

The Religious Taboo Against Eating Pork: A Hypothesis On Its Origin

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Abstract

Among other dietary laws, the Torah and later the Koran forbade the eating of pork. Boar meat has a strong odor that is generally considered to be repulsive. There is no smell if the animal has been castrated, but castration other than for punitive reasons was forbidden in the ancient Middle East, at least by the Semitic peoples among whom this taboo arose. We propose that the pork taboo originated in the unpleasant odor of boar meat.

Introduction

The sacred writings of the Middle East forbid the eating of pork. This dietary law is repeatedly stated in the Hebrew Scriptures (Levit. 11, v. 7; Deut. 14, v. 8; Isa. 66, v. 17) and the Koran (Sur. 2, v. 168; Sur. 5, v. 4; Sur. 6, v. 146; Sur. 16, v. 116). It is, therefore a strong and persisting taboo (deGariné 1991). How did it originate?

Using the keywords “pork”, “taboo”, and “antiquity”, an Internet search found many webpages on the pork taboo and all of them wondered about its Hebrew origins. Tentative explanations include: pigs are unclean animals¹; they may have once been totems; and they carry several parasitic diseases, especially teniasis, trichinosis, and cystic hydatidosis. A thorough review of these hypotheses may be found in (Riboni 2002).

These hypotheses are unconvincing because other animals are totems or carriers of the same or similar parasites while being popular food items in many societies. They were likely

¹ This explanation is proposed by Maimonides (1135-1204), who was a Talmudist, erudite scholar, and physician in Cordova, Spain. Actually, pigs cool themselves off in mud (when no water is available) because they lack the autonomic responses for losing heat of other mammals, such as sweating and panting Ingram, D. L., and L. E. Mount. 1975. *Man and Animals in Hot Environments*. Berlin: Springer-Verlag.

developed a posteriori by theologians to support their teachings of the Hebrew Scriptures or later the Koran.

Pigs and other Suidae were common in the prehistoric Middle East, initially as game animals. Neolithic sites yield much evidence of consumption of wild boar (Bar-Yosef and Belfer-Cohen 1992). Signs of domestication appear in the 7th millennium BC, in Kurdistan (Flannery 1982, Gautier 1990) and possibly in Asia Minor as early as the 9th millennium BC, although it is not always easy to distinguish remains of domesticated animals from those of game. Nonetheless, whether hunted or raised, pigs were apparently being eaten (Vigne 2000). In China, pigs were domesticated in the 6th millennium BC (Debaine-Francfort 2000).

If we return to the geographic area where monotheism began, pigs are mentioned at least four times in the Hebrew Scriptures (Prov. 11:22; Isa. 65:4, 66:3, and 66:17) and at least three times in the Gospels: Jesus counsels, "Do not throw your pearls before swine" (Matt. 7:6); he casts demons from two possessed men into a herd of nearby swine (Matt. 8:30, Mark 5:11, Luke 8:32); and the prodigal son is willing to eat the feed given to swine (Luke 15:15-16). The pork taboo is itself good a contrario evidence that pigs were present in Palestine and the Middle East.

The Hypothesis

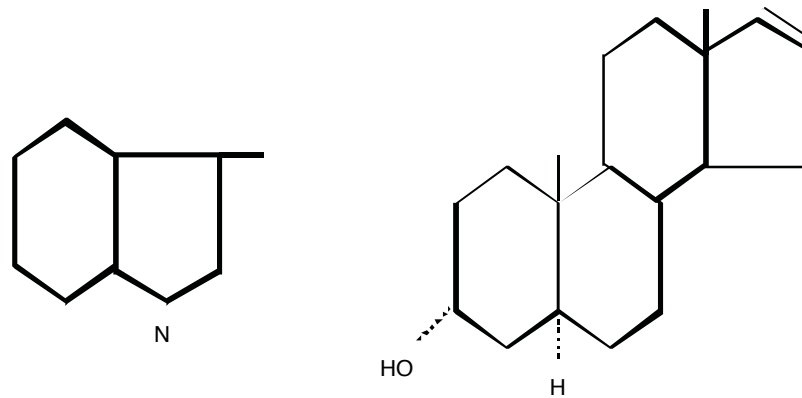
We suggest an alternative hypothesis: the taboo against eating pork may have arisen from the strong and unpleasant odor of boar meat. Indeed, the males are the first to be slaughtered by cattle breeders, who prefer to keep a majority of the females for reproduction.

This taboo requires at least two conditions:

- only castration can remove the unpleasant odor of boar meat;
- castration was unknown or forbidden in the ancient Middle East.

The odor

Boar meat smells strongly because of two chemicals: an amino acid and a steroid. These odoriferous molecules are 5 α -androst-16-en-3-one or androstenone (Bonneau 1988, Claus 1975,



SCATOLE

ANDROSTENONE

Figure 1 Boar meat odor. The molecules responsible for the repulsive odor before castration are skatole (methylindole), which smells like feces and originates in the degradation of tryptophan by intestinal flora, and a testicular steroid, androstenone, which gives off a urine smell and is a urinary excretion of steroids (drawn by Michel Cabanac).

Seideman *et al.* 1982) and methylindole or skatole (Bonneau 1997, Bonneau, Lundström, and Malmfors 1997, Reid 1993) (Figure 1).

These molecules are present in all boar meat, but the non-saponifiable fraction of fats is especially rich in them. The blood concentrations correlate positively with genital mass (Anderson *et al.* 1997). Androstenone gives off a strong odor of urine. It is synthesized in the testicles and also arises through systemic degradation of testosterone, being present in high concentrations in males as young as 4-5 months old (Claus 1975, Seideman *et al.* 1982). The suggestively named skatol comes from the degradation of tryptophan by intestinal flora.

Ninety-nine percent of people smell the odor of skatol, and only 75% that of androstenone (Weiler *et al.* 1997). The odor is reported to be present in 10% to 75% of boars (Malfors and Lundstrom 1983). The smell, especially that of skatol, is sometimes hardly perceptible at slaughter but appears during cooking (Lundstrom *et al.* 1987) and is not masked by such culinary treatments as marinating, adding gravy, etc. (McCauley *et al.* 1997).

The French are accustomed to strong odors in their cuisine and readily tolerate the smell of their cheeses, but they are much less tolerant of the odor of boar meat: 38% dislike its smell and 23% its taste. In contrast, only 6% dislike the odor of castrated male or female meat, and 6% its taste (Bonneau 1988). Wild boar hunters are quite aware of this unpleasant influence on meat,

their first move after the kill being to remove the testicles.

Castration

Although castration eliminates such unpleasant smells, it seems to have been unknown or forbidden among ancient Semitic peoples. The Hebrew Scriptures forbid the castration of both humans and animals (Deut. 23, v. 1; Levit. 21, v. 20; Levit. 22, v. 23-25), as does the Koran (Surah II: The Heifer & Surah III: 'Imran's Family).

Discussion

The word castration comes from the Sanskrit *śasati* (to cut) (Riquet 1948). In all ancient societies castration was above all used to punish. In China, under the Yao emperors (2357-2258 BC), castration (Kong) was one of the five punishments of the penal code (Gaurier 2004). In India, the *Mahābhārata* (III, cl. 46) refers to the use of castration in Vedic times, while saying that eunuchs were looked down upon as untouchable (*dalit*). In Egypt, under the 20th dynasty (1202-1102 BC), eunuchs were frequent. In Mesopotamia Semiramis² is said to have introduced the castration of young boys, but this was during the 9th century BC before Semitic peoples began to arrive in Mesopotamia. The book of Esther mentions the presence of eunuchs at the king's court. In general, then, human castration was known in antiquity but was intended to humiliate prisoners of war or slaves, and to punish criminals, especially rapists. Such castration was more an amputation of the penis than a removal of the testicles (Khouri 1991). After a victory in war thousand of penises would often be gathered for purposes of display or sent to the capital as a mark of triumph (Eunuch 2003, Riquet 1948). Ramses II cut off the phalluses of thousands of prisoners of war after a victory in 1271 BC. This kind of castration was practiced throughout the world, as attested by descriptions from China, the Middle East, pre-Roman Gaul, and pre-Columbian America. Castration, when known and practiced, seems to have been restricted to men.

² Semiramis, a mythical queen, was revered centuries later by the Greeks.

What about castration of livestock?

There is indirect evidence of animals being castrated as far back as Neolithic times. According to Watson (cited by (Trow-Smith 1957) some prehistoric bone remains, especially horns, from the Orkneys might indicate castration. In Mesopotamia, the same indirect evidence, such as skeletal dimensions or shape of the bases of the horns, points to castration (Vila 1998). According to Pliny the Elder, Bactrian camels were castrated to increase their vigor, especially for military purposes.

Yet it was only during the VIth century AD that livestock began to be castrated, apparently in China (Presse 2004). Leviticus (22: 24-25) forbade the Hebrews to inflict unnecessary animal and human suffering. Human castration is explicitly forbidden in Deuteronomy (23: 1). It seems, therefore, that amputation of the testicles was not practiced in the Middle East as a means to sterilize males or to make them more manageable. This view has support in surviving artifacts: paintings, bas-reliefs, and statues.

Assyrian sculptures and bas-reliefs, and Egyptian wall and papyrus paintings, often show all kinds of animals (Figure 2). It is important, however, to look for clear signs of domestication in these artworks, such as saddles or harnesses (Figure 2).



Figure 2 Example of Assyrian bas-relief showing an intact stallion. The king of Nineveh Ashurbanipal is shown hunting in 650 BC, i.e., a few years before the fall of Jerusalem and the deportation of the Jews to Babylon by Nebuchadrezzar in 587 BC. From Louvre Museum. (Photograph by Marie-Claude Boniot-Cabanac.)

In ancient Mesopotamian art, many bas-reliefs and statues of horses, whether mounted or harnessed, show intact males. There is also an example of a harnessed intact male donkey. The National Archeological Museum of Damascus has a sculpture of yoked cattle that are clearly intact bulls and not oxen. It is likely, then, that livestock were not castrated in ancient Mesopotamia (Figure 3).

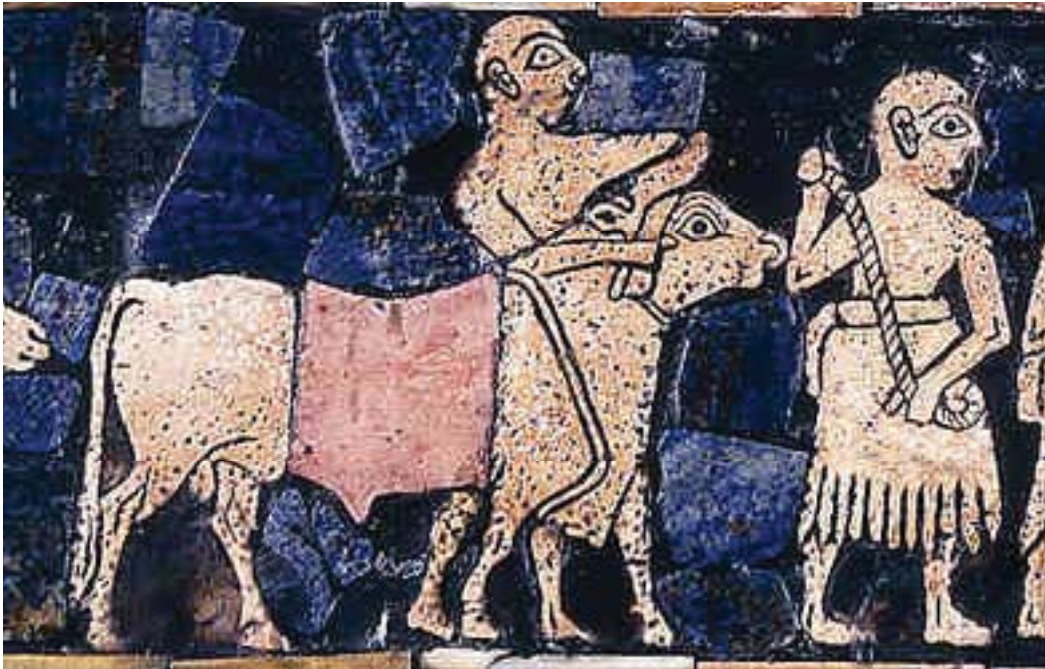


Figure 3 An example of a yoked bull in Mesopotamia. Royal Standard of Ur, 2600BC. (British Museum)

In ancient Egyptian art, papyrus and wall paintings usually show intact horses, despite a somewhat prudish tendency to avoid revealing the genitalia. Egyptian wall paintings often depict scenes of plowing; yet the yoked cattle are cows, not oxen, this being indirect evidence of the absence of castrated males³. In Phoenician art from North Africa, intact bulls were yoked during Roman times (Figure 4).

Conclusion

Although animal castration was known in early Antiquity, it does not seem to have been practiced among Semitic peoples—Akkadians, Babylonians, and Assyrians—out of either ignorance or religious prohibition. If so, our hypothesis on the origin of the pork taboo might be true.

³ An Assyrian bas-relief also shows cows being used for plowing.



Figure 4 An example of a Roman fresque from from Palais du Bardo, Tunisia showing that castration was not yet practiced in North Africa in Roman times. (Photographed by Marie-Claude Bonniot-Cabanac)

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