and animal castrate and non-castrate skeletal and anthropometric data, and the statistical analysis of this data. The literature relating to the social, domestic, religious, economic, and daily lives of castrates past and present will be examined to gain insight into the social interaction and duties of past castrates and to understand what effect castrates may have had on their surrounding society. Funerary evidence will be examined, where possible, to determine if different methods of burial were accorded to castrates than the rest of the population. The skeletal, literary, and funerary evidence will be combined and compared with historical sources to gain an understanding of the possible treatment of castrates in life and death.

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<sup>15</sup> (Brett et al., 2007; Jenkins, 2001; Wilson and Roehrborn, 1999)

## 1.5 Format of the Thesis

Chapter Two of the thesis will evaluate the previously published literature on castration, examining its known history, its possible connections to animal domestication, and the theories of its origin. The chapter will also discuss who was studying castration where, at what times, and what motivated their study in order to better understand the course which castration studies have followed over time.

Chapter Three will detail the materials used in the thesis, including their applicability to the study, their current location, and in what part of the study they were utilized. It will then describe the methodology of the thesis, including which theoretical frameworks were used and why, which osteological standards were used, which anthropometric measurements were used, and the justification for comparing both osteological and anthropometric historical data to modern data. This chapter will also contain the descriptions of the graphs used to visualize the data, the statistical tests used to quantify the data, and the justification for using those tests.

Chapter Four will involve an examination of the social effects of castration in humans. The majority of scholarly work on castrates in the last few decades has centred around the perceived differences in gender and sex effected by castration, and in a limited manner, how this would then have affected the social roles and lives of castrates. The literature will be examined from an archaeological point of view in order to determine what information is most useful to archaeologists and how archaeology can further contribute to the discussion in these areas.

Chapter Five will discuss the current knowledge of the physical effects of castration on the male skeleton in both humans and animals. This will involve the examination of the previously published literature containing both anecdotal evidence and actual studies of castrated individuals. This will be combined into an overarching picture of what the current idea of what the characteristics of a castrate skeleton are, prior to presenting the results of this thesis.

Chapter Six will present the results of the work undertaken during the course of the thesis. This will include the macroscopic observation of both human and animal skeletons, and the examination of both human and animal anthropometric data. It will also present the results from the statistical tests of the osteological and anthropometric studies, showing those measurements that are most statistically significant for detecting castrates skeletally.

The social and palaeopathological sides of the thesis are brought together in Chapter Seven, combining their evidence for an overall picture of the current state of knowledge about castration, its archaeological possibilities, and where archaeology can begin to contribute to the study of castration in the human past. The results of the second, fourth, and sixth chapters will be discussed and their significance combined into a working theory for the archaeology of castration, allowing tentative statements of the treatment of castrates in life and death to be made. The last section of the chapter will wrap up the discussion and present the final overriding theory of the archaeology of castration and the best current method of detecting castrate remains in osteological populations.

## 1.6 Limitations

One of the severe limitations of this project is the current lack of available identified castrate skeletal remains. There are few castrate skeletons recorded in collections across Europe, and of those recorded, only two are still available for study. The funerary evidence for castrates in the Near East and Central Asia is sparse at best. China, Vietnam, and Korea had large cemeteries designated specifically for eunuchs,<sup>16</sup> but accessing this material was not possible due to a number of difficulties including authorization and timing of excavation, and delay proved beyond the time constraints of the thesis. Modern medical studies of conditions that mimic castration have concentrated on a holistic approach to the problem or focus on the hormones and soft-tissue changes, as they are the most noticeable and have the largest consequence for long-term patient health and psychology.<sup>17</sup> When medical attention is turned to skeletal development, it tends to focus on increasing bone mass and ‘normalizing’ growth rather than cataloguing the changes to the skeleton that occur as a result of a lack of hormones.<sup>18</sup>

Efforts are being made to gain access to more and larger collections of known castrate remains, but it is a slow process. Few cultures enjoy discussing castration and their part in its continuation. Additionally, there are religious restraints on the study of the dead in many of the countries where castrate remains would mostly likely be found, as well as on-going conflicts in several of those same countries. A method of detecting

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<sup>16</sup> (Jay, 1993)

<sup>17</sup> (Callewaert et al., 2010; Kelch et al., 1972; Kosowicz and Rzymiski, 1975; Meyer-Bahlburg, 2009; Plymate, 2003)

<sup>18</sup> (Daltaban et al., 2006; Yassin and Haffejee, 2007)

castrate remains within archaeological populations could facilitate their identification within known cemetery populations, leading to greater knowledge about castrates.

### 1.7 Brief History of Research

There has been no real work on the skeletal, or even physical, aspects of castration for nearly eighty years. In the mid to late 1800s and again in the early 1900s, there was a strong German-Austrian interest in castration,<sup>19</sup> and in the late 1800s to early 1900s there were a number of French publications, mainly originating from Lyon.<sup>20</sup> The majority of these studies focused on the physical aspects of castration as they related to the relevant medical interests of the time. There was initially a desire to describe, understand, and quantify the effects of physical castration on the body (with a mixture of studies on the soft tissues and the skeleton). Interest then turned to understanding how castration related to those conditions in which people were not physically castrated, but displayed similar physical characteristics to castrates, such as in cryptorchidism and primary hypogonadism. The mixture of medical studies on the soft and hard tissues of castrates continued until the inter-war period, growing to include the first studies of hormones, which contributed to the birth of endocrinology. The last serious study involving the skeletons of castrates was Pittard's anthropological examination of a group of Skoptsy (Russian-Romanian religious castrates) in 1934.<sup>21</sup>

Modern studies of castration have tended to focus on the social and gender roles of castrates,<sup>22</sup> the musical aspects of the castrati singers,<sup>23</sup> or on the lives and histories of specific castrates or groups of castrates.<sup>24</sup> This is partly because they are the most accessible, due to the large number of historic texts written on the subject of castration, and partly due to the influence of third wave feminism and gender studies, which have begun to address minority masculinities and other genders outside the Western bimodal

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<sup>19</sup> (Alterthum, 1899; Becker, 1899, 1898; Bilharz, 1860; Ecker, 1865; Lüthje, 1902; Pelikan, 1876; Prochownick, 1886; Rieger, 1900; Schulz and Falk, 1899; Sellheim, 1899; Tandler and Grosz, 1910a, 1910b, 1909; Wagenseil, 1933a, 1927)

<sup>20</sup> (Bergmann, 1883; Félix, 1883; Fichera, 1905; Launois and Roy, 1902; Lemos, 1911; Matignon, 1896a, 1896b; Millant, 1902; Rouyer, 1859; Tournès, 1869a)

<sup>21</sup> (Pittard, 1934)

<sup>22</sup> (Aucoin and Wassersug, 2006; Freitas, 2003; Harlow, 2004; James, 1997; Jay, 1993; Krimmer, 2005; Kuefler, 2001; Marmon, 1995; Mitamura, 1970; Ringrose, 2003; Scholz, 2001; Tougher, 2008, 2002; Tsai, 1996)

<sup>23</sup> (DeMarco, 2002; Gerbino, 2004; Jenkins, 1998; Milner, 1973; Moran, 2002; Olson, 2004; Rosselli, 1988)

<sup>24</sup> (Anderson, 1990; Ayalon, 1999, 1988; Clapton, 2004; El-Cheikh, 2005; Fauber, 1990; Hathaway, 2005; Jaffrey, 1996; Marmon, 1995; Mitamura, 1970; Moran, 2002; Nanda, 1999, 1994; Scholz, 2001)

model of gender.<sup>25</sup> While they are important to our understanding of why and how castrates were treated, these modern studies tend to either minimize the physical effects of castration or quote the same one or two sources when referring to the changes to the skeleton caused by castration. However, modern physical investigations of castration have mainly focused on the medical relevance to hormonal or cancer studies.<sup>26</sup> While these sources are broadly correct, the specific effects upon the skeleton are very important, especially if one wishes to study castrates archaeologically. As most archaeological human remains are in skeletonized form, one must be able to differentiate the skeletons of castrates from those of their uncastrated contemporaries. Both social and medical studies provide information, giving us interesting and often quite nuanced glimpses into the lives of castrates, but they have provided most of the information that can be currently gained by these types of studies. Additionally, few previous studies have addressed the actual physicality of castrates and how their daily lives might have affected their health, diet, and long-term general welfare. An archaeological examination of castrates would provide new information for historical and gender studies and a novel perspective which may allow for more and different approaches to the topic. An in-depth, modern osteological examination of the skeletons of castrates might provide new insights into the processes and progress of development and decay of the skeletons of androgen-impaired males that would be both archaeologically and medically relevant. This thesis lays the groundwork for future research into these topics, which will create an expanded picture of the treatment of castrates in both life and death. While general information on castrate life is given in the historical sources, more in-depth study, especially of the physical remains of castrates, would help historians and musicologists understand their subjects, would help doctors treat their patients, and open up new fields of research in archaeology.

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<sup>25</sup> (Kimmel et al., 2005; Nanda, 1994; Petersen, 1998; Ringrose, 2003; Tougher, 2008, 2004)

<sup>26</sup> (Gray et al., 2005; Walker and Robinson, 2010; Wassersug and Gray, 2011; Wilson and Roehrborn, 1999)

## Chapter 2: Known History of Castration

Comprehensive reviews of the histories of both castrates and castration have recently been undertaken.<sup>27</sup> A discussion of what is known about the origins of castration and what this may mean to the history and use of castration in humans and in animals and, therefore, to the archaeological study of castration will be undertaken here. A history of those individuals who have studied castration and castrates and their motivations for these studies will be presented. The combination of these disparate strands of the histories of castration and castration studies will give a clearer picture of the current state of castration research and will perhaps elucidate some of the reasons why castration has been practiced, why it is a continuing topic of interest to humans, and why it has been studied in specific ways in certain places at particular times.

### 2.1 Origins

The temporal, spatial, and cultural origins of castration, both animal and human, are currently unclear, though there has been much speculation, at least in regard to human castration.<sup>28</sup> The motivation for animal castration has always been ascribed to herd and breeding control, especially for wool herds and draught animals, but scholars have propounded several hypotheses about the motivation for the development of human castration. These include but are not limited to punishment, control, disposal of potential rivals for power, medical ‘cures’, and the deliberate creation of special slaves and servants.<sup>29</sup> A combination of these factors likely led to the widespread use of castration throughout history, but the antiquity of the practice and the general abhorrence for and reluctance to be associated with the creation of castrates, but not the utilization of castrates, has led to millennia of cultural obfuscation and denial,<sup>30</sup> making it especially difficult to pinpoint castration’s origins. Additionally, language has further confused the issue, as there are several on-going linguistic debates as to whether certain words mean “castrate” or merely “court official”.<sup>31</sup>

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<sup>27</sup> (Reusch, 2008; Scholz, 2001; Taylor, 2002; Tougher, 2008)

<sup>28</sup> (Bullough, 2002; Scholz, 2001; Spencer, 1946)

<sup>29</sup> (Bullough, 2002; Gerbino, 2004; Hopkins, 1978; Kuefler, 2001; Scholz, 2001; Spencer, 1946; Taylor, 2002; Tompkins, 1962; Tougher, 1997)

<sup>30</sup> (Burney, 1959; Scholz, 2001)

<sup>31</sup> (Hopkins, 1978; Kadish, 1969; Ringrose, 1994; Siddall, 2007; Tadmor, 1983)

No single place of origin or single motivation for castration may have existed. It is possible that it arose in multiple locations for various reasons within a given period of time and gradually spread to surrounding cultures. It seems that the origins of animal and human castration may be linked, as the first references to human castrates (in the cult of Ishtar in Uruk) appear about the same time (circa 4000 B.C.) that animal herds, especially sheep and goat, began to be intensively maintained and improved.<sup>32</sup> Davis suggested a possible underlying reason for the origin of castration when he stated that domestication is a move to control nature rather than to take from it.<sup>33</sup> This is particularly relevant to the exploitation of secondary animal products as a further step in the domestication of animals, as part of the process of herd maintenance is controlling which members of the herd are viable breeders. This control is easier in males because the gonads are external. Since females bear the young, keeping as many of them as possible in the viable breeding population while restricting which males are part of that same breeding population allows controlled herd increase. As castrating male sheep serves as a herd breeding strategy that prevents the loss of herd numbers while additionally improving wool quality, it is possible that wool herders quickly learned the benefits of castration. The concept of controlling breeding rights and abilities in a population readily transfers to human populations, as evidenced by the practice of individuals or families deliberately choosing certain marriage partners. Whether animal castration (and perhaps human castration) came before or after the large-scale domestication of animals for secondary products is currently unclear, but is a topic worth pursuing. The sudden increase in the human population and the subsequent specialization and urbanisation of specific groups of people post Neolithic and/or Secondary Products Revolution<sup>34</sup> may have prompted the intensification of both human and animal castration. Later practices, such as the castration of the children of rebel leaders in the Ming Dynasty,<sup>35</sup> have led to the speculation that in the early periods of castration history, when individuals who were foreign or otherwise ‘other’ were absorbed into a group by means of slavery, conquest, or some other mechanism, it may have been thought that these individuals must be controlled and, in some cases, perhaps prevented from interbreeding with the native population. It may have been thought that the best way to control the genetic makeup of

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<sup>32</sup> (Sherratt, 1983; Taylor, 2002; Tougher, 2008)

<sup>33</sup> (Davis, 1987)

<sup>34</sup> (Greenfield, 2010; Sherratt, 1983)

<sup>35</sup> (Kutcher, 2010)

the total population was to remove any chance for breeding, something that could be easily practised on individuals with few to no rights. Herd improvement techniques may then have been applied to disobedient slaves or prisoners of war in an effort to make them more tractable.



**Figure 2.1: Map showing all known geographic distributions of castration throughout history. The map covers all known chronological periods and possible links between the Eastern and Western locations are indicated by dotted lines. (Information synthesized from historical sources quoted in the text and superimposed by author on base map adapted from <http://english.freemap.jp/>)**

Alternatively, battle wounds, including the severing of or severe injury to the testicles,<sup>36</sup> may have led to prisoners of war being given tasks in spaces such as the domestic areas of the home, as they were deemed “safe” around the more “vulnerable” members of a society, such as women and children. This may have led to the intentional castration of males, probably slaves, in order to maintain a supply of these highly useful “safe” males. Owning castrated males may also have been seen as a display of power or wealth, indicating that the leader and/or group did not need the breeding capabilities of

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<sup>36</sup> (Taylor, 2002)

these males and could sacrifice that fertility and demonstrating their control over these individuals to the extent that they could perform (or have performed) permanent modification to their bodies. The specific uses of castrates in regards to their perceived social, sexual, and gender roles will be discussed further in Chapter 4. Whatever the origins of castration, it has exerted a profound effect on the course of human history as an enduring, extensive cultural phenomenon spanning large swathes of geographic and temporal space (**Figure 2.1**).

## 2.2 Human Castration

### 2.2.1 Social Aspects of Human Castration

There are two main types of human castration recorded in texts from the Roman period to the present day: the removal or destruction of only the testicles or the complete removal of both the testicles and the penis.<sup>37</sup> For ease of discussion, the removal of only the testicles will be referred to as partial castration, and the removal of both the penis and the testicles will be referred to as complete castration, although medically both methods are considered complete castration,<sup>38</sup> as both involve the complete ablation of the testicles. The type of castration employed seemingly depended on the area where the castration was performed, with complete castration generally used in Africa, the southern portion of the Near East, India, southern Central Asia, and China, and the exclusive removal of the testicles used in Europe, the northern portion of the Near East, including Anatolia, and northern Central Asia (**Figure 2.2**).<sup>39</sup> Most of the cultures which regularly employed castrates were empires, leading to Hopkins and Patterson's hypotheses about the nature of the castrate/ruler relationship, which they called imperial eunuchism, and which will be discussed in greater depth in Chapter 4.<sup>40</sup>

The reasons for castration varied greatly from region to region, place to place, time to time, and culture to culture. Some included men castrating themselves because they were unable to feed their families,<sup>41</sup> boys seeking financial gain or steady employment,<sup>42</sup> and slavers seeking profits from the sale of castrated slaves.<sup>43</sup> Wide

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<sup>37</sup> (Klaf and Pisetsky, 1962; Millant, 1908)

<sup>38</sup> ("castration, n.," 2012)

<sup>39</sup> (Scholz, 2001; Tougher, 2008; Tsai, 1996)

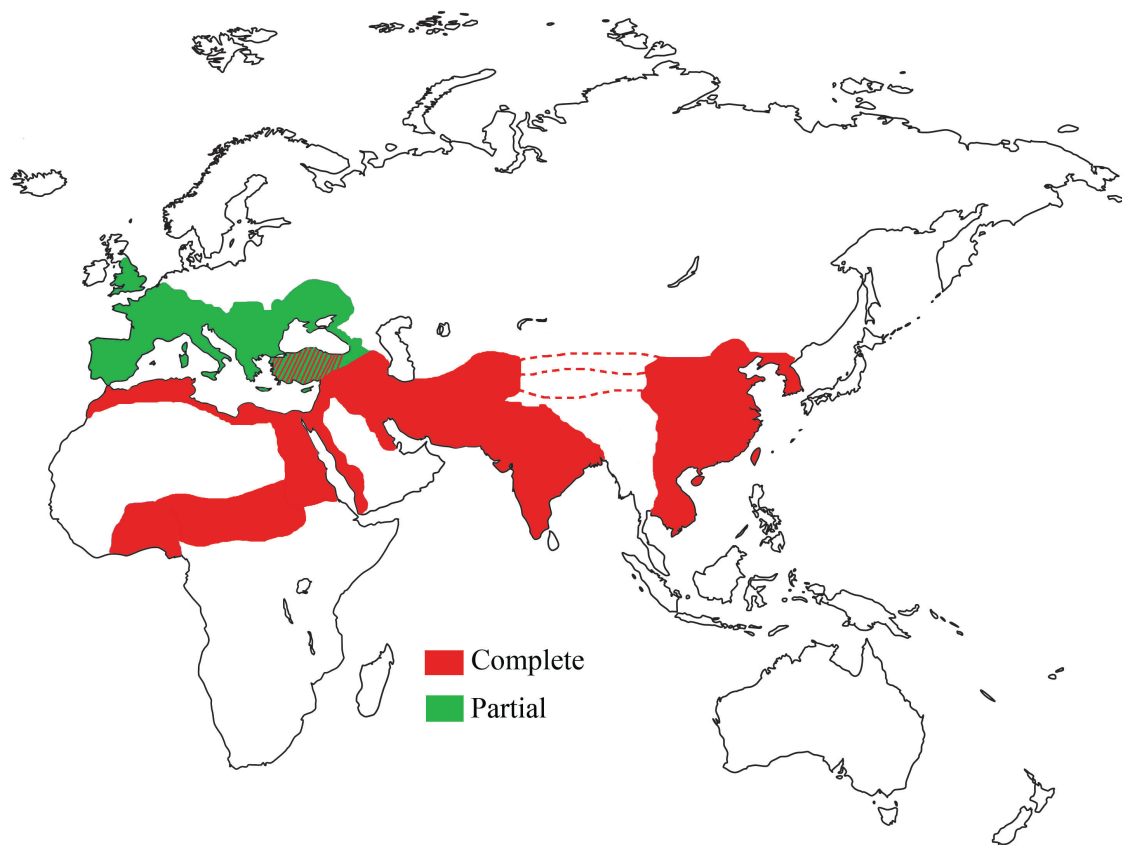
<sup>40</sup> (Hopkins, 1978; Patterson, 1982)

<sup>41</sup> (Kutcher, 2010)

<sup>42</sup> (Rosselli, 1988)

<sup>43</sup> (Nachtigal, 1881; Phillips, 1985; Verstraete, 1980)

categories encompass individual reasons for castration, but each person who *chose* to be castrated likely had a unique motivation behind his castration.



**Figure 2.2: Distribution of complete and partial castration. The map covers all known chronological periods and possible links between the Eastern and Western locations are indicated by dotted lines. (Crosshatching indicates areas of overlap). (Information synthesized from historical sources quoted in the text and superimposed by the author on the base map adapted from <http://english.freemap.jp/>)**

Castration as a judicial punishment requires further clarification as it both was and was not used as a method of supplying castrates for imperial uses. There are several law codes from across Afro-Eurasia which made castration a punishment for a range of transgressions, including rape, civil disobedience, rebellion, and adultery.<sup>44</sup> Additionally, in China, castration could be chosen to avoid the death penalty, as demonstrated by the historian Sima Qian.<sup>45</sup> Whether these individuals, once castrated, were used within the imperial system or were allowed to return to their former lives seems to have depended on the time and place in which they were castrated. Qian continued his career as a

<sup>44</sup> (Kadish, 1969; Kutcher, 2010; Scholz, 2001; Tougher, 2008)

<sup>45</sup> (Qian, 1976)

historian and bureaucrat, but the children of rebels in the Ming and Qing dynasties, who had been castrated so as not to continue their rebellious parents' lineages, were employed in the palace as servants.<sup>46</sup> Whether this can be considered a form of slavery is debateable.

### 2.2.2 History of Human Castration

The majority of the history of human castration is not only a literary record, but begins to highlight those regions that might be most fruitful for the archaeological study of castration. Those areas with cultures which heavily employed castrates will have the most likelihood of producing skeletons and other material culture related to castration.

It is possible that castration in humans on a wide scale first occurred in Uruk, Sumer, around 4000 B.C., in relation to the cult of the goddess Ishtar.<sup>47</sup> Eunuchs may have been employed in the Assyrian Empire, mainly at the court. They could fulfil roles as diverse as personal attendant, administrative and military official, servant or professional.<sup>48</sup> Finding references to castrates in Assyrian documents is somewhat problematic, as there is some linguistic debate as to the actual meaning of the term *ša reši*, which is generally taken to mean eunuch (castrate) but which could instead mean only court official.<sup>49</sup> A similar problem affects the interpretation of the presence of castrates in dynastic Egypt.<sup>50</sup> There are laws referring to castration as a method of punishment in dynastic Egypt, but it seems unlikely that there were large numbers of castrates in Egypt until the arrival of the Persian and Hellenistic dynasties (**Figure 2.3**).<sup>51</sup>

The use of castrates in Assyria may have influenced their employment in the Achaemenid Dynasty of Persia (550-330 B.C.), widely referenced by the Greeks, and somewhat borne out through Persian documentation.<sup>52</sup> The Achaemenid, Parthian (238 B.C.-A.D. 236), and Sassanid (A.D. 205-651) Persian dynasties had a great deal of influence on the Greek and Roman worlds through trade and direct contact. The Classical Greeks (500-323 B.C.) themselves were apparently not great consumers of castrates, but they may have been willing to take advantage of the wealth that could be

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<sup>46</sup> (Kutcher, 2010)

<sup>47</sup> (Taylor, 2002)

<sup>48</sup> (Tougher, 2008)

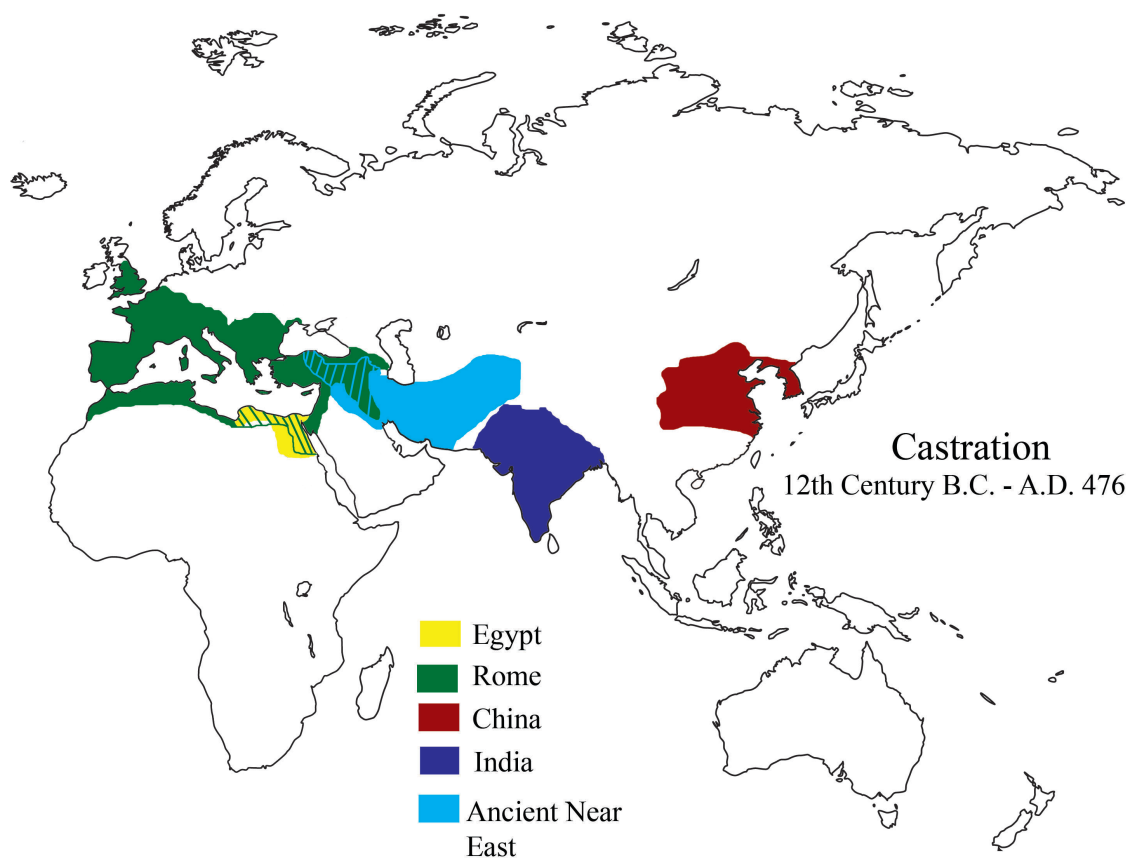
<sup>49</sup> (Dalley, 2002; Siddall, 2007; Tadmor, 1983)

<sup>50</sup> (Kadish, 1969)

<sup>51</sup> (Kadish, 1969; Scholz, 2001; Tougher, 2008)

<sup>52</sup> (Llewellyn-Jones, 2002; Patterson, 1982; Tougher, 2008)

gained by selling castrates to the Persians, if an anecdote in Herodotus is to be believed.<sup>53</sup> The spread of eunuchism across the Hellenistic world (323-31 B.C.) may have stemmed from the influence of Persia on the newly formed empire of Alexander the Great. Alexander the Great's conquest of Persia and the subsequent fracturing of Alexander's empire into four kingdoms may have introduced and promoted the presence of castrates across the majority of the Hellenistic world, though eunuchs most likely became common features only at the Ptolemaic (305-30 B.C.) and Seleucid (312-63 B.C.) courts.<sup>54</sup>



**Figure 2.3: Castration from the 12th century B.C. to A.D. 476 (Crosshatching indicates areas of overlap). (Information synthesized from historical sources quoted in the text and superimposed by author on the base map adapted from <http://english.freemap.jp/>)**

The arrival of the cult of Cybele, a Phrygian goddess, and her often castrated priests (or possibly only devotees, there is some debate<sup>55</sup>), the *galli*, into Rome in 204

<sup>53</sup> (Hornblower, 2003; Tougher, 2008)

<sup>54</sup> (Tougher, 2008)

<sup>55</sup> (Beard, 2012, 1996; Bowden, 2010; Tougher, 2013)

B.C. brought the actuality of castration into the heart of Roman culture, from which it spread throughout elite society, despite laws against castration within Rome's borders.<sup>56</sup> Castrates continued to grow in popularity (as servants and slaves, if not socially), and by the time the seat of government had been moved to Constantinople, castrates firmly controlled the domestic management of the emperor's household as well as staffing several key roles in government.<sup>57</sup> As in China and Persia, Byzantine castrates served in varying capacities, as generals, chamberlains, singers, prostitutes, monks, scholars, artists, and musicians, among others.<sup>58</sup> Attitudes toward castrates changed during the course of the Byzantine Empire, ranging from heated dislike to toleration to veneration and back again.<sup>59</sup>

Castrate singers were employed in Byzantine church ritual from the 5<sup>th</sup> century,<sup>60</sup> and possibly as early as the 3<sup>rd</sup> century.<sup>61</sup> Following the sack of Constantinople during the Fourth Crusade (A.D. 1202- A.D. 1204), the Latin rite was introduced to worship and castrate singers were forced to find work elsewhere, such as Russia, Trepezunt, and Southern Italy.<sup>62</sup> It is possible that it was partly the influence of Byzantine castrate choir singers which led to the employment of castrates in the choirs of the Roman Catholic Church in the early modern period (**Figure 2.4**).

With the fall of Constantinople to the Ottomans in A.D. 1453, the role of castrates in Anatolia changed slightly. In the palace of the Ottoman sultan, domestic administration along with the training and care of royal pages were the responsibility of white castrates. The only male slaves employed in the women's palace were of African origin because they had undergone complete castration, which was thought to make them harmless to the women and to the ruler's dynastic ambitions.<sup>63</sup> Many Ottoman castrates were generals and conquerors, while others were engaged in the palace as superintendents of gardens, kitchens and stables. Others were responsible for the care of the royal women, the acquisition of slave women, and the supervision of ceremonies, burials, and official receptions.<sup>64</sup> Ottoman attitudes toward the act of castration itself

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<sup>56</sup> (Scholz, 2001; Tougher, 2008)

<sup>57</sup> (Scholz, 2001)

<sup>58</sup> (Ringrose, 2003; Scholz, 2001; Tougher, 1997)

<sup>59</sup> (Ringrose, 2003; Tougher, 2013, 2008)

<sup>60</sup> (Kuefler, 1996)

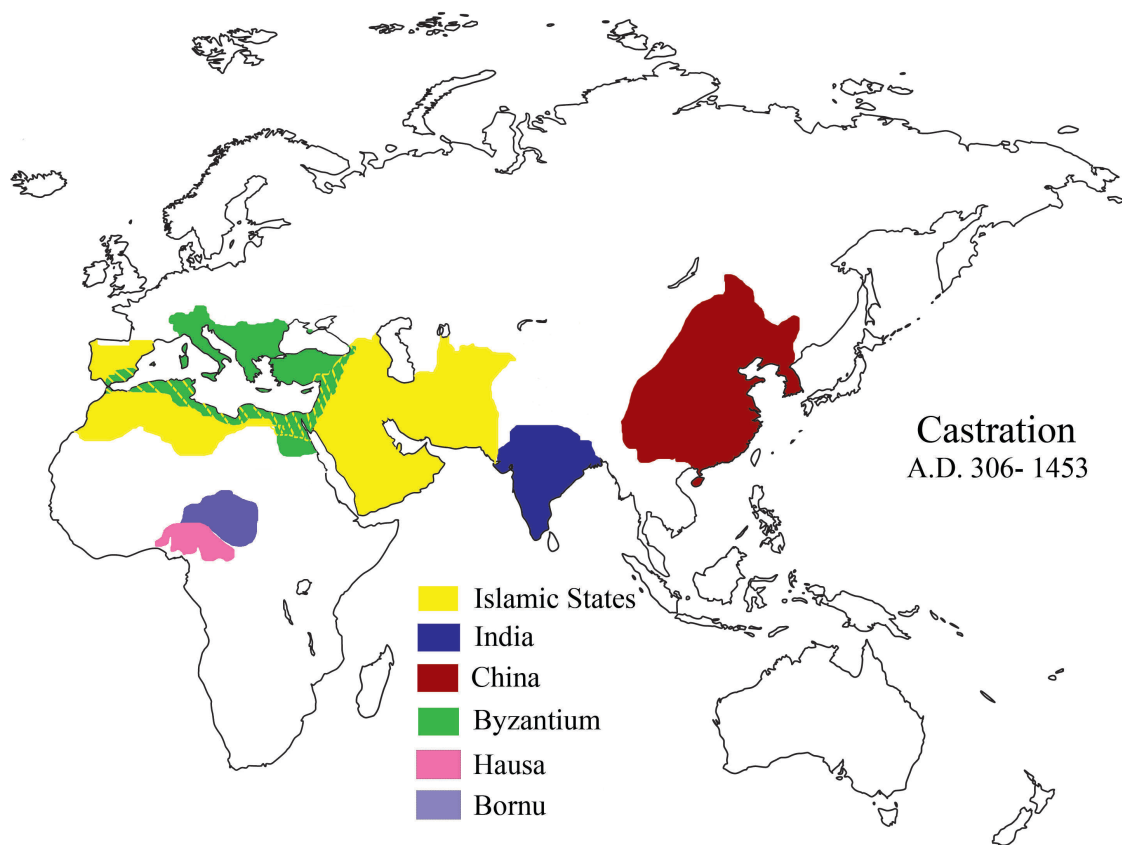
<sup>61</sup> (Scholz, 2001)

<sup>62</sup> (Moran, 2002)

<sup>63</sup> (Segal, 2001)

<sup>64</sup> (Scholz, 2001)

changed over time, as evidenced by an edict of A.D. 1715 forbidding the castration of young men within the empire's borders, especially in Egypt, which was the source of the majority of the Empire's castrates by that time. The edict declared castration inhumane and contrary to the Shari'a and the sultan's orders. However, it directly contradicted an earlier edict of A.D. 1712, which demanded the immediate delivery of castrates for the sultan's harem, and it was closely followed by edicts demanding the production and delivery of castrates to Istanbul in A.D. 1722 and 1737.<sup>65</sup>



**Figure 2.4: Castration from A.D. 306-1453 (Crosshatching indicates areas of overlap). (Information synthesized from historical sources quoted in text and superimposed by author on base map from <http://english.freemap.jp/>)**

Although castration was categorically prohibited by Islamic law, castrates commanded great respect in Islamic states as they guarded the major sacred sites of Islam: Mecca, Medina, Hebron and the Dome of the Rock.<sup>66</sup> The Umayyad caliphs of Damascus (A.D. 661- 750) used castrates, but it was from the time of the Abbasid

<sup>65</sup> (Ware, 2011)

<sup>66</sup> (Marmon, 1995; Scholz, 2001; Segal, 2001; Ware, 2011)

dynasty (A.D. 750 – 1258) that castrates began to play a major role in the military, political, and administrative life of most Islamic states and empires, from Central Asia and India to Northern Africa and the Iberian Peninsula.<sup>67</sup> Despite laws against castration, castrates were considered vital to the well-ordered running of the household, as they, in their separate gender role, could serve as the guards of the women of the household.<sup>68</sup> They were also considered valuable assets in governance and administration, as it was thought that their inability to develop kin-based interests made them more loyal servants.<sup>69</sup> However, there is some indication that imperial eunuchism flourished only in those areas where it had a pre-Islamic tradition, or where those who had been influenced by this tradition settled.<sup>70</sup>

There are a number of castration centres known from texts that could be used to trace the practices and potential fatalities of castration. Verdun, France, the south of the Iberian Peninsula, and Pechina are known to have produced Slav, Anglo-Saxon, and Central and Northern European castrate slaves for the Spanish Islamic world.<sup>71</sup> Castration centres are known all over Islamic Africa, the most important of which before the 19<sup>th</sup> century were Ethiopia, Upper Egypt (normally Coptic monasteries), Bagirmi south of Bornū, and Damagaram in present-day Niger.<sup>72</sup> Castrate slaves could and often did gain much higher prices on the market, as the operation was dangerous, often resulting in the death of the castrated slave, and demand could be very high for castrated slaves.<sup>73</sup> Islamic African states also made heavy use of castrates. They were employed in the states of Hausa, Bornū, Wadai, Darfur, Sennar, and Benin.<sup>74</sup>

Under the Cordovan Umayyad (A.D. 756-1031), Almoravid (A.D. 1085-1145), Almohad (A.D. 1147-1238), and Nasrid (A.D. 1238-1492) dynasties, Slavic and Frankish castrates had an exalted status. In the Mamluk kingdom of Egypt (A.D. 1250-1517), households employed castrates to supervise the women of the harem and also retained a number of castrates as doormen, administrators, guards, and servants.<sup>75</sup> Castrates also served in the sultan's police corps, often participating in the confiscation

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<sup>67</sup> (Patterson, 1982; Scholz, 2001)

<sup>68</sup> (El-Cheikh, 2005)

<sup>69</sup> (Ware, 2011)

<sup>70</sup> (Scholz, 2001; Ware, 2011)

<sup>71</sup> (Blackburn, 1998; Scholz, 2001)

<sup>72</sup> (Von Bayern, 1923; Ware, 2011)

<sup>73</sup> (Gardner, 2011; Ware, 2011)

<sup>74</sup> (Holt, 1975; Walthall, 2008; Ware, 2011)

<sup>75</sup> (Ayalon, 1999, 1988; Marmon, 1995; Ware, 2011)

of goods and imprisonment of people under the orders of the sultan. A eunuch *zimāmdār* supervised the sultan's intimate family and controlled a corps of eunuchs who both served the family and guarded the gate to their private dwellings. A eunuch commander controlled the military aspects of the sultan's household and supervised a staff of eunuchs responsible for the care and training of the sultan's mamluks.<sup>76</sup>

In China, inscriptions on oracle bones indicate the practice of castrating prisoners of war as early as 1300 B.C., and by the time of the Zhou Dynasty (1045-256 B.C.), castrates were serving in the government.<sup>77</sup> Following the Qin unification, castrates served as gatekeepers, menial servants, and messengers in the imperial palace.<sup>78</sup> Later, castrates served several functions within the imperial palaces, including directing court ceremonies, overseeing the vast service agencies which ran the palaces, and serving as the personnel and bureaucracy for the palace.<sup>79</sup> We have perhaps the best record of the actual number of eunuchs in a location, something which can be difficult to estimate, from imperial China, with records for up to 100,000 eunuchs in the Ming Dynasty (A.D. 1368-1644), 3,343 during the reign of the Qing Kangxi emperor (A.D. 1661-1722), 2,575 under the Yongzheng emperor (A.D. 1722-1735), and 2,789 under the Qianlong emperor in A.D. 1739, and no less than 3,000 eunuchs by A.D. 1768, with 502 eunuchs at the Yuanming Yuan (Summer) palace in northwest Beijing.<sup>80</sup> While Japan appears to have forgone the institution of eunuchism, under Chinese influence castration spread to Korea and Vietnam, where it was adopted by rulers who either modelled themselves on China or were under direct Chinese control.<sup>81</sup> Eunuchs could and often did work as emissaries between Chinese and foreign courts, and fresh batches of eunuchs were required by the Chinese as tribute or were given as gifts to the court by the foreign kingdoms that made up the Chinese empire.<sup>82</sup> As in Byzantium, castrates also served in the military, with at least one becoming a well-known admiral.<sup>83</sup>

The large numbers of eunuchs and the intrigues in which they participated frustrated the scholarly and administrative Confucian elite, who in turn blamed them for the fall of several dynasties, including the Han (206 B.C. – A.D. 220), the Tang (A.D.

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<sup>76</sup> (Marmon, 1995)

<sup>77</sup> (Kutcher, 2010)

<sup>78</sup> (Jay, 1993)

<sup>79</sup> (Scholz, 2001)

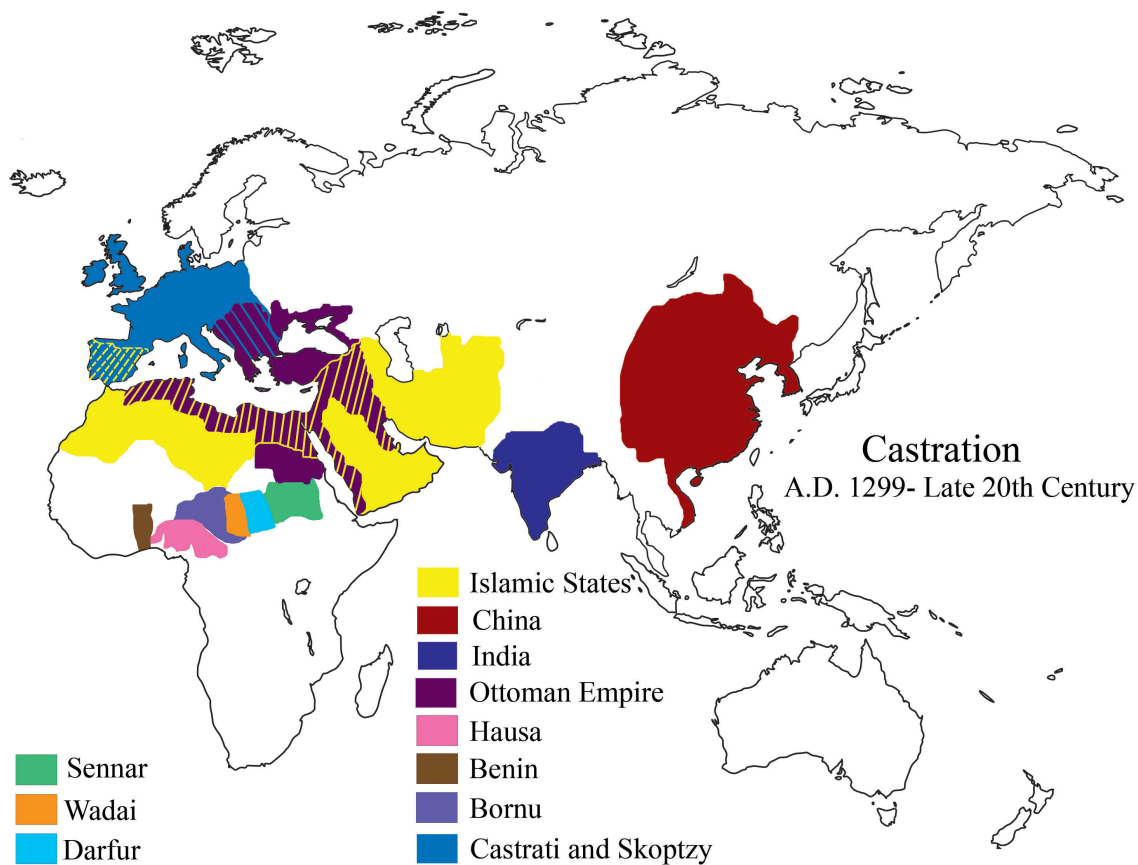
<sup>80</sup> (Kutcher, 2010)

<sup>81</sup> (Jay, 1993; Mitamura, 1970)

<sup>82</sup> (Eng et al., 2010; Tsai, 1996)

<sup>83</sup> (Tougher, 2008; Zhu, 1956)

618-906), and the Ming (A.D. 1368-1644). Chinese imperial eunuchism officially ended in A.D. 1924 when the last emperor, Aisin Gioro Puyi, released the last of the eunuchs from his service when he was evicted from the palace, although the last eunuch of China did not die until A.D. 1996.<sup>84</sup> Those eunuchs who had served the emperor retired to Buddhist monasteries or worked on farms until their deaths (**Figure 2.5**).<sup>85</sup>



**Figure 2.5: Castration from A.D. 1299-Present (Crosshatching indicates areas of overlap). (Information synthesized from historical sources quoted in text and superimposed by author on base map from <http://english.freemap.jp/>)**

Castration can be difficult to trace in India. Tompkins<sup>86</sup> states that castration was a punishment for rape and adultery in India without giving dates or cultural affiliation for the practice. There are mentions of castration in sections of the Vedic texts,<sup>87</sup> and in the Mughal Empire, castrates were employed more as chamberlains and guards for the

<sup>84</sup> (Jay, 1993; Jia, 2008)

<sup>85</sup> (Dale, 2010; Jay, 1993)

<sup>86</sup> (Tompkins, 1962)

<sup>87</sup> (Bullough, 2002)

emperor than as guards for women.<sup>88</sup> Siva supposedly castrated himself or lost his phallus due to a curse.<sup>89</sup> In many Hindu sects associated with Vaishnavism, male devotees dressed as and behaved like women, many even castrating themselves to further adopt this role.<sup>90</sup> The *hijras* are a group comprised of castrates who dress as women and perform at weddings and births to bring good luck. As devotees to Bahuchara Mata, a version of the Mother Goddess, they perform emasculation to remove the symbol of masculinity, the male genitals, and therefore gain the powers of the goddess and the ascetic.<sup>91</sup> Seen as beggars and prostitutes, they can be intensely unpopular in modern India.<sup>92</sup>

The castrato tradition most likely developed in Western Europe under the influence of the earlier Byzantine tradition of castrated choral singers. Under the rule of the German Hohenstaufens in Sicily, Byzantine castrates, who had been involved in choral music, converted to Catholicism in order to retain their positions, and possibly influenced Western choral music with the Byzantine tradition, including antiphony.<sup>93</sup> The exact date that castrates were first admitted to the Sistine Chapel choir is still a matter of contention. It is possible that the Spanish ‘falsettists’ in the 15<sup>th</sup> and 16<sup>th</sup> century A.D. Sistine Chapel were in fact castrates, as Spain had been a centre of castration for the Muslim world for centuries.<sup>94</sup> Additionally, letters between Count Guglielmo Gonzaga and an agent in Spain in the A.D. 1560s indicated that castrati came from both Spain and France and were gaining high salaries for their work.<sup>95</sup> In A.D. 1589, Pope Sixtus V issued a bull officially including four individuals specifically described as castrates in the papal choir in St. Peter’s, Rome, and after A.D. 1594, Pope Clement VIII opened the choir to Italian castrati.<sup>96</sup> By A.D. 1640, castrati had spread to all the main choirs of Italy and retained their position in the papal choir for the next three centuries. Several also gained successful careers on the stage in Baroque operas.<sup>97</sup> Successful singers often went into politics, diplomacy, or civil service under a king or

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<sup>88</sup> (Scholz, 2001)

<sup>89</sup> (Scholz, 2001)

<sup>90</sup> (Bullough, 2002)

<sup>91</sup> (Mukherjee, 1980; Nanda, 1994; Preston, 1987)

<sup>92</sup> (Preston, 1987; Scholz, 2001)

<sup>93</sup> (Moran, 2002; Scholz, 2001)

<sup>94</sup> (Gerbino, 2004; Scholz, 2001; Segal, 2001)

<sup>95</sup> (Sherr, 1980)

<sup>96</sup> (Gerbino, 2004; Jenkins, 1998; Milner, 1973; Scholz, 2001)

<sup>97</sup> (Jenkins, 1998; Rosselli, 1988)

duke, or even became priests or monks in their retirement.<sup>98</sup> Pope Leo XIII prohibited the addition of new castrati to the papal choir in A.D. 1878, officially ending the practice of castration to preserve singing voices in Europe, though it took several years for castrates already in the papal choir to retire or pass away.<sup>99</sup>

Using an extreme interpretation of the New Testament passage Matthew 19:12 (describing categories of eunuchs), some early Christian church members practiced self-emasculation in an effort to avoid the temptations of the flesh,<sup>100</sup> creating a controversy over castration within the Christian church which has continued into the modern era. The most recent Christian sect to practice castration was the Russian Skoptsy sect, which began around A.D. 1700 and continued into the early 20<sup>th</sup> century.<sup>101</sup> Opponents made accusations that coercion was used among children, as some members had been castrated at 10 years or younger. The Russian government attempted to eradicate the sect, causing some members to flee to Romania, where they established settlements that lasted at least into the middle of the 20<sup>th</sup> century.<sup>102</sup> It is believed the sect ceased to exist in the 1950s A.D.<sup>103</sup>

The large geographical and temporal range of castration leads us to ask some important questions: What features of castration led to its widespread use? Why were castrates so prevalent in imperial cultures? Why, if they were so important and so prevalent in the past, do we not encounter evidence of them more frequently in the archaeological record? Gender and social historians have attempted to answer some of these questions, proposing various intriguing theories about how the physical state of castrates created a social body which allowed them to fulfil necessary roles unavailable to ‘normal’ members of society. These ideas will be discussed in Chapter 4.

### 2.2.3 Scientific and Social Investigations of Human Castration

Castration is an uncomfortable topic for many reasons, most especially because of the extreme nature of the act itself. Whether castration is performed by cutting or crushing, whether it consists of partial or entire removal of the external genital organs, it involves the deliberate application of brutal, and sometimes brute, force to a body - often

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<sup>98</sup> (Rosselli, 1988)

<sup>99</sup> (Bullough, 2002)

<sup>100</sup> (Scholz, 2001)

<sup>101</sup> (Engelstein, 1999; Tandler and Grosz, 1910b)

<sup>102</sup> (Pittard, 1934; Wilson and Roehrborn, 1999)

<sup>103</sup> (Engelstein, 1999)

the bodies of young children. To modern, increasingly Westernized perceptions, in which bimodal, hegemonic gender categories (which call for the excessive virilisation of the male and the intense protection of the growing child) have become entrenched, castration is an incomprehensible, abhorrent practice with no value whatsoever.<sup>104</sup> This attitude impacts the perception of its appropriateness as a topic of study, influencing when and where it is studied, the ways in which it is studied, who studies it, and what conclusions they draw.

Castration has been a topic for written discourse, if not serious academic study, since at least the first century A.D. in both the Roman and Chinese empires.<sup>105</sup> Most discussions over the last two millennia have taken the form of critiques and criticism of castrates, in some cases straying into quite virulent invective.<sup>106</sup> As castrati were no longer employed in operas, they became increasingly confined to the area of the Papal States, diminishing familiarity with castrates in Western Europe. The renewed study of Classical works beginning in the Renaissance raised an interest in the social positions of castrates in the Greek and Roman worlds, leading to their occasional study in Classics and other historical disciplines.<sup>107</sup> Beginning in the early 18<sup>th</sup> century A.D., the rapid expansion of early modern empires, improved communications, and the increasing professionalization of medicine brought Western nations into more intimate contact with civilizations that employed castrates extensively for imperial, hierarchical purposes. This raised curiosity and scientific interest in castrates, and castration began to be studied scientifically.

From the middle of the 19<sup>th</sup> century, the frequency of contact with imperial castrates from North Africa, Anatolia, and China led to the first medical examinations and studies of castrates and castrate remains.<sup>108</sup> Lortet brought the remains of a Cairene castrate back to Lyon, where the individual was dissected and his skeleton retained for display, remaining in the university's anatomical museum to the present day.<sup>109</sup> His study resulted in new data for castrate skeletal studies and preserved the only known

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<sup>104</sup> (Bilharz, 2005)

<sup>105</sup> (Jay, 1993; Mitamura, 1970; Patterson, 1982; Tougher, 2004)

<sup>106</sup> (Cervantes, 2005; D'Ancillon, 1718; Mitamura, 1970; Procopius, 2010 (*Wars* 8.3.1); Tougher, 2002)

<sup>107</sup> (Bergmann, 1883; Guiland, 1943; Lucian, 1913)

<sup>108</sup> (Alterthum, 1899; Becker, 1899; Bergmann, 1883; Bilharz, 1860; Ecker, 1865; Félix, 1883; Fichera, 1905; Launois and Roy, 1902; Lemos, 1911; Lüthje, 1902; Matignon, 1896b; Millant, 1902; Pelikan, 1876; Prochownick, 1886; Rieger, 1900; Rouyer, 1859; Schulz and Falk, 1899; Sellheim, 1899; Tournès, 1869b)

<sup>109</sup> (Lortet, 1896)

castrate skeleton in Europe. Tandler and Grosz, a pair of Viennese doctors, dissected and skeletonized the body of a Zanzibarian castrate who died of tuberculosis in the Rudolfsspital in Vienna as part of their overall study of the influence of sex hormones on the human body.<sup>110</sup> This led to further discoveries in endocrinology and also added to the skeletal dataset. Wagenseil, a German doctor assigned to Istanbul during the First World War, encountered eunuchs from the Topkapi palace harem frequently. He undertook an anthropometric survey of 11 castrates, 1 eunuchoid male, and 1 intact male, taking a wide array of measurements and some radiographs.<sup>111</sup> When he relocated to China, he undertook a study of 31 former imperial eunuchs, taking similar measurements to those taken of the Ottoman eunuchs.<sup>112</sup> Both of these studies contributed to the wider understanding of human anatomy and variation, the development of anthropometry as a discipline, and the collection of a dataset of castrate anthropometric measurements.

What is often forgotten is the widespread use of castration as a sterilization technique in modern Western eugenics practices from the late 19<sup>th</sup> to the middle of the 20<sup>th</sup> century A.D.<sup>113</sup> The Second World War and the revelation of the atrocities committed by the Nazis (including forced sterilizations of the ‘unfit’) pointed to many of the problems inherent in most eugenics practices and made the use of anthropometry highly unpopular, though forced sterilizations continued to be practiced in some parts of the U.S. into the 1970s.<sup>114</sup> By the time anthropometry once again became acceptable for widespread use, the majority of castrated individuals from countries which practiced imperial eunuchism had died, those who had been forcibly sterilized in the U.S. and Europe were not available for study or were unwilling to be studied, and the concept of castration as a widespread social practice anywhere but half-imagined exotic locales had faded.

### **2.3 Animal Castration**

As it is currently unclear whether animal castration began before human castration, human castration began before animal castration, or they began concurrently, in order to better understand human castration, some knowledge of animal castration must be gained. In addition, as there are few available skeletons of human castrates, the

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<sup>110</sup> (Tandler and Grosz, 1913, 1910a, 1910b, 1909)

<sup>111</sup> (Wagenseil, 1927)

<sup>112</sup> (Wagenseil, 1933a)

<sup>113</sup> (Castles, 2002; Flood, 1899; Hawke, 1950; Trent, 1993)

<sup>114</sup> (Carey, 1998; Castles, 2002)

study of non-human mammalian castrate skeletal growth and development may help to elucidate changes to the human skeleton caused by castration. It may also highlight general trends of skeletal changes caused by castration common to all mammals.

### 2.3.1 History of Animal Castration

The question of whether animal castration began concurrently with animal domestication or arose later can possibly be answered by examining what is currently known about the history of animal domestication. The origins (location, process, and dates) of animal domestication are still being debated within archaeological circles, as it is very difficult to differentiate between the skeletons of domestic and wild animals in the very early stages of domestication.<sup>115</sup> It has been argued that the conscious and unconscious processes of selecting animals for herds and the subsequent maintenance of those herds would automatically, and possibly rapidly, select for specific traits which could be archaeologically detected, but this would require extensive further work on the part of zoologists and zooarchaeologists.<sup>116</sup> There is a consensus that the domestication of species such as goat, sheep, and cattle was well underway by the 7<sup>th</sup> millennium B.C., in concert with or closely following plant domestication.<sup>117</sup> Discussions on the advantages of agriculture over foraging have led to the suggestion that agriculture was only developed because the food sources available through foraging became scarce, potentially due to environmental change.<sup>118</sup> The root explanation given for the domestication of animals such as cattle, sheep, and goats is that it reduced risk, made hunting unnecessary, and ensured a steady supply of animal products including milk and wool, though these secondary products may not have been heavily consumed until later (the “Secondary Products Revolution”).<sup>119</sup>

Once a herd is formed, methods of controlling its population become necessary. Depending upon the use of the herd, the current models for methods of population control differ. In a herd kept mainly for meat, animals are reared to just before maturity, when they reach full size, giving the maximum carcass weight for feed. The majority of those slaughtered for meat will be males, as the majority of the females will be kept for

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<sup>115</sup> (Davis, 1987; Zeder, 2006)

<sup>116</sup> (Zohary et al., 1998)

<sup>117</sup> (Bar-Yosef and Meadow, 1996; Davis, 1987; Zohary et al., 1998)

<sup>118</sup> (Davis, 1987)

<sup>119</sup> (Davis, 1987; Greenfield, 2010; Sherratt, 1983)

breeding and only a few males will be required for stud.<sup>120</sup> Once products from a living animal (such as wool or draught labour) are desired, it becomes necessary to control the breeding habits of the herd in a way that does not kill the majority of the male members of the herd but also does not allow them to breed. Castration is one way of controlling the breeding capabilities of a herd. The exact origins of animal castration are currently unclear, and the practice initially may have been restricted to small numbers of animals in specific herds in specific areas in the beginning. A reasonable explanation for the intensification of animal castration and its subsequent widespread use is the intensive exploitation of herds of goats and sheep for wool and milk around the 5<sup>th</sup>-4<sup>th</sup> millennia B.C., coinciding with the beginning of urbanization.<sup>121</sup> Another use for castrated animals was as draught labour or means of transportation, as typified by the ox or the gelding. Some of the Pazyryk burials of the 6<sup>th</sup>-3<sup>rd</sup> centuries B.C. contain gelded frozen horse mummies, indicating that the practice was common on the Eurasian steppes by that period.<sup>122</sup>

### 2.3.2 Scientific Investigations of Animal Castration

It may be very difficult for many modern, Western, mostly urbanized individuals to contemplate the idea of animal castration. Bulliet outlines the idea of a postdomestic culture as one in which people “live far away, both physically and psychologically, from the animals that produce the food, fiber and hides they depend on, and they never witness the births, sexual congress, and slaughter of these animals.”<sup>123</sup> Most modern investigations into animal castration have been prompted by the archaeological need to distinguish male, female, and castrate animal remains recovered during excavations. Some work has been done in identifying castrate remains, but much could still be contributed through careful, consistent monitoring, culling, and examination of the skeletons of different breeds of castrated animals from the five main agricultural domesticates (horses, cattle, sheep, goats and pigs) and dogs (and potentially cats). While some research has also been undertaken with chickens,<sup>124</sup> as birds are not generally good proxies for mammals, these investigations have been omitted from this summary.

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<sup>120</sup> (Davis, 1987; Hesse, 1982; Zohary et al., 1998)

<sup>121</sup> (Davis, 1987; Greenfield, 2010; Sherratt, 1983)

<sup>122</sup> (Olsen, 2006; Rudenko, 1970)

<sup>123</sup> (Bulliet, 2005: 3)

<sup>124</sup> (Chen et al., 2006; De Cupere et al., 2005; Jacob and Mather, 2000; Juhn, 1952)

Archaeological investigations into animal castration normally take one of two forms: an archaeological population is investigated for sex differences and a middle group, normally attributed to castrates, is identified through the statistical analysis of the metric measurements of the population<sup>125</sup> or a modern population with known castrates is investigated for the specific morphological changes caused by castration.<sup>126</sup> The majority of these studies have taken place in the last thirty to forty years, as zooarchaeological techniques have improved and zooarchaeologists have become more interested in herding dynamics. Some of the most useful and important studies are summarized here.

One of the earliest scientific investigations into the changes to animal skeletons due to castration was Marshall and Hammond's study of horn growth in Herdwick sheep.<sup>127</sup> The investigation was prompted by the observation that castration impeded horn growth in the rams of the Herdwick breed of sheep, a breed in which only the males grow horns. It was also found that castration halted horn growth from the time of castration, but that growth did not regress, that is to say, sheep that had grown horns before castration retained that growth but did not add to it, and those wethers in which there had been no horn growth never grew horns. As this was before the establishment of endocrinology as a discipline, the study also sought to show that the effects of castration were linked to internal (hormonal) secretions rather than the nervous system through the removal of only one testicle. The unilateral castration demonstrated that one testicle still provided enough testosterone to develop the sexually dimorphic feature of horn growth, albeit at a slower pace than those rams with both testicles. The study also established that it was just the testicles that provided the necessary hormones to promote sexual dimorphism by removing only the testicles of two rams and leaving the epididymis (an organ that was often also removed during sheep castration) in place. This paper gave strong evidence for sex hormones as the mechanism that controls sexual dimorphism, and that the hormones were a product of the gonads, which furthered the study of endocrinology.

Noddle examined the bones of domestic and feral goats of known age, sex, and breed to determine the ages of epiphyseal fusion and tooth eruption in order to

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<sup>125</sup> (Armitage and Clutton-Brock, 1976)

<sup>126</sup> (Davis, 2000)

<sup>127</sup> (Marshall and Hammond, 1914)

differentiate the development of goats from sheep.<sup>128</sup> She found that the ages of epiphyseal closure varied between breeds and sexes, with feral goats tending to fuse about a year after domestics and castrates lagging as much as four years behind females, while all goats matured much later than modern (presumably domestic) sheep. Dental eruption, however, did not seem to display any discrepancies with earlier reports. Noddle thought that the more exposed, less nutritionally stable environment of the feral goats, as well as their derivation from flocks which had not been selected for rapid maturation, contributed to their delayed epiphyseal fusion. She also found that the delayed fusion of the castrates led to larger animals. In particular, the castrate long bones were longer than those of the intact males, though this estimate was taken from the comparison of only three animals.

Armitage and Clutton-Brock investigated the horn-cores of cattle from a site in London (Angel Court, Walbrook) and others from the collection of the Natural History Department of the British Museum.<sup>129</sup> The initial investigation of the London cores had been opportunistic, as a good collection of Roman and medieval horn cores had been discovered, and it originally aspired to determine any patterns of shape and curvature in the cores. The success of the investigation of the London material meant that the study was expanded to over 300 cores in the collection of the Natural History Department of the British Museum, with the purpose of establishing a standard method for horn core categorization according to age, sex, and conformation. They found that it was not always easy to distinguish oxen from cow or bull horn cores, and that the degree of change to the horns of oxen depended on the age at which they were castrated. They also found a lack of modern oxen comparative material, and that the length versus the shape of horn core was important for later identification of sex and confirmatory statistical tests.

As malnutrition has been shown to affect sexual dimorphism, Dahinten and Pucciarelli<sup>130</sup> experimented on castrated and malnourished rats to determine what effects malnutrition had on cranial sexual dimorphism. This helped determine what effects external environmental factors such as malnutrition might have on the growth patterns of rats. They concluded that, since malnourishment and castration resulted in similar cranial sexual dimorphism, malnourishment affects gonadal action in some way.

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<sup>128</sup> (Noddle, 1974)

<sup>129</sup> (Armitage and Clutton-Brock, 1976)

<sup>130</sup> (Dahinten and Pucciarelli, 1986)

Moran and O'Connor<sup>131</sup> assessed the effects of sex and castration on the timing of dental and skeletal maturation in sheep using a literature search and the examination of skeletal collections. The overriding reason for the study was to gather better data for age at death assessments in archaeological collections of domestic sheep, which is mainly based on tooth eruption and wear and on epiphyseal fusion, making any changes to fusion or eruption times extremely important. They found that the literature was ambiguous and contradictory, and that the effects of castration were especially confusing, given the small numbers of individuals from widely varied breeds and populations available in collections. There was some evidence for castration delaying epiphyseal fusion, but they felt that more work needed to be done on tightly controlled populations in order to determine the exact effects of castration on sheep skeletons. They favoured working slowly over time with one group or breed of animals in order to determine intrasex, intersex, intrinsic, and extrinsic factors affecting tooth eruption and epiphyseal fusion, allowing each of the factors and its effects on eruption and fusion to be clearly understood. They also suggested a targeted study of the effects of castration at various stages of development, allowing the effects of castration at several ages to be understood and documented.

Believing that mechanical loading from tasks such as draught labour would put the same loading pressure on the bones of both female and castrate cattle, making metrical and morphological methods of detecting castrates problematic, Luff examined horn cores from a small Romano-British town in Essex in order to create a method to detect castrated cattle in archaeological collections.<sup>132</sup> The graphs of the measurements of the cores gave three peaks, one of which was interpreted as being bulls, and the other two as possibly belonging to two groups of steers castrated shortly after birth and later in life (possibly around or later than 12 months), respectively. Luff concluded that oxen have oval cross-sections and grooving along the length of the core, especially on the superior surface, possibly due to the extended growth rate of the horn core in cattle. However, the grooving was not due to the castration itself, as intact males also demonstrate grooving along their cores. Luff also noted that detecting castrates within an archaeological assemblage depends on the age of castration, as late castration does not affect the animal as strongly as early castration.

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<sup>131</sup> (Moran and O'Connor, 1994)

<sup>132</sup> (Luff, 1994)

Jewell investigated the longevity of ewes, rams, and wethers in a feral sheep population on the island of Hirta, St. Kilda, Outer Hebrides, Scotland, in order to understand the high mortality rate of rams within the population.<sup>133</sup> For the study, a total of 72 male lambs were castrated shortly after birth and their behaviour and interaction with the rest of the herd was observed. It was found that the wethers tended to follow similar daily patterns as the ewes, but that during the rut the wethers continued to graze all day while the females were occasionally involved in breeding and the males spent most of the day moving and fighting. It was concluded that the long-term effects of continuous grazing meant that the wethers were better prepared to last the long winter months, leading to their better longevity than either the ewes or the rams.

Davis examined one of the most comprehensive collections of animal remains containing castrates, a collection of Shetland rams, ewes, and wethers that he had collected from two neighbouring farms.<sup>134</sup> The study was designed to determine at what age(s) the epiphyses of Shetland sheep fused, to find what effects castration had on dental and long bone development, to see the relationship between age and bone size, and to find osteometric ways of distinguishing the three sexes. He found that wethers' bones were continuously fusing, and that by five years of age, all their limb bones had fused. Rams appeared to fully fuse much earlier than wethers, and their teeth seemed to wear more than the wethers' teeth. He also found that few measurements provided clear differences among the sexes, and while plotting long bone lengths versus shaft breadths showed shape differences among the three sexes, it did not give a completely clear separation in archaeological material.

De Cupere and her team<sup>135</sup> examined the feet of modern draught cattle to characterize the changes to the morphology due to draught exploitation. They noted that only cattle castrated at a young age displayed long, slender long bones and that those castrated later had a bull-like body conformation, but that the sex ratio of a cattle population could indicate when the herd had been exploited for meat and when it had been exploited for milk or labour. They concluded that a range of draught-related anomalies could be scored for a more quantitative analysis, but that those scores should be interpreted in relation to the age structures of the cattle populations and the possible modes of cattle exploitation and meat consumption on specific sites.

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<sup>133</sup> (Jewell, 1997)

<sup>134</sup> (Davis, 2000)

<sup>135</sup> (De Cupere et al., 2000)

Few in-depth animal studies have been performed to determine the effects of prepubertal castration on skeletal development, and the results from those studies where prepubertal castration was suspected or actually performed were highly variable. Some species displayed elongation of long bones similar to the type of elongation seen in human castrates. Some species exhibited delays in epiphyseal fusion. Some species showed evidence that castration influenced the expression of sexually dimorphic traits. However, no one species displayed the totality of characteristics that would be expected to manifest in prepubertally castrated human males. Thus, no species examined to this point in time could serve as a complete proxy for the study of the effects of prepubertal castration in humans. In addition, the lack of coherent changes to mammalian skeletons makes the detection of castrated animals within archaeological populations difficult. As differences between breeds seem to affect the presentation of skeletal changes within one species, it may be that one mammalian species cannot serve as a proxy for another. A systematic study of many breeds of many species to determine the effects of prepubertal castration on the body and particularly the skeleton would need to be performed in order to find approximate proxies for human beings. Such studies would be time consuming, but would further the studies of both human and animal castration.