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RABBIT MEAT: A VALUABLE SOURCE OF NUTRITION OR TOO-CUTE-TO-EAT?

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Abstract: Rabbit meat is a component of traditional diets, often incorporated into iconic dishes of regional cuisine. Its consumption can be traced back to the ancient civilisations of the Mediterranean and beyond, well into the Palaeolithic era. Even though it has been representing considerable nutritional and cultural value for millennia, a decline in consumption is now noticeable. Specific categorial dynamics are at play, related to the various superimposed roles of rabbits as livestock, game, pests, laboratory animals and pets. Their perceived cuteness in particular can lead to emotional responses that are hard to reconcile with the sensitivities of the post-domestic paradigm. Such effects compromise the acceptability of rabbit meat in contemporary Western societies that are typified by problematic human-animal interactions and a disconnect from the food chain. Young and urban populations in particular now seem to have difficulties facing the notion that food production requires the killing of animals. As a result, a traditional food source risks becoming irrelevant despite its high nutritional value and potential for sustainable meat production, due to reasons that are emotive rather than rational.

Key Words: nutrition, meat, welfare, pet, society, food studies.

INTRODUCTION

Rabbit meat has a long-standing culinary legacy as the main element of various traditional dishes throughout the world, especially in the Mediterranean region (Petracci and Cavani, 2013). In Spain, for instance, one fifth of the population is said to eat rabbit at least once a week (Escribá-Pérez *et al.,* 2017). Classic rabbit-containing dishes such as *escabeche*, paella and certain typical Christmas meals are important features of its national cuisine (Coxall, 2013). Popular dishes centred around rabbit meat can also be found in, *e.g.*, Italy, France, and Flanders (Petracci *et al.,* 2018). This status as a traditional food, and all the story-telling that comes with it, is in principle highly valued by contemporary consumers (Geyzen *et al.,* 2012). Although the concept of *tradition* is a particularly fluid and diffuse one (Amilien and Hegnes, 2013), it offers some welcome reassurance in a globalising food market that may seem threatening and bewildering to many, due to hyperpaced innovation, impressive yet intimidating logistics and aggressive marketing. Such value-from-tradition used to hold particularly true for meat and the various products and dishes derived thereof (Leroy *et al.,* 2013), as these foods have a lot of biocultural capital (Leroy and Praet, 2015) and are arguably among the ones with the longest record of processing and consumption (Geyzen *et al.,* 2019). Their distinct elements of geography, artisan skill and history offer a great diversity and are cherished as part of a rich gastronomic heritage and represent regional pride and uniqueness (Leroy *et al.,* 2015). This variety and appeal to identity has been aptly used by food writers, chefs, marketeers and policy makers to serve all sorts of cultural, economic and political agendas and vested interests (Amilien and Hegnes, 2013).

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In recent decades, however, the meaning of meat has been facing quite a bit of semiotic turbulence. From a nutritious dietary item at the centre of the Western meal, mostly indicating health and vitality (Leroy and Praet, 2015), it is now shifting to one that causes anxiety due to its alleged links with chronic disease, food scares, animal welfare issues and environmental deterioration (Leroy and Praet, 2017; Leroy *et al.,* 2018a). Although it is counterproductive to focus excessively on a plant/animal binary when talking about healthy and sustainable diets (good and bad practices can be found on either sides of the divide) and although the evidence in support of the dietary advice arguing for restriction of meat consumption has been identified as too weak to allow for strong recommendations (Leroy *et al.,* 2018b; Johnston *et al.,* 2019; Leroy and Cofnas, 2019), we now seem to be facing an epistemic turn that increasingly looks to animal foods along moralistic lines (Leroy, 2019).

The aim of the present study is to identify the historical mechanisms behind this transition away from the traditional value of animal source foods, with a specific focus on rabbit meat as a case study. Compared to other animals used in the human diet, rabbits hold an idiosyncratic position due to their overlapping roles as livestock, game, pest and pets. The latter in particular–driven by aspects of perceived *cuteness*– is responsible for a changing position of rabbit meat within Western post-domestic foodscapes. Failing to account for such effects would undermine any chance of the successful incorporation of rabbit meat in the healthy and sustainable diets of the future (Petracci *et al.,* 2018). Because, notwithstanding the critical issue of societal perception, rabbit meat certainly has various assets with respect to its production methods, technological potential and the attractive nutritional composition and sensory properties of the end-product.

HISTORICAL OVERVIEW OF RABBIT MEAT CONSUMPTION

Palaeolithic hunting: from occasional catch to economic resource

The first consumption of rabbit meat was situated in the Palaeolithic era, although it must not have been among the most rewarding bounties for 'Man the fat hunter', in an ecosystem that was rich in zoomass and where protein poisoning or 'rabbit starvation' was to be avoided (Ben-Dor *et al.,* 2011; Smil, 2013; Petracci *et al.,* 2018). During the Upper Palaeolithic in the Iberian Peninsula, however, the high protein level and high bioavailability of micronutrients of rabbit meat became an important supplement to the ancestral diet (Hockett and Bicho, 2000; Blasco *et al.,* 2013; Martínez-Polanco *et al.,* 2017). Along with their nutritional contribution, rabbits also served an economic purpose early on (because of their skin and fur) and may have played some other important social roles in hunter-gatherer culture (*e.g.*, as totem animal), although little is known about the latter (Figure 1).

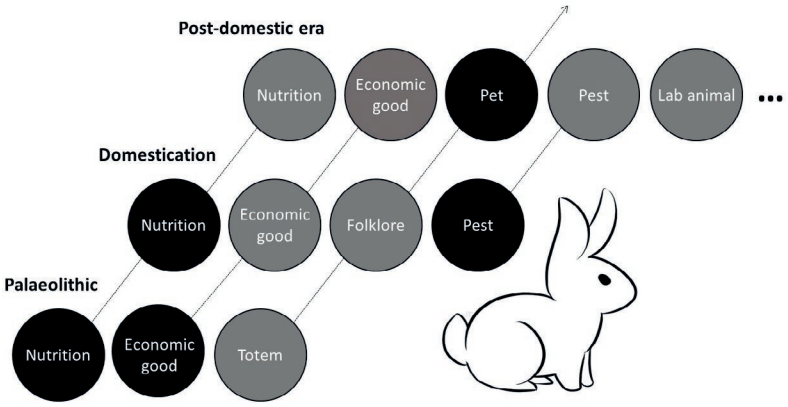

Figure 1: Superimposed societal roles of rabbits throughout the ages (breakdown in three epistemes: The Palaeolithic, the switch to domestication and the current post-domestic model), where the black circles indicate what are likely to have been the perceived predominant function(s) for a given era.

Domestication: a late addition to the livestock inventory

It is not entirely clear, due to the patchiness of the archaeological findings, when and to what degree rabbits and hares started to be included as livestock in the settling communities of the Neolithic (Petracci *et al.,* 2018). What is known, however, is that domestication was considerably later than for other animals. A reason for this may have been the relatively low energetic density of rabbit meat (Smil, 2013). Also, there has always been an overlap between their breeding and hunting (Carneiro *et al.,* 2014), making true domestication a less stringent requirement.

It is only in the Mediterranean region during the Iron Age that signs of systematic use of rabbits and hares start to become more visible (Lebas *et al.,* 1997, Dalle Zotte, 2014; Petracci *et al.,* 2018), after which Roman and Gallic populations began to hunt rabbits in coneygarths and farm them to some degree (Dalle Zotte, 2014; Irving-Pease *et al.,* 2018). More advanced types of cuniculture were developed by Christian monks (Clutton-Brock, 1999; Kiple, 2007) and were subsequently adopted by Mediterranean rural families to enhance self-sustenance (Petracci and Cavani, 2013; Trocino *et al.,* 2019).

As they spread beyond the Mediterranean, rabbits were bred worldwide for meat and fur or kept for hunting (*e.g.,* in England; Licciardelli and Cortese, 1962; Alcock, 2006; Martin, 2010; Beglane, 2015). In some cases, they developed into a destructive pest (in particular as a result of post-Colombian oceanic travels; Camus *et al.,* 2008). The husbandry practice of rabbit-keeping in urbanising societies also had the benefit of requiring very little farmland in times where land became a limited resource. Moreover, the practice of cuniculture can be easily integrated in city life, as has been documented for the London suburbs during Modernity (Thick, 2016). By then, the domestication paradigm was coming to an end and human societies, especially in the expanding cities of the West with their increasing purchase power and changing demands, were starting to develop new technologies and foodways, as well as a new worldview and conception of what diets should look like. This epistemic change had a profound influence on the type of human-animal interactions that were abolished, developed or maintained (Leroy and Praet, 2017).

RABBITS IN THE POST-DOMESTIC ERA

Trapped in a constellation of conflicting categories

As of the 19th century, rabbits began to maintain a rather complex and ambiguous position within the anthrozoological record (DeMello, 2012), which has been described as that of 'edible weeds' (Jones, 2008). This peculiar identity, combining 'utility' and 'damage' as well as slippery notions of 'nature' and 'wilderness', can be typified as that of a pharmakon (φάρμακον). A pharmakon can be defined as something that is both useful and harmful, in a superimposed manner. Although this concept seems to be generally valid for livestock (Leroy, 2019), rabbits have managed to become a particularly striking example of this superimposition (Petracci *et al.,* 2018). They now accumulate a variety of *appreciated* as well as *despised* societal roles, including that of livestock for the production of meat and fur, of game for hunters, of laboratory animals for scientific research, of vermin in rural areas, of fertility symbol in folklore, of economic resource in a market logic, of pets in urban bourgeois settings and as a means for zoo-therapy (Wilkinson and Fitzgerald, 1997; Camus *et al.,* 2008; Martin, 2010; Samfira and Petroman, 2011; González-Redondo and Contreras-Chacón, 2012).

These superimposed categories provide a dynamic constellation whose meaning largely depends on the context and the interpreter. All this does not relate to the rabbit *per se*, or the specificities of its ecological place, but rather to human interpretation and –therefore– the position of the animal in societal practices and their accompanying narratives (Scully, 2002). As an example, rabbits were seen by the British as an agriculture nuisance during the late 19th century, but became highly appreciated afterwards as a valuable food source during the Second World War (WWII). Eventually, they were popularised in British popular culture (the anthropomorphised rabbits of the novel *Watership Down*; Adams, 1972) and achieved a status that is now principally one of companion animal (Martin, 2010).

Contingency on societal trends and discourse implies that the specific roles of rabbits (or the emphasis on some of these roles) may fluctuate considerably over time, depending on both smooth and abrupt changes in worldviews. If shifts are epistemic (Figure 1), as can indeed be the case for human-animal interactions, truly fundamental

reconfigurations of meaning can be obtained (Bulliet, 2005; Joy, 2010; Leroy and Praet, 2017; Leroy 2019). As this also results in a change of attitudes and practices - and given the fact that rabbit meat consumption is declining in many countries (Kallas and Gil, 2012; Trocino *et al.,* 2019) - it is paramount that the dynamics of these transitions are well understood. Although the explanation for the declining levels of consumption is partially due to purely practical reasons, such as price competitiveness in comparison with poultry and the limited suitability for processing due to bone fragility and poor juiciness (Petracci and Cavani, 2013; Cullere and Dalle Zotte, 2018), a large part of the problem can be ascribed to factors that are cultural and belief-driven (Petracci *et al.,* 2018).

Heterogeneity of perception within the post-domestic model

It would obviously be erroneous to assume that contemporary societies behave as monolithic entities, whereby all of the individuals within a population simultaneously maintain or transform the same beliefs and attitudes in response to a given element (*in casu*, the societal place of rabbits). Instead, there seems to be considerable heterogeneity within the post-domestic paradigm. Variability is contingent on such factors as age and gender, ethnicity and cultural background, socio-economic status and degree of urbanisation (Hoffman *et al.,* 2005; González-Redondo and Contreras-Chacón, 2012).

Cultural variability may for instance be related to a lack of tradition with respect to the consumption of rabbit meat (*e.g.*, North America; Lukefahr *et al.,* 2004; Eastern European countries; Szendrő, 2016; Petrescu and Petrescu-Mag, 2018; Africa; Mailu *et al.,* 2017; Maigida *et al.,* 2018) or to religious or other societal restrictions (*e.g.*, Turkey; Wilson and Yilmaz, 2013). In contrast, the Mediterranean with its long-standing practice of cuniculture still has a relatively pronounced fondness for rabbit meat (Escribá-Pérez *et al.,* 2017; Trocino *et al.,* 2019). But also *within* a given cultural context, a considerable degree of stratification can be seen, for instance according to age. Even in Spain, with its traditional keenness on rabbit meat, a decline in consumption is noticeable in the younger segments (González-Redondo and Contreras-Chacón, 2012; Escribá-Pérez *et al.,* 2019). Spanish consumers over 55 years old, on the other hand, provide the societal group that is still regularly consuming rabbit meat, often at a rate of once a week or more (Escribá-Pérez *et al.,* 2017). Such persistence is also specifically the case within the group of middle-aged women who value cooking and food quality (Buitrago-Vera *et al.,* 2016). Additionally, rabbit meat consumption in Spain seems to be more pronounced among the lower socio-economic classes and among those with lower education levels (Escribá-Pérez *et al.,* 2017). In contrast, rabbit meat is becoming increasingly unpopular among young city dwellers, especially among the female ones (González-Redondo *et al.,* 2010), which is suggestive of effects that are transcending the traditional cultural frameworks and seem related to recent lifestyle dynamics that are situated within the urban classes.

Evolving human-animal interactions

Altering foodways lay at the basis of structural changes in human-animal interactions, including the way rabbit meat is provided to the general population. Prior to the industrial revolution, farmers were taking their rabbits directly to the market or selling them to butchers. Since the late 19th century and during the early 20th century, however, animal production –and animal slaughter in particular– were increasingly removed from the public sphere (Bulliet, 2005; Leroy and Degreef, 2015; Leroy and Praet, 2017). In Spain, for instance, most of the rabbit-producing units are now located in rural areas (Baviera-Puig *et al.,* 2017).

In parallel, and possibly as a result of this transformation disconnecting consumers from the notion that slaughter is required to generate food, direct confrontation with meat's animality has become problematic to urban populations, particularly so in Anglo-Saxon countries (Leroy and Degreef, 2015). It is also in the latter countries, particularly England and the USA, that animal welfarism, anti-vivisection movements and vegetarian societies first developed. As an example, British 19th-century animal welfare activists already described rabbit trapping as an inhumane activity (Martin, 2010). It may not be a coincidence that these are also the regions where the removal of scenes of animal production, copulation and killing from daily life has been the most drastic, particularly in the post-WWII generations (Bulliet, 2005). In such a situation of disconnect, it becomes particularly difficult to face the idea of animal killing for food. This is possibly the case because of empathy and anthropomorphisation, whilst the slaughtering process and

the resulting animal carcasses also remind us of our own mortality and, thereby, generate feelings of disgust and guilt (Leroy and Praet, 2017).

Status confrontation: when different roles collide

Rabbits hold a special position within the above-mentioned problem of killing animals for food. One of the major elements that are nowadays differentiating rabbits from most other livestock animals is their explicit *cuteness* and their popular status as household pets (Wilkinson and Fitzgerald, 1997; Hoffman *et al.,* 2005; Petracci *et al.,* 2018; Petrescu and Petrescu-Mag, 2018). This is a rather recent phenomenon, at least from a historical perspective, which dates to the Victorian era and was propagated thereafter in popular culture (Anonymous, 2019). As cultural constructs derived from the urban middle classes, pets are known to modulate human attitudes towards the use of animals for food production (Serpell, 2004; Leroy and Praet, 2017), so that the eating of rabbits may even become a challenging issue within cunivore countries (González-Redondo and Contreras-Chacón, 2012). Studies conducted in different countries showed that disgust and ethical concerns were stronger in women compared to men (Rousset *et al.,* 2005; González-Redondo and Contreras-Chacón, 2012; Szendrő, 2016; Petrescu and Petrescu-Mag, 2018). A combined status of meat animal and pet may generate cognitive tension and dissonance upon exposure to the post-domestic consumer.

The fact that rabbits are mostly marketed as entire carcasses, usually without removing the head, tends to make the confrontation too explicit for urban sensitivities (Leroy and Praet, 2017). It is indeed less common and - due to technological constraints - more difficult to hide references to the animal origins of rabbit meat through cutting, packaging, processing and even mincing or breading, than it is for pork, beef and poultry (Petracci *et al.,* 2018). In the early 1970s, however, part of the production ended up as pre-packed and cut-up carcasses, for instance hind legs and loin, to meet the demand from urban areas (Petracci and Cavani, 2013; Dalle Zotte, 2014). More recently, rabbit meat sausages and hamburgers are being marketed to attract young urban populations (Escribá-Pérez *et al.,* 2019), which is however hampered by their irregular availability at the points of sale (Fernández, 2019).

Some examples of the confrontation between the post-domestic view of animals with their actual use as food have been mentioned previously by Petracci *et al.* (2018). These examples included the practice of backyard slaughter of rabbits in the United States, which has been triggering strong emotional opposition (Blecha and Davis, 2014). A famous English novelist created public outrage, not the least among her fans, when she displayed photographs on social media of how she personally butchered and cooked a rabbit, thereby feeding its entrails to her cat (Gold, 2014). Also, a German primary school made the news after including its pupils in an educational project, in which a rabbit was slaughtered in the playground to raise awareness that meat involves animal killing (Lüpke-Narberhaus, 2011). The children were requested to 'thank' the animal for its meat, which is reminiscent of how hunter-gatherers generally approach the act of animal killing (Leroy and Praet, 2015). This approach, which advocates a higher personal involvement with the act of butchering from an early age, has also been mentioned by Shepard (1998) in his influential work '*Coming home to the Pleistocene*'. The fact that post-domestic families excessively protect their children against scenes that are 'revolting, corrupting or revelatory' has also been addressed by Bulliet (2005), suggesting that this may be one of the main reasons for the emergence of post-domestic sensitivities whereby fantasy is placed above real-life carnality. It has been empirically shown that Spanish students that have been involved in either hunting or the raising of rabbits also reported higher consumption levels (González-Redondo *et al.,* 2010).

In general, the above-mentioned issues evince a disconnect of the post-domestic subject from the everyday realities of the food chain. For instance, the fact that even the eating of plants (or vegetarianism for that matter) requires a considerable level of animal killing usually goes unchallenged. Although the actual numbers are hard to estimate with enough precision to allow for definite conclusions (Fisher and Lamey, 2018), crop agriculture requires the killing of massive amounts of critters due to the use of harvesting machines and ploughing, as well as pest control and poisoning, including not only many rodents but also an undefined amount of rabbits (Davis, 2003; Archer, 2011). Moreover, from a utilitarian perspective, it must be added that many more rabbits need to be killed per kg of meat than is the case for larger animals, such as pigs or cattle.

CONCLUSIONS

Rabbits are a valuable livestock resource, providing meat, fur, and wool. Given that the need for sustainable and healthy nutrition is one of the key global challenges, they have a lot of potential to offer and the expansion of their husbandry deserves further exploration, especially in deprived areas. Rabbit meat supplies quality protein, is rich in a variety of micronutrients, and suffers less from religious constraints worldwide than pork or beef. Its small-scale production offers great flexibility, also within urban scenarios, and –if done well– can be sustainably included in the food systems of the future. The main barrier seems to be its appeal to emotions, due to the perceived cuteness of rabbits, especially in Western urban settings that have no or little gastronomic tradition of rabbit-based dishes. Although the anthropomorphisation of animals is a general trend negatively affecting the role of livestock in the human diet, rabbit seems to be particularly vulnerable to this issue. This is regrettable in view of the important benefits it could provide.

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