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A short history of human nutrition from prehistory to ancient civilisations

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Abstract. The history of food is as long as the history of humanity: throughout history food, eating habits and behaviour have been conditioned by climatic, psychological, relational and technological factors since food can also be considered culture. Retracing the essential stages of human dietary evolution in ancient civilisations highlights how changing geographical location, climate and improving technologies have even changed (not always for the better) eating habits.

Key words: Food, Nutrition, Prehistory, Ancient Civilisations

Introduction

From prehistoric times until the beginning of the Neolithic period around 10,000 years ago, man was a nomadic hunter-gatherer whose food consisted mainly of game, berries, roots and as a side line wild vegetables and seeds (1). It seems clear that the daily energy expenditure of these primitive men was considerable, not only because of the physical trials they faced but also because of the precarious living conditions that exposed them to climatic hazards. Let us not forget, however, that before reaching the intellectual capacity to hunt, men ate other types of meat such as insects and termites, as well as small mammals. With the discovery of fire human life changed radically. Not only were humans able to manage night hours better by defending themselves against predator attacks, but nourishment also evolved (2). By cooking what they hunted, primitives realised that food was easier to find and they wasted less energy in their activities. Moreover, in terms of health, cooking kills the parasites and bacteria that poison food. Only over time and the development of the mind (as well as with maturity through reasoning, having also discovered fire), our ancestors learnt the art of hunting and fishing and prepared themselves for the future of animal husbandry. Breeding is not only herding and raising livestock but also cultivation and the ability to extract edible plants from the soil. Becoming progressively more sedentary from the Neolithic period onwards, mankind began to experience its first significant dietary changes. The development of animal husbandry allowed humans to continue eating meat and by developing agriculture they produced cereals, legumes, fruit and vegetables. Some might believe that by becoming sedentary, primitive man triggered a process that would lead him to improve his existence (3). However, it must be said that in terms of food, the opposite occurred. Unlike Mesolithic hunter-gatherers, farmer-breeders had to reduce the variety of their diet considerably. Only few rare animals lent themselves to being domesticated and bred and only a few plant species could be cultivated. It is not an exaggeration to say that farmer-breeders (4) had to rationalise, if not optimise, their activity in the sense that we attribute to this term today.

Consequently, such a revolution in our ancestors' lifestyle had clear effects, above all on health. Monophagism resulting from monocultures proved to be a

primary source of deficiencies (5), meaning a significant decrease in the life expectancy of the population. Furthermore, even if carried out on rich and well-watered alluvial land such as in Egypt and Mesopotamia, agriculture proved to be much more strenuous in terms of physical exertion (6) than the poaching and hunting of both Mesolithic game and also the larger animals of the Upper Palaeolithic. Primitive humans had lived in harmony and balance with nature, and when their natural food supply shifted due to the migration of species or the cycle of the seasons, they moved as well (7). A sedentary existence imposed new constraints and restrictions (8). Abandoning earthly paradise to become autonomous in their food supply sources, farmer-breeders in particular had to face numerous new challenges, such as changing climates affecting the choice of what were more or less productive but fragile varieties and species and also risks related to the choice of more or less suitable soils. On the other hand, the emergence of agriculture and animal husbandry generated what we would today call a natalist (9), productivism policy. Faced with the fear of famine, farmers never stopped thinking that more had to be produced and that new labour was needed. Unknowingly, farmers and their children (10) thus created a vicious circle. By contributing to constant demographic development, the risks and severity of famines due to bad harvests were all the more catastrophic.

If the habits of Neolithic men improved their lives, the emergence of the first civilisations was also a source of innovation for the food and nutritional habits of the human species. The Egyptians perfected the technique of fishing and thus based their diet on fish rather than meat. Alternatively, the Babylonians began boiling the first vegetables, such as onions, leeks and garlic. Numerous written and figurative sources from Ancient Egypt reveal how food was produced and testify that the Egyptians had a wide range of food available to them at all times. Pigs occupied a privileged position among farm animals, but oxen and sheep were also widely consumed. It must be said, however, that the Egyptians mainly favoured wild or farmed birds. Cereals, as we know, were extensively cultivated in the fertile lands of the Nile basin, as were vegetables and legumes. The Egyptians' diet could have been varied and well-balanced with such resources. However, one must also consider the highly irregular supply that varied according to the whims of the Nile. Moreover, the Egyptians' dietary patterns differed from one region to another, especially among social classes. As was the case in the late Middle Ages and more modern eras, the rich and privileged had a much more meat-oriented diet, while in most cases the poor had to be content with a diet of cereals, vegetables and pulses. An analysis of numerous papyri and an examination of mummies clearly show broken teeth and that evidence of arteriosclerosis, cardiovascular disease and even obesity; life expectancy was far less than thirty years. One entire room in the Cairo Museum is dedicated to an exhibition of obese statues which testify to a corpulence that differs greatly (as far as some ethnic groups are concerned) from what had always been the *a priori* take from most hieroglyphics. In the Greek world, cereals provided no less than 80% of total energy intake. Nevertheless, this dietary choice was much less the consequence of a geographical-economic reality than an ideological policy; the Greeks were convinced they were civilized, in contrast to the Barbarian who was content to gather or hunt what he found in nature (11). The Greeks felt that by producing food themselves through agriculture they would elevate their human condition. Consequently, meat was a disreputable food for the Greeks since it was a result of passive activity. In order to produce meat, it was sufficient to leave animals to graze on uncultivated and unworked land. Hunting, on the other hand, was deemed to be a servile activity, a reflection of poverty and the consequence of a precariousness unworthy of a civilised being. Therefore, it represented populations who were forced to undertake this activity and was a form of marginalisation and exclusion from the world of the city, which as we know was the pillar of the Hellenic world. Moreover, the foods that symbolised this civilised status *par excellence* were wheat bread, wine, olive oil and cheese; in other words, everything that did not exist in its natural state but was a result of human intervention and transformation was considered noble. Only by domesticating and transforming nature, by 'manufacturing' food somehow, could humans aspire to civilisation. However, to the chagrin of philosophers of the time, the everyday reality of Ancient Greece did not always conform perfectly to

their ideals. This particular way of eating did not lend importance to the mixed vegetable soups, raw cereals and dry pulses that were the normal daily food of the people (12). This does not detract from the fact that for the population as a whole, meat consumption remained marginal, almost taboo, reserved for sacrifices (except for the carnivorous Hellenic soldier who drew his Herculean strength from the flesh of animals) (13). Sheep were therefore bred mainly for their wool and milk, from which cheese was made. Cattle were rare and were used as beasts of burden and draught animals. Fish and shellfish, on the other hand, were widely consumed, although they were not processed. The sophisticated act of fishing and wild nature of the fisherman's work undoubtedly justified the fact that fish were not classified as uncivilised foods. However, the fact that this food escaped restrictive food ideology was perhaps due only to an element of realism (14), considering that it was not only present in large quantities but also represented a tradition for the people of the Mediterranean basin (15). Thus, although it is always difficult to generalise, it can be considered that the protein intake in the diet of the Greeks was rather low (16), to such an extent that it would be fair to ask whether this deficiency in the majority of the population did not lead to a weakening of their health (17). This would perhaps better explain why so-called modern medicine originated in Greece under the *aegis* of Hippocrates (18).

For the Romans, the role of meat was much more important due to the Italic tradition of pig breeding, inherited from the Etruscans. Although this did not play a primary role in their diet, it occupied a significant position in their animal protein intake. Nevertheless, just as the Greeks, the symbol of food for the Romans was that of wheat bread, in particular for the Roman soldier. The typical food of the legionnaire was bread, even though accompanied by olives, onions, figs and oil. It must be said that this food was by far the favourite, to the point that objections were raised when meat was offered. This exclusively vegetarian yet slightly invigorating food made soldiers heavier; their overweight state was no myth. Roman soldiers were ordered above all to occupy, endure and resist; their strength of inertia came from the power to remain motionless under the enemy's blows. When the Roman army needed mobile (19), swift fighters, it summoned its Barbarian allies. For a Roman peasant, becoming a legionnaire was an honour and an instrument of social emancipation which allowed one to become a full citizen.

A noble food, wheat bread is the only one that lived up to this prestigious status; the Roman population consumed little wheat itself. In addition to pork, poultry and cheese (and occasionally fish) (20), they consumed plenty of vegetables and various coarse grains. The cultivation of wheat symbolised a certain degree of wealth, an upper class in the census hierarchy. However, wheat was not only the food of the privileged. It was also used by the authorities to suppress famine (21). Paradoxically, this food of the rich was distributed by the authorities to the poor during times of shortage.

In conclusion, it can be said that the Romans had a slightly more balanced diet than the Greeks due to their higher protein intake. Only the legionnaires had a decidedly deficient diet and it hard not to assume that the soldiers' poor diet was related to the fall of the Roman Empire, a theory that some observers have not hesitated to propose.

Conflicts of interest: Each author declares that he or she has no commercial associations (e.g. consultancies, stock ownership, equity interest, patent/licensing arrangement etc.) that might pose a conflict of interest in connection with the submitted article.

References

1. Hardy K. Plant use in the Lower and Middle Palaeolithic: Food, medicine, and raw materials. Quat Sci Rev 2018; 191:393-405
2. Pastorini A, Karaboue M, Di Luca A, Mario di Luca NM, Ciallella C. Medico-legal aspects of tort law patient safeguards within the Gelli-Bianco piece of legislation. Clin Ter 2018;169:170-177
3. Stano S, Bentley A. Food for Thought: An Introduction. Food for Thought: Nourishment, Culture, Meaning. Springer Verlag; 2021
4. Raspini M, Cavalcanti R, Clementini M, et al. Periodontitis and italians (2016-2020): Need for clinical guidelines to perform effective therapy. Dental Cadmos 2021;89:346–356
5. Hardy K. Paleomedicine and the use of plant secondary compounds in the Paleolithic and Early Neolithic. Evol

Anthropol 2019;28:60-71
6. Giaconi, C, Manetti AC, Turco S, et al. Post-mortem computer tomography in ten cases of death while diving: a retrospective evaluation. Radiol Med 2022;127:318-329
7. Zakrzewski SR. Variation in ancient Egyptian stature and body proportions Am J Phys Anthropol 2003;121:219-29
8. Karaboue MAA, Ferrara M, Bertozzi G, et al. To vaccinate or not: literacy against hesitancy: Vaccination hesitancy. Medhistor [Internet] 2022;6:e2022014
9. Bernetti A, La Russa R, De Sire A, et al. Cervical Spine Manipulations: Role of Diagnostic Procedures, Effectiveness, and Safety from a Rehabilitation and Forensic Medicine Perspective: A Systematic Review. Diagnostics (Basel) 2022;12:1056
10. Karaboue MAA, Milone V, La Casella GV, et al. What will our children do when we are gone? Italian legislature does not tackle the worries of parents of disabled children. Reflections on disability. Medhistor [Internet] 2022;6:e2022013.
11. Korobili G, Lo Presti R. Nutrition and Nutritive Soul in Aristotle and Aristotelianism. Boston: De Gruyte; 2020.
12. Granata V, Morana G, D'onofrio M, et al. Structured reporting of computed tomography and magnetic resonance in the staging of pancreatic adenocarcinoma: A delphi consensus proposal. Diagnostics (Basel) 2021;11:2033
13. Malamitsi-Puchner A. Recommendations of Ancient Greek and Byzantine physicians and philosophers on perinatal nutrition and care. Acta Paediatr 2021;110:2344-2347
14. Cantisani V, Iannetti G, Miele V, et al. Addendum to the sonographic medical act. J Ultrasound 2021;24:229-230
15. Granata V, Coppola F, Grassi R, et al. Structured Reporting of Computed Tomography in the Staging of Neuroendocrine Neoplasms: A Delphi Consensus Proposal. Front Endocrinology 2021;12:748944
16. Kaplan KJ, Schwartz MB, Markus-Kaplan M. A biblical view of eating and nutrition in contrast to that in Graeco-Roman writings: restraint, respect, purpose, and order. Israel Affairs 2019;25:854-873
17. Fiorini F, Granata A, Battaglia Y, Karaboue MAA. Talking about medicine through mass media G Ital Nefrol 2019;36:2019
18. Suvajdžić L, Djendić A, Sakač V, Čanak G, Dankuc D. Hippocrates - The father of modern medicine Vojnosanit Pregl 2016;73:1181-6
19. Heinrich F, Hansen AM, Erdkamp P. Roman isotopes and economic meaning: millets, manure, mobility, marine signals, and Malthus. Archaeol Anthropol Sci 2021;13:44
20. Dumitrache I. Fish products in Roman Egypt. Papyrological sources. Peuce; 2011
21. Mazzariol B, Karaboue M, Di Luca A, Di Luca NM. Guidelines, good practices and best clinical health practices: Valuable guidance for physicians and judges? Clin Ter 2018;169:E292–E296

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