Culinary Aspects of Ancient Rome

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Ars Cibaria

By

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Cambridge Scholars Publishing

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To Miguel

Fundamentum vita

CONTENTS

LIST OF FIGURES

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INTRODUCTION

The study of the history of food in antiquity demands the participation of different knowledge areas – perhaps more than in other times – to obtain adequate and convincing results, to the extent that available data and trustable sources allow. The opportunities for its study emerge from the integration of diverse scientific disciplines, which help configure the identity of the Roman alimentary system.

The limited temporary space of the history of food that shaped the lives of the ancient Roman world offers a detailed account of the activities of ordinary individuals and their interactions with agriculture and livestock, industry and commerce, the economy, medicine, and available technologies as well as philosophy, anthropology, religion, sociology, the arts, and literature. It reflects the way they lived, feasted and enjoyed themselves – all in all, the thinking and the values of a vibrant society.

Attempting to reach a better understanding of any society through food is a complicated endeavour, particularly in a historical civilisation remote from the present. It calls for a thorough interpretation of the technology available at each time under consideration, the institutional framework, the architecture, and the available agrifood resources, and even its social habits, the way people conceived religion, morality, and food practices.

Understanding the history of food as a means of facilitating the knowledge of human beings as complex subjects will allow establishing how their development evolved in parallel with social transformations. We will understand how, in turn, humans develop food technologies and cause mutations in their ecosystems relevant to the rhythm of progress.

In discussing the society of ancient Rome through the history of food, I have ventured into a captivating scholarship. The journey involved a thorough exercise in getting consistent and fact-grounded results, interweaving into a coherent body the countless different scraps of information about food. The integration of multiple scientific disciplines and the comprehension thereof revamps study on the history of food into a multifaceted research endeavour of well-grounded intellectual value. Evolving further into regarding gastronomy or food as the form of expression of a particular culture, cookery could even manifest as an intellectual and artistic process.

The history of food reviewed in the following pages examines the evolution of the diverse means and capabilities that made it possible for the Roman society to accumulate significant expertise in culinary technologies

and its associated activities, from agriculture to cooking processes, from the development of preservation techniques and methodologies to storage, from transport to the establishment of trading routes, and from the expansion of markets to the regulation of prices and weights and measures.

The study of food facilitates the recognition of the cohesion and perseverance inherent in the human adventure the constant quest for energy intake entails. First because food transforms into fuel, the primary source of energy on which people subsist, and second, food also provides valuable knowledge about other non-food issues. Ultimately, food connects people with their territory, ecosystems and history.

The instinct to search for food, produced by the hunger low levels of glucose trigger in the hypothalamus, has ensured that humans have endured as a species and developed over thousands of years. The study of food also involves talking about food as an intellectual and artistic process, its transformation into gastronomy, and the expression of a particular culture. It also concerns concurrent activities – its relationship with legal and juridical characteristics in the Roman world, articulated through the Digest of Justinian, the Edict of Diocletian or by the *Lex Irnitana* that regulated the banquets of the local elites.

We ask questions of history to know more about human beings – how they lived, their complex evolution up to the present, and the different expressions individuals have adopted over time, among others. This also applies to the history of food, through which it is possible to learn the influence of the economic, political and social movements as well as the aspirations of societies, the simplicity of rural life, and the opulence of the high courts.

Food plays a pivotal role in the manifestation of social discrimination around the food system universe, with a meaning that represents both extremes. It is a perception of identity and, at the same time, of social conflict, where the individual becomes the axis of personal choices and food opportunities. Before the implementation of gastronomic resources, there exists a system of values and rules as well as a gastronomy aesthetic and literary articulations, which become part of the national identity and its distinctive historical period.

At narrower levels, gastronomy pertains to the framework of symbols that represent a socio-professional and cultural identification. Gastronomy performs a vital role in the symbology that explains each of these values, along with the principles of philosophical and religious thought. For instance, gastronomy is reflected in the sacrificial victim's identification with food, and the cook as the sacrificer or priest. The recipe, also, is equivalent to divine instructions since it conveys the mystification of food

that transmutes into gastronomy, thus becoming a symbol intimately related to the thinking, to the intellectual evolution, of a society, and even with other personal metaphors. It is then that gastronomy appears as the subject of the interaction of a group's tangible and ecological possibilities, with the religious and philosophical thoughts, and the circumstances that qualify individual and social realities, and, hence, it does not represent a fully vertical social system.

Likewise, the author revisits the social significance bestowed to food: whether the banquet or the simple daily act of sharing food with others from diverse angles – from the purely administrative organisation of the state to the small and household aspect. She does not pretend, therefore, to offer an exhaustive analysis of each of the various aspects reviewed. Instead, she will outline the complex research that associates them to the culinary, technological, and social facets and food production and its development over time. Also, the thesis discusses how food has been a manifestation of Roman culture through time and the significant changes this civilisation underwent due to food.

The findings of this work address a series of systematised food attributes deemed relevant for ascertaining that eating every day in Rome was not a dream but a well-satisfied need. The interpretation of certain distinctive aspects of feeding in antiquity demanded the author call on the knowledge contributed by the science of nutrition. The inferences derived from the said interpretation are exposed throughout the writing. Finally, the book describes some experimental tests the author conducted in order to confirm her theoretical research herein.

One of the novelties included in this work, and which the author considers a remarkable contribution, is that she tested, with the assistance of professional cooks, a number of the recipes and cooking techniques mentioned by different classical authors. The author wanted to shift from anecdotal aspects and explore the intricate research processes that the analysis of the history of food in antiquity required more deeply, and, of course, understand how cooking was savoured – something that would be very difficult to achieve taking into account how taste has evolved. Some tests to ascertain the different culinary techniques and the food's physical-chemical properties were carried out, with excellent results. The cooking assays provide a closer understanding of the intelligence behind the different culinary techniques and recognition of food properties, even the simplest ones. In particular, the analysis depicts a comprehensive picture of the culinary techniques and a credible account of the skills applied to control the temperatures and stages of production in the kitchen. That is to say, erratic or casual culinary practices – the outcomes of chance – are avoided,

and the reader is immersed in proven ways of employing and putting into practice an array of systematised methods and techniques that required the involvement of excellent connoisseurs.

When I started researching and writing about food, [1] it was a disheartening scenario. Finally, my enthusiasm was revived when I realised that several well-known historians had found – albeit gradually – evidence of the significance of food in primary sources. Scholars had begun to value the social and cultural aspects of alimentary facts, beyond counting calories or enumerating recipes.[2] Food – and not only the recipe – plays an essential role in defining a model of civilisation, with three aspects of this model existing in the ancient world: the analysis of conviviality, the type of food consumed, and, the craft of cooking and the preparation of diets from a medical standpoint.[3]

The new scientific studies on the history of food are attracting widespread public attention, but they are mostly centred on one of the most straightforward instruments, such as recipes, and often neglect the deep historical processes bearing a close relationship with food.

As for the sources used in writing this book, those of classic literary origin, Latin and Greek, made an invaluable contribution. Epigraphic and archaeological sources also deserve significant credit. Equally, the author esteems the sources from current literature and the works of prestigious scholars connected to food, which include economic, medical, ecological, administrative, and agricultural studies, and of course, those strictly referring to the alimentary element. The four chapters of this book include over five hundred citation notes derived from the sources reviewed.

It has been quite a challenge to offer, as a novelty, the topic chosen from the early stages of the research. Hence, the perception of entering uncharted waters has made the venture both extraordinarily fascinating and rewarding. Additionally, because of the need to structure the work from very diffuse and dispersed bits of information, the manuscript has virtually been built up as if it were a jigsaw puzzle. Despite the underlying difficulties, the challenge of locating, analysing, and interpreting sources, arguments, and hypotheses has been an enriching and stimulating task, to which I have devoted significant time.

With this essay, I intend to interpret and collate the available information bearing in mind the historical usefulness of food studies. It is a critical tool for the historical knowledge of the individual as a complex and complete being. Without food, there is no life, and the first human activity is precisely to feed. The works of agronomists, legislators, moralists, and writers have placed great attention on food habits and practices in fulfilling their primary role of guiding the societies of their times. Due to its permanence in time,

the study of food was not a set of static practices but of dynamic ones. It progressed in parallel with society's evolution to become a collection of advanced technologies and knowledge about food.

I hope this work will demonstrate the importance of a fair assessment of the history of food as a discipline in the great family of humanities and, as such, requires a series of distinctive attributes for its study to be productive: rigorous scholarship, use of interdisciplinary knowledge, and a research methodology capable of analysing the food, recipes, and technology that have been integrated in society. Consequently, I expect that the scientific content of the history of food herein discussed will attract the attention of readers within the framework characteristic of a field of study in which multidisciplinary scientific aspects participate.

The value of the hypotheses presented in this book relies, therefore, on whether they offer a broad vision of the Roman food system and furnish the reader with significant evidence about the existence, richness, and possibilities of a unique system. It is with the hope that this research is successful in expanding the knowledge concerning the Roman culinary technology and the activities associated with it that the author tried her hardest and spent long years on devoted research.

To explain the evolution of the history of food in ancient Rome, the author departs from a diachronic review. She contextualises the facts, when it has been possible to analyse sufficient relevant data, as well as the conclusions illustrating the whys in a comprehensive framework instead of presenting them as isolated questions and without a final integrating analysis.

The diachronic study aims to elaborate on the evolution of human customs and the introduction of food in ancient Rome as well as the authentic food revolution that had as much influence and relevance as the one in Europe following the discovery of the American continent. Through the study of the history of food in Rome, different issues arise that require the use of specific terminologies. This work attempts to elaborate on the terminology of the food system and food revolution with the aim of enlightening the reader about the processes examined here.

With these two expressions, the food system and food revolution, the author attempts to articulate the entire food domain in the ancient Roman world which encompasses a significant number of facets. With the rubric food system, the purpose is to display the complex world around food – much broader and more valued than the simple act of eating – and that includes attributes related to the material space around the food – markets and transport, pantries, dining rooms, kitchens– as well as the customs, traditions and novelties of each particular juncture. Also, it embraces the

preservation and culinary technologies, the personal and social attitudes towards different foodstuffs, and food as a symbol of religious, social, and cultural character. In short, food is conceived as the materialisation of thought, from the social or cultural domains to the religious sphere, as the form of expression following an intellectual process.

Figure 1-1 shows the relationships between the different components of the food system.

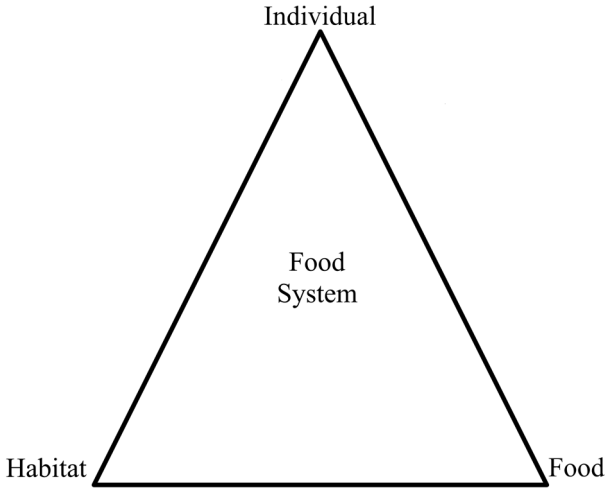

Fig. 1-1. The Food System.

The vertices represent each of the elements that intervene in the act of feeding: food, the individual, and the habitat. However, eating is not just bringing the food to the mouth; it is not a restricted act that follows the steps of a recipe or the intake of food afterwards. Before all that, it is a system of religious and philosophical thought, with essential connotations to other vital aspects. Eating is a means of manifesting oneself in society. In order for a *food system* to exist, it is necessary that first a material culture emerges, and then a series of food practices, and that diversity and complementarity occur between them. From the association of culture with food practices, we may elaborate on the *food system* and improve it with features distinctive of each epoch and society. Eating above the instinctive nutritional act is a matter of prestige or need, which works at a social or individual level, and outlines complex or rudimentary attributes involving the interaction of the three vertices of the triangle.

The first vertex refers to the individual, the one that chooses and is always constrained by a habitat. However, the individual owns the tastes that help them choose. A health condition may prevent or stimulate them to eat certain foodstuffs; their profession, religious beliefs, economic position or social environment may also have a direct relationship with their food choice. In this sense, it matters where, when, what, and how they eat. The individual is not only the food consumer but the subject that exercises a direct action on it by choosing, modifying, and, finally, eating it, or not.

The second vertex represents the food available. Not all foods are on hand at all times, and the choice is usually limited to a few possibilities ingrained within the ecological, historical, and geographical context. Thus, it is known that in tenth-century Europe, people did not eat tomatoes and potatoes because they were unknown, but to the people of the then-undiscovered world, they were a subsistence option. Today, extinct animals and plant species, such as the mammoth and Cyrene's *silphium*, are not available to us. It is the food in existence that determines what humans could eat at each particular historical moment.

The third vertex of the triangle means the habitat, the circumstances that surround the human activity of feeding. It is the apex that nurtures the relationship between the individual and food because it encapsulates the affluence of very complex situations. The habitat encapsulates the agronomic, production, architectural, religious, economic, social, medical, gastronomic, and technological aspects that interact between the individual and food by modifying their relationship. The individual and food are not considered in isolation but inserted in a medium that geographically and historically pertains to them.

Therefore, the *food system* is created by the complex relationships between the three elements outlined in the triangle: individual, food and habitat, and their interaction with the environmental, agronomic, productive, economic and technological ecosystems, as well as the cultural, religious, social, and historical surroundings, and personal taste by which the individual chooses or rejects certain foods.

Within the triangle shown in figure 1-1, the *food system* overtakes the inner space, delimited precisely by the three vertices. The interior of this triangle is open to novelties. It is permeable in both senses, always active to neglect or accept diverse food-related beliefs. The term *food system* embraces the complex reality of the universe around food, which is broader and more vibrant than the simple fact of eating, and includes approaches related to the material space around the food – markets and transportation, which require the domestic availability of dining rooms, kitchens, larders pantries warehouses, cellars. It also includes customs, traditions, and

novelties from each particular time, knowledge about preservation and culinary technologies, and personal and social attitudes towards the consumption of different foods. The *food system* adopts a series of essential traits concerning the idea of nourishment considered as a symbol in different domains. Food evolves through a dynamic process under continuous evolution, and, at the same time, and due to the challenges it faces, the *food system* also destroys some of the unique attributes attached to it.

Conceptually, the *food system* permeates any historical period since it traces a set of cultural, social, technological, intellectual, environmental, and material realities over a specific time, and here it appears as a tool to better understand the classical Roman world. It represents the timely development of a culture through its alimentary habits; that is to say, it is a dynamic process capable of accepting novelties but also gathers and disseminates certain aspects through history. The constant metamorphosis that intrinsically characterises the alimentary system is, therefore, a fundamental quality that conveys the features of food and spreads parallel to its historical development.

The *food revolution*, another term used through this work, integrates a much more apparent meaning. It elaborates on the arrival of a series of far-reaching revolutionary changes experienced by the *food system* in the second century BC associated with food and customs, even with physical spaces linked to food. It propels the entire pre-existing food system, changing it in a radical and lasting manner. The causes of these transformations trace the conquest of Hellenistic states and how "captive Greece fascinated the conquering barbarian" (Hor., *Epod*., 2, 1, 156). So, it was a conquest in all senses, including the attraction of cultural and food characters.[4] Greece was the *fons et origo* – source and origin – of many of the changes in Rome. The concepts of *mollitia et otium* – softness and leisure – were radically divergent from Roman's austerity and disciplined character – but they were so attractive that, finally, the Roman culture embraced them.[5]

Virgil's beautiful verses concentrate the *Saeculum Augustum* thought: the importance of the land and harvests, the peoples that inhabited ancient Rome and the remarkable effects of the social and civilising work on it:

> Here never bulls
> With nostrils snorting fire upturned the sod
> Sown with the monstrous dragon's teeth, nor crop
> Of warriors bristled thick with lance and helm;
> But heavy harvests and the Massic juice
> Of Bacchus fill its borders, overspread
> With fruitful flocks and olives...
> Hail! land of Saturn, mighty mother thou

Of fruits and heroes; ‘tis for thee I dare
Unseal the sacred fountains, and essay
Themes of old art and glory, as I sing
The song of Ascra.
(Verg., *Georg*., 2, 140-175)

CHAPTER ONE

SUPPLIES FROM THE GARDEN TO THE LARDER

1.1. Production sites and transportation

This section analyses the supplies that were essential for the proper development of an adequate diet recognised personally and by the different public administrations that actively supported what they called social peace. [6] This unit, therefore, is framed as a compendium, aiming at understanding the food and lifestyles, as well as their meaning, in the Roman world. It is the food system concept, where all the necessary factors meet for a comprehensive analysis.

Rome as examined in the ensuing paragraphs, developed a well-structured supply management culture, with an abundance and variety of food products, both agricultural and livestock, of extractive nature or cultivated, as it evolved within the context of Mediterranean civilisations.

1.1.1. Production sites

The agrarian structure was one of the foundations of Roman society. *Latifundia* and small properties had coexisted since a very primitive age, whose only disparity in earlier times – until the first Punic war – was the land size and not so much the differentiation regarding crops.[7]

However, with the eastward expansion in the second century BC, agricultural markets emerged concurrently with, on the one hand, urban development, and, on the other, the increasing need for food in town or city centres. The exploitation of lands for self-supply ceased to be a reality, and businesses dedicated to the profitable production of more goods intended for the supply of urban markets developed. Finally, profit prevailed over the family subsistence order of the previous period.[8]

The ideal character of the republican peasant – depicted beautifully by Cato– was the model that symbolised the unique life concept in Rome The *villae* self-sufficiency of "always sell and never buy" slowly became a memory (Cato, *Agr.*, 2, 7).[9] Cato, the last Republican, expressed his ideal as

a moralising concept since, as pointed out earlier, eastward expansion gave rise to the market agriculture that changed Rome's food landscape.

An urban civilisation was configured and built over the agricultural surplus.[10] The Roman fellow is a peasant by origin, and this attribute is visible throughout the history of Rome. The vast majority of the ancient Roman population laboured on the land or depended directly on it for their subsistence.[11] They lived in rustic villas, adjusted to the possibilities of each family so their food supply was secured. A relative self-sufficiency of resources could be achieved through an adequate interplay of the opportunities, land, labour force, and the economic system.

Cato and Varro praised the rural working setting and the benefits that this entails in everyday life, and so does Virgil in a more evolved time and bucolic way.[12] Virgil, in his work *Moretum*, depicts a humble and far-sighted peasant, *Simulus*, who, foreseeing the dreaded typical temporality of the ancient world, works a small plot of land to have food to survive (Verg., *Mor*., 1-30; 59-84), and even manages to sell the surplus in the market every nine days[13] (Verg., *Mor*., 78-79). Despite his difficult circumstances, he can support his needs and those of his housemaid. In order to satisfy them, he did not need to spend much but only to be well organised, have precise knowledge of the seasons in which to harvest, store some food in the form of preserves, and finally, know how to combine them so that their utility was the highest possible. Indeed, this is nothing more than an aspect of rural life. Plautus and Terence in their works tell of slaves whose most significant punishment is being sent to the countryside to live the harsh rural reality.[14]

In the field of agricultural production, and regarding cereal yields – the food backbone in antiquity – it might be argued that it did not necessarily operate under what these authors call a "chronic weakness that guaranteed its collapse".[15] On the contrary, the smallholders obtained relatively good yields out of their crops and farmlands through intensive labour.

Moreover, the wealthy peasant, installed comfortably in his villa, tried to streamline communication from the city to his property, allowing him to manage his crops while regularly living in the countryside. Over time, wealthy owners opted to leave their properties under the management of a trusted slave, the *vilicus*, while they engaged in political activities in the city (Cato, *Agr*., 4). Meanwhile, their city houses were supported by the products of their *fundus* – estates (*Dig*., 33, 7, 12, 39). Thus, the rural landscape progressively changed as society became more and more urban. For this reason, large *villae* evolved into production centres, and transport became essential. Relatively fast and efficient communication helped to supply a higher number of markets. The Roman estates finally split into two broad groups of owners; small farmers, who barely subsisted on the low income

provided by the land; and large landowners for whom the property was a crucial source of revenue and no longer just to provide the family with provisions. This process was associated with the consolidation of slave villages and their specialised production of wine and olive oil, which seemed almost industrialised and carried with it the decline of the free rural population and small landholders.[16]

As for the structure of agricultural production throughout the time, three phases reveal the typical organisation of markets and the sourcing of food provisions.

1) Self-supply.[17] The *latifundia* and small extensions were cultivated by peasant and almost slaveless labour. The sons and sons-in-law worked the land under the father's authority, the head of the household. The properties were practically self-sufficient.[18] The meat eaten was that of pork or sheep, very often salted and preserved, also poultry and big game, although more commonly small game. Oxen and cows were seldom eaten but instead sometimes offered for public sacrifices. For a private individual, these beasts were too valuable. They served as draught power to till the plots and also as a source for dairy products, mostly cheeses – food with a longer shelf life than milk.[19]

Austerity as a way of life inspired this period of Roman history, becoming a model and paradigm centuries later, perhaps even a stereotype, as noted earlier. Gradually, the progress of urbanism and the creation of a robust state induced parents to settle down in the *Urbs* (city of Rome). This relocation and the gradual leaving of their rural properties in the hands of trusted slaves offered households the chance to play a political role in Rome.

2) The formation of large estates and monocultures, economically more profitable than simple self-sufficiency. This phase reflects the existence of a very low-cost slaveholding society and, therefore, a productive labour force. The agrarian crisis that characterised the final stage of the Republic was motivated in part by the imbalance in the previous system.[20] The peasantry, the owners of small domains, saw opportunity disappearing in the rural world and very often needed to sell their properties. They then migrated to the big city in search of another way to earn their living, by becoming a craftsman or beginning some other undertaking.

This fact, added to the higher economic capacity of the medium-high and upper-class landowners, increased the number of *latifundia* and gradually decreased the number of small properties. It was necessary to employ additional slaves to work on the farms, to keep these great domains going during the most intense labour periods such as harvesting. Cato, in the second century BC, depicts a very revealing agricultural dimension. Farmers worked very skilfully at viticulture and the grafting of fruit trees –

very profitable endeavours – while other crops, such as cereal, little by little turned out to be not so lucrative. They yielded progressively lower productivity than the previous crops, and, anyway, it was less effort to import such products from other regions.

3) The departure of an efficient peasantry in Italy and higher profitability by importing cheaper staple foods from the provinces. Meanwhile, large farmsteads producing luxury products proliferated, as diverse sources evidence[21] (Varro, *Rust*., 3, 3, 1; Sen., *Ad Luc*., 90, 10; Mart., *Epigr*., 10, 30). At the same time this specialisation was increasing, only a fraction of land was allocated for growing grapevines, olives and fruit trees. Stockbreeding, which required less care than growing cereals, occupied another significant area. Namely, the accommodation of agricultural and livestock activities had definitively changed the landscape of family self-sufficiency, evolving towards an entrepreneurial initiative.

Varro wrote his treatise on agriculture in 37 BC and stressed the importance of farmstead luxury products such as peacocks, pheasants, dormice, snails, and fish farms.[22] The way of life in Rome and the big cities, as well as the expansion of social relationships within a new conceptual framework, illustrate these facts. The demand for products, techniques and innovative presentations prevailed over ways of thinking and living that had become outmoded. A set of interactive relationships between city and countryside formed, driven by certain factors, including the ecosystem, the history of their affiliations, and the political and socio-economic systems.[23] These connections led to an interaction between cities and the nearby territories, which channelled production that helped expand the convenience of the city markets.

The conquests to the east transformed Rome in many ways. The introduction of new animal and plant species into the Roman agrifood domain notably modified the food landscape. New know-how and agronomic and livestock techniques like grafting, and the introduction of new species and orchard and garden novelties expanded the gastronomic richness of the Roman food system and were accepted so quickly that in a short time it was difficult to distinguish between the local and the imported staples.[24] In a way, the East helped create in the Romans a need for the unknown that promoted new food customs by emulating the manners of Asian courts. Simplicity or the old frugality gave way to variety and refinement. Affectation, snobbism, modernity, or adaptation to the new times?[25]

1.1.2. Food transportation

Navigation and long-distance caravans

Maritime and fluvial shipping, as opposed to land transport, had a clear advantage.[26] The road network was impressive but certainly much slower, especially for big loads, whose large-scale transport might even prove impossible by road. This explains why water transportation was preferred over land transportation and became a factor of the longer routes; thus each method complemented the other. The problem with maritime transport, on the other hand, would mainly materialise because of pirates.[27] Transport costs varied notably. River transport was almost five times more expensive than by sea; and by land, it would cost between 34 to 42 times more.[28]

Even the *Urbs*' daily consumption needs of basic staples such as cereal, wine, oil, *garum*, and other foodstuffs necessitated the deployment of large capacity vehicles or a considerable number of them to carry out the heavy loads.[29] Freedmen managed the large ships transporting non-perishable food, and accumulated substantial fortunes thanks to this trade. Such was the fictional *Trimalchio*, a wealthy businessman who chartered his first five ships loaded with wine and lost them all. However, he did not surrender and procured five others, even bulkier, this time overstocking them with slaves, bacon, wine, and fava beans – *Vicia faba*, fava bean or broad bean – as well as inedible goods such as perfumes. According to Petronius, this was the beginning of *Trimalchio's* vast fortune[30] (Petron., *Sat*., 76, 3-10).

Most likely, the yields and profits of the prominent merchants were substantial, but so were the associated risks. Transportation was a lucrative business, and if there were no misadventures, like the one *Trimalchio* suffered on his first trip, it could turn very profitable. The freedman succeeded in recovering his fortune; for other people, the loss of five vessels would have meant a dramatic bankruptcy. Luck and entrepreneurial spirit did the rest. The trade of expensive products throughout the Mediterranean was very lucrative. This was not the case with consumer goods such as food, however, until it was possible to lower costs and make shipments in large quantities, then profits became a reality.[31] Pliny notes that products arriving from India were sold in Rome a hundred times above their original price, which gives an idea of the considerable benefits in trading food and luxury items (Plin., *HN*, 6, 101; 13, 84).

Concerning the transport of food, a study based on a dozen documents from Murecine's *Sulpicii* files– mostly preserved on waxed tablets – offers useful insights.[32] These files provide an account of Puteoli port activities between the years 37 and 39 AD; in particular, those written by a *mercator frumentarius* of the said city, a freedman named *C. Novius Eunus*. The

Murecine files provide evidence that some of the traded goods stored in the port warehouses were wheat, legumes – chickpeas and lentils – and the mysterious *monocopus*, which appears to be a legume or cereal.[33] A critical aspect of long-distance food transportation is that there existed a trade dealing with products such as cured, smoked or dried preserves, cereals and legumes with lengthy conservation margins.[34]

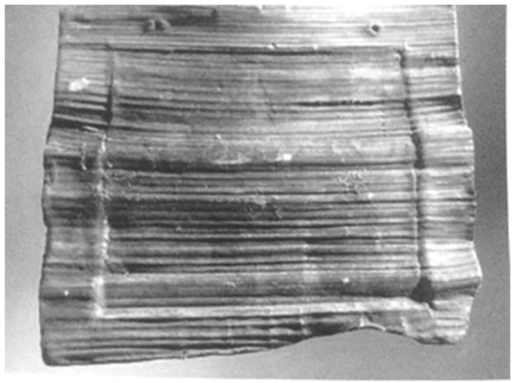

Fig. 1-2. *Tabula cerata*. Sulpicii Archives. Murecine, Pompeii.

Other points to examine are the distances, the benefits obtained, and the characteristics of the transported products: the size of the boats, for example, that, logically, the larger their size, the more rewarding the venture. Strabo indicates that the ships that left Turdetania sailed in big flotillas and were of enormous dimensions (Strabo., *Geog*., 3, 2, 6). These ships departed to *Dicaearchia* – now Pozzuoli, near Naples – and to Ostia, transporting wheat, wine, olive oil, wax, honey, salt, salted fish, and rams and other livestock. Most likely, the meat of different animals would be cured into salted meat or smoked before transport, and other times preserved in animal lard or vegetable fat.[35]

Of course, transportation by river or sea was undoubtedly more economical and efficient than that carried out by land.[36] Sometimes it could be very fast, particularly during the Mediterranean summer, when a boat could sail Ostia-Africa in two days, and Puteoli-Alexandria in nine, which prevented the deterioration of the transported products.[37] However, during the winter, trips were reduced to a minimum, thus avoiding storms and lack of visibility.

Senators with appropriate economic strength could afford to make significant investments in large-scale transportation and so benefit from

significant business opportunities. The legal framework for large-scale trading permitted senators to charter vessels with a maximum load of 300 *amphorae*.[38] Despite the strict legal rules that prevented the political class from gaining access to this great trade, they found ways to circumvent the limits. So, ships larger than legally allowed were built and owned by vast fortune holders, including the senators. The most active and visible group of businessmen came from *equites* and wealthy freedmen, which again links this activity with that of the fictional *Trimalchio*, bringing it to reality. The difference between the group of senators and the *equites* and wealthy freedmen is that the second group benefitted from the legal and even cultural limitations that restrained the senators.[39]

Thus, it was easier for them to access great fortunes, which included real estate properties such as villas, farms, and mansions, and, of course, money (Cic., *Att*., 3, 196, 3; Cic., *Rosc*. *Am*., 133). For their part, some senators, to avoid acting illegally, developed large-scale food trade by retaining trusted freedmen to front their businesses. Rome's significant needs justified the existence of large merchant ships with much higher capacities than legally allowed – the limitation of 300 *amphorae* per ship and senator.[40] Also, the most promising ventures came to pass thanks to the existence of large vessels, with the capacity to store a higher number of *amphorae*, which made other options unfeasible.

However, the Roman port of Ostia lacked the conditions to accommodate the enormous dimensions of these ships. For instance, Puteoli was used instead as a mooring place for cereals arriving from Sicily, Egypt and North Africa, as well as other products such as wine.[41] There are three reasons to reexamine Puteoli as an *annonario* port. Firstly, the operations of the *mercatores frumentarii* in the Julio-Claudian period and the trade of the Alexandrian grain to the said port, evidenced by the information collected in the *Sulpicii* files. Secondly, because of the emergence of the well-integrated port and commercial structures and recently reconstructed topography, with the inclusion of the city's famous Neronian period *opus pilarum* and, finally, the epigraphic documents about the *annonaria* organisation and the cereal trade in Puteoli.[42]

Another common practice to unload and adequately organise the of goods on board the big ships was to dispatch the said articles to smaller vessels. The smaller ships could anchor more easily at smaller ports, as well as the possibility of further fluvial navigation to arrive at the destination port. The business of transporting large quantities of food was undertaken by wealthy individuals who frequently completed the production cycle with the transport and sale of food items, making it easier for the traders to end the transactions with substantial economic benefits (Petron., *Sat*., 101, 4).

An alternative route of shipping large quantities of grain to Rome from the prosperous south of Italy was through a canal built in Nero's time[43] (SHA, *Nero*, 31). The work began in approximately 64 AD. The channel extended from Lake Averno to the port of Ostia, where it connected back to the capital.[44] Sometimes the merchandise arriving at Puteoli was channelled to Ostia, and from there it reached Rome following the usual route.

Finally, during the High Empire, facilities to carry cargoes were enhanced. The first great link of significance began with an Alexandrian company, which between 334-323 BC managed to mobilise more than 50,000 men – Greek and Macedonian – to the Asian continent. In the High Empire, the Roman world constituted a pan-Mediterranean community – open, multi-ethnic, multilingual, and, above all, an integrated, interconnected and multicultural space.[45] It was Octavio Augusto– 31 BC to 14 AD – who laid out the foundations of the relationship between the capital and the provinces, easing the free movement and displacement of people. During his tenure, there was a significant migratory flow that influenced the displacement of food products in cases of migrations based on business and economic grounds.

As for the final quality of the transported goods due to the time elapsed and the conditions during the journey, wine, for instance, would not have suffered too much as long as it was left to rest for a few weeks before being imbibed.[46] The olive oil, transported in *amphorae* – that prevented the passage of light and air – and because of the fat oxidation, could be consumed for at least a year without becoming rancid. Other transported foods such as salted meats and honey, or *garum*, by their very nature offered prolonged duration and therefore stable conservation, provided that the containers they were in prevented the introduction of alien objects or insects.

On the other hand, both cereals and legumes, although they are easy to preserve and do not pose material problems, were vulnerable to insect-borne parasitisation, the deterioration of grains and seeds, and premature germination. The most critical objective for these foods was the deployment of silage and transport procedures, ensuring the application of strict conservation methods so they would reach their destination in good condition. The most severe damage could be caused by the quality of the transport system itself, the proliferation of insects or excessive heat, all of them avoidable factors if the temperatures remain below eighteen degrees Celsius. Intense heat activates the grain enzymes, degrades the starch and thus promotes microbial activity.

To keep the grain in good condition, proper ventilation was necessary to prevent germination, which might occur in the presence of favourable oxygen, temperature and humidity conditions. The existence of pests in