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THE NEOLITHIC, THE AGRICULTURE AND THE BREAD

NEOLİTİK, TARIM VE EKMEK

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Abstract

In archaeological research, scientific questions are always posed, and within this framework, scientificity is brought to the forefront. Indeed, it is frequently emphasized that archaeology is an interdisciplinary field of study, one that establishes close elbow contact with other sciences and conducts collaborative research. However, in the present day, the subject of 'science,' 'scientificity,' and 'scientific research' has reached debatable dimensions and has even begun to lose its meaning. The fact that research on unique specimens entails discoveries, involves research models that progress with the explorers who conduct them, and is supported by media and similar elements, serves to distance the problem from a solution. Indeed, it causes the formation of misperceptions. In this study, while addressing certain elements concerning the subject of agriculture - bread - the Neolithic, it is also aimed to address the problems which studies deviating from the aforementioned scientificity increasingly and progressively present before us.

Keywords: Neolithic, Agriculture, Bread, The First, Superlatives, Press

Öz

Arkeolojik araştırmalarda her zaman bilimsel sorular sorularak, bu çerçevede bilimsellik ön plana çıkartılmaktadır. Hatta arkeolojinin disiplinlerarası bir çalışma olduğu sıklıkla vurgulanan, diğer

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bilimler ile yakın dirsek teması kuran, ortak çalışmalar yapan bir bilim dalı olduğunun altı çizilmektedir. Oysa günümüzde ‘bilim’, ‘bilimsellik’ ve ‘bilimsel araştırma’ konusu tartışılır boyutlara gelmiş hatta anlamını yitirmeye başlamıştır. Eşsiz örneklere yönelik araştırmaların keşifleri, bunları yapan kaşiflerle yürüyen araştırma modellerinin olması ve bunu destekleyen medya ve vb unsurların olması sorunu çözümden uzaklaştırmaktadır. Hatta, yanlış algıların oluşmasına neden olmaktadır. Bu çalışmada, tarım - ekmek - Neolitik konusunda bazı unsurlara değinirken söz konusu bilimsellikten uzaklaşan çalışmaların giderek ve artarak karşımıza çıkardığı sorunlara da değinmeyi amaçlanmaktadır.

Anahtar Kelimeler: Neolitik, Tarım, Ekmek, İlk, Üstünlük, Basın

1. Introduction

As the title suggests, this study is structured around three principal categories. Its essential aim is to examine the broad spectrum of work conducted on national and international platforms concerning these three categories, and to highlight certain deficiencies encountered in the scientific discussion of our rich and profound body of knowledge, which has often been treated as a common denominator. When we examine the history of scientific and multidisciplinary research in the field of the Neolithic period in our country, it becomes apparent that nearly all such studies trace back to the early 1960s. In short, Neolithic research in Anatolia—with a history spanning approximately sixty-five years—constitutes an exceptionally rich field of study and a veritable scientific laboratory, both due to the theories advanced in this area and its geographical position. The scholarly literature demonstrates that the subject has been addressed with increasing depth. As a continuously evolving field that cultivates capable, well-equipped, and young researchers, Neolithic studies resemble an edifice that must still be gradually constructed. It is a positive development that, with growing contributions and support, research in this area is yielding detailed data, particularly within laboratory settings, and even reaching more complex conclusions. Nevertheless, certain considerations must be observed regarding the sharing of data and knowledge. It would be more sound to first develop and evaluate such data within scientific platforms. However, over the past two decades, the role played by the press and social media appears to have encroached somewhat upon this domain. Naturally, there are reasons for this shift in the process. Alongside these reasons, certain frequently encountered practices raise the question of whether such "rapid" sharing is truly necessary, given the depth and richness of our accumulated knowledge and the continuous addition of new research findings to this repository. Authenticity, scientific data, and sharing through appropriate platforms will not diminish the quality or quantity of knowledge. Thus far, we have endeavored to outline the essence and context of the subject. Henceforth, after evaluating the general geographical state of affairs across the three distinct categories, we shall return to the core point we have sought to emphasize.

This study does not evaluate archaeological finds. Nor does it describe several intriguing artifacts unearthed during excavation. Similarly, it does not engage with dense theoretical subjects. Indeed, it may evoke in many readers a sense of familiarity with material previously encountered, for this is an essay of retrospection—a pause to reconsider the point at which we have arrived. It must be emphasized that research conducted in the field, along with its demanding endeavors, must be elevated to scientific platforms; such work must not remain confined to newspapers or social media pages, but must persist and evolve within academic discourse. This is particularly vital for ensuring that the scientific approach and innovations are effectively transmitted and perpetuated across generations.

In human history, many things have developed in different periods and in different geographies. Archaeological research enriches these evidences by presenting new information with new discoveries. In recent years, while a group called the Denisovans and their material

culture has fascinated us, the results of genetic research have also revealed quite interesting information.[1] While different and new discoveries concerning humanity's past are emerging all over the world, why and how can a single point be the zero point of history? In human history, as we indicated above, although the Neolithic period constitutes an important and economic dimension in terms of the domestication of plants and animals or the utilization of their secondary products defined as milk and its products, the relationship of humans with plants and animals also extends to before the period in question. The period before the Neolithic is generally defined in archaeological terms as the Epipaleolithic (Post-Paleolithic). This period is used to describe the transition process between the Paleolithic and Neolithic periods, and for Europe, this process is generally defined as the Mesolithic. In the Epipaleolithic period as well, humans continued their relationships with animals and plants; the domestication of the dog can be shown as an example.[2] Furthermore, within the period defined as Epipaleolithic, humans also utilized the edible plants present in their surroundings. The economic strategy applied within this period has been defined in archaeological terms as a 'Hunter-Gatherer' economy. In short, it is possible to state that during this process, humans sustained their lives by hunting and gathering, by hunting animals, and by consuming wild plants and edible types of roots, plants, or fruits.

Chronological differences exist between the Epipaleolithic and Neolithic periods. When considered from a broad perspective after the Holocene period, it can actually be considered as the Neolithic. The periods preceding the Epipaleolithic, if one goes further back, are named the Paleolithic and are handled by being divided into Lower, Middle, and Upper. In many researches dated to the period referred to as the Upper Paleolithic, the presence of grinding stones constitutes further evidence that the relationships with plants can be traced back to this period.[3] To briefly mention, the issue is what the differences are between the Epipaleolithic and Neolithic periods. What has occurred between these two periods, and how have these formations influenced the development of humanity? Upon entering the process called the Holocene, the occurrence of climatic changes, the beginning of changes in vegetation, the formation of temperature differences, and consequently, the movement of animals to find food, and the humans who sustained their livelihood by hunting these animals having reached different geographies by following them, developed in a direction that accelerated the process and brought them closer to the process of plant and animal domestication.

When the Epipaleolithic and Neolithic periods are compared, among the solutions implemented by humans as they emerged from caves or rock shelters and developed a life model by adapting to a more mobile type of life, were also those aimed at developing solutions for shelter. Within this transition process, while creating temporary solutions with hut-style shelters, they progressively constructed more permanent and larger structures. Since shelter is an important element as much as nutrition, which is the most fundamental problem of humanity, differences are observed not only in economic practices but also in architectural and tool technologies between both periods. When all these differences are presented, in a chronological sense, the Göbeklitepe phenomenon in the Urfa region of Anatolia has added a new dimension to these phenomena. As a result of the Göbeklitepe excavation work, the architectural structures unearthed were declared to be unique and singular for their time. It was stated to be the zero point of history. After a period, with research conducted in Göbeklitepe and its surroundings, similar structures were discovered in different sites, and similar cultural and roughly contemporary settlements in the region were transformed into the 'Taştepeler' project. The

[1] Brown et al. 2021; Derevianko, Shunkov, and Kozlikin 2020; Qin and Stoneking 2015.

[2] Galibert et al. 2011; Vigne 2011.

[3] Wright 1992.

reliefs, incised works, and statue-type artifacts revealed in these settlements, made by human hand, are of an extremely significant scale for the period.

However, as mentioned above regarding archaeological discoveries, a definitive and permanent situation never exists. Every year, new research is conducted and new information emerges. In short, as research into humanity's past continues, it is necessary to always remain open to new information and discoveries. In contrast, the announcement of scientific data, its standards, and the presentation styles in some media-friendly publications can cause critical approaches. In Turkish archaeology, especially in the last decade, the increasingly prevalent issue of 'superlatives' is taking place intensively in the press.

Although such publications full of these 'superlatives' and 'firsts' are aimed at attracting attention, such approaches also overshadow scientific truths and indeed lead to questioning the necessity of this.[4] In response to this, it is included in small and informative publications prepared by Kocaaslan and Pulhan,[5] in addition to the studies conducted within the scope of cultural heritage protection.

Within Anatolian and Near Eastern archaeology, one of perhaps the most studied and researched subjects is the Neolithic period. Among the reasons for the Neolithic period being researched so extensively, it would not be incorrect to state that researchers seek and see the foundation of today's modern society and economic functioning in this period. The etymological and semantic meaning of the term Neolithic in our language (Neo+lithic = new+stone) is accepted as the 'Polished Stone Age'. In fact, although the term is stone-focused or focused on stone tool technology, the characteristic of the period and the social and cultural development it encompasses are far beyond this. The question of what the changes within this period are and why the economic structure of modern society is sought here is entirely dependent upon the changes humanity experienced and the stages it underwent within this period. These changes emerge as the most important changes being the transition from chipped stone tools to the use of polished (this is also not terminologically correct) stone tools which are more practical and more functional, and as an economic process, people having left behind the hunter-gatherer process by domesticating wild plants and animals and establishing control over species. This situation has been defined by some researchers as the 'Neolithic Revolution'.[6] Again, based upon the views put forward by Childe, in the 1951, such as diffusionism, that civilization spread starting from Mesopotamia, R. J. Braidwood, who initiated his research, began his studies in the Near East to prove that this view had different processes and characteristics for each region. Braidwood started his research in the Zagros mountains and continued it deep into Anatolia.[7] During these studies, thanks to the cooperation that Braidwood established with Istanbul University, Çambel and Braidwood identified the settlement of Çayönü and settlements from among those now referred to as the Taş Tepeler project, such as for example Göbeklitepe. The settlement of Çayönü is also one of the early human settlements where the excavations are still conducted today.

The research conducted since the 1960s is not only limited to the southern part of Anatolia, but there are also studies that were carried out long before Braidwood's research. These studies were developed based on views adopted by a group of young British archaeologists and by archaeologists working in the 1950s in the area known as Mesopotamia

[4] Çilingiroğlu and Karul 2013; Dinçer 2015.
[5] Kocaaslan and Pulhan 2025.
[6] Childe 1951
[7] Braidwood 1960; Braidwood and Braidwood 1982; Braidwood and Braidwood 1983; Braidwood and Çambel 1980.

and also defined as the 'Fertile Crescent'. This view, in short, focused on the premise that there could be no archaeological sites from the prehistoric period in the north of Mesopotamia and particularly in the northern part of the Taurus Mountains.[8] Among the aforementioned young British researchers, it is possible to count researchers such as J. Mellaart, D. French, A. Hall, and I. Todd. These researchers discovered settlements such as Çatalhöyük by J. Mellaart,[9] Canhasan by French,[10] and Aşıklı Höyük in 1958, and they initiated excavation work in 1960. Although the excavation work conducted by Mellaart on Çatalhöyük was short-lived, it was continued for 25 years between 1993 and 2017 by his student, I. Hodder.[11] As a result of the long-term work, archaeological research and studies are still being carried out at the settlement of Çatalhöyük, which has also been included on the 'World Cultural Heritage List'.

The studies conducted on Aşıklı Höyük by I. Todd[12] also transformed into a long-term project initiated by U. Esin from Istanbul University and sustained until the present day.[13] By continuing the investigation of contemporary settlements in and around Aşıklı Höyük, contributions to the regional prehistory have been expanded.[14] The excavation work initiated on the Canhasan mounds located south of the Konya Plain was conducted by D. French between the years 1960-70. The studies conducted by French still maintain their importance for the Central Anatolian Neolithic and Chalcolithic periods. The excavation renewed at the site recently after fifty years later.[15]

The studies mentioned above certainly indicate the development of Neolithic period research focused on Anatolia. In Western Anatolia, however, the situation is even more different. Although surface surveys have been conducted, it is noteworthy that archaeological excavation work, particularly studies focused on the Neolithic period, started much later when compared to research in Central and Southeastern Anatolia. When all these are taken into consideration, for each country, the Neolithic period and archaeological research pertaining to this period have begun and developed under different conditions, in different forms, and through different processes.[16] These processes can vary from east to west, and at the same time, they also differ according to geographical locations, climatic conditions, and even various regions of the world.[17] If one needs to give an example here, in China, the engagement of people with agriculture and animal husbandry or the production of pottery dates back to a much older time when compared to the Near East; likewise, when the Near East and Europe are compared, we can see that similar activities in Europe developed in a later period than in the Near East in general. All these developmental differences remain within a diffusionist explanation model as pointed out by Childe, while the occurrence of different developments in different geographical conditions is also an interesting process.

This situation was attempted to be explained by Braidwood through the core area theory, but as the number of similar emerging regions increased and were observed, views were produced suggesting that these were, in fact, multiple core areas. To such thoughts, views that have been added recently and debated quite intensively are also available. One of these is the

[8] Lloyd 1956.
[9] Mellaart 1962.
[10] French 1962.
[11] Hodder 1999.
[12] Todd 1966.
[13] The excavations initiated by Prof. Dr. U. Esin, followed by Prof. Dr. N. Balkan-Atlı, Prof. Dr. M. Özbaşaran and recently conducted by Assoc. Prof. Dr. N. Kayacan
[14] Özbaşaran 2001; Kiper and Gülçur 2007; Balkan-Atlı, Binder and Faydalı 2001.
[15] The Canhasan archaeological sites re-opened by Assoc. Prof. Dr. A. Baysal in 2021.
[16] Abbo et al., 2005; Childe 1996; Qu et al., 2013.
[17] Bailey 2007; Coombes and Barber 2005; d'Alpoim Guedes 2015; Roberts 2023.

concept of 'Neolithic Packages'. According to this view, technology and economic growth were achieved through transfer to other places, facilitating growth and development.[18] The aforementioned approach still finds its advocates today.[19]

When seeking an answer to how and when these developments began in different geographies and climatic conditions, the necessity for dating and chronological comparison again emerges before us. These datings and comparisons are determined through a dating method called C14. If this method were to be explained in its entirety and simplest terms, we could state that it is based on calculating the amount of carbon remaining in the systems of all living entities that exchange oxygen and carbon. When a living being's life ends, from the moment the oxygen-carbon conversion in its system stops, the process called half-life begins. This process is roughly based on the principle that the carbon in the organism's system halves approximately every 5725 years.[20] Thus, this method can be and is frequently applied for all organisms that completed their lives many years ago, with minimal error. Thanks to this system, it becomes possible to date organic archaeological finds within a margin of a few years and to prepare comparative chronological tables. Based on this method and taking archaeological evidence into account, the Neolithic lifestyle extending from Anatolia to Europe has been mapped in accordance with scientific studies and datings.[21]

Up to this point, having pointed out the research conducted in connection with the Neolithic period, its processes, and datings, along with the focal points and purpose of the research, it will now be possible to evaluate the development of the research, particularly within the Anatolian framework, more closely.

2. Central Anatolia and the Neolithic

The studies initiated in Anatolia in the 1960s, particularly the wall paintings revealed by Mellaart at Çatalhöyük in a short time, point to an incredible work of art for that period and today, and to the existence of a symbolic world. Such a discovery not only demonstrated the presence of the Neolithic period in Anatolia but also revealed it as a sign of its richness. Information showing how the structures were organized and used, including bull heads within the buildings and wall paintings, was revealed through the work of both Mellaart's era[22] and Hodder's era.[23] The studies conducted at Çatalhöyük are a very significant value, both in the 1960s and today. The wall paintings uncovered at Çatalhöyük are as valuable and unique for our time as the paintings in the Lascaux cave or the Sistine Chapel. The work at Çatalhöyük not only remains a center where the economic models of sedentary agricultural societies are best understood in terms of Anatolian archaeology but also constitutes one of the rare examples where we can perceive their symbolic and cosmological worldview. Therefore, its contribution to understanding the changing developments of agricultural societies during the Neolithic process is very important. However, the long-term lack of excavation work around Çatalhöyük and the fact that excavation work at centers such as Boncuklu Höyük, Pınarbaşı, and Aşıklı Höyük further north are dated to periods earlier than Çatalhöyük still leaves the explanation for how this developmental process occurred and how the structure uncovered at the Çatalhöyük settlement was formed incomplete.

The research that began with Mellaart at Çatalhöyük, and the definition of the zero point

[18] Çilingiroğlu 2005; Özdoğan 2014.
[19] Putterman 2008; Brami 2014.
[20] Libby 1963; Anderson et al, 1947; Taylor 1987a and 1987b.
[21] Gronenborn 1999.
[22] Mellaart 1962, 1963 and 1964.
[23] Hodder 2007.

of time expressed today for Göbeklitepe, was a situation considered for Çatalhöyük during the excavations in the 1960s. In short, the settlement that reset time in the 1960s was Çatalhöyük in those years. This was the case not only in terms of architecture but also in terms of symbolic expressions. Among other studies conducted in Anatolia in the 1960s, the investigations at Canhasan, Süberde, Erbaba, and Aşıklı Höyük in the near vicinity, and the work at Çayönü in the southeast, were not considered as important and groundbreaking as Çatalhöyük at that time. Yet, the studies carried out at these sites also produced extremely important scientific data and revealed information crucial for understanding the technology, art, culture, architecture, and economy of the Neolithic period. Although the majority of research was in Central Anatolia, archaeological research focused on the southeast after the 1970s, within the scope of dam projects and thereafter, continues to yield rich finds and data today. Despite the intensity of the dam projects, which remains valid today, Central and Western Anatolia still await the development of research seen in the 1960s. For example, the question "Where is the origin of the Çatalhöyük culture?" remains one of the questions awaiting an answer today. In addition, many questions such as what provided the artistic ascent and how that point was reached still await answers and retain their mystery.

Research on the Anatolian Neolithic, initiated by foreign archaeologists, can now be conducted within Turkey by 'competent' researchers. However, it must be stated that this situation remains limited mostly to excavation work. The number of archaeologists trained within Turkey who are specialized in various subjects is very few. Although archaeology is a science realized through excavations, the research conducted is based entirely on detailed and in-depth scientific examination and investigation. Similarly, Neolithic period research requires archaeologists who act like detectives across a very broad field, ranging from the everyday weapons of the people who lived in this period to their jewelry and ornaments, from the tools they used to produce food to the wall paintings inside their houses or their symbolic worlds. They strive to understand and convey not only the conditions of the period but also many details extending to the thought system, economy, social functioning, and even health problems and kinship relations. Although the steps taken in this regard are promising lately, when evaluated technically, there is still a profound need for a large team of specialists who can also handle the laboratory aspects. We must not forget that archaeology does not only take place in the field. An archaeological excavation is merely the point where the steps of Theory, Method, and Practice, realized in the field, are brought to life. The data uncovered as a result of putting this practice into action then enters a phase of post-excavation work (post-ex) and scientific analysis. In this phase as well, it is necessary for numerous trained specialists and scientists, whether from an archaeological background or not, to intervene and conduct in-depth studies on the data. Subsequently, the rapid development of publication work is expected. In this context, the shift of focus from the Central Anatolian Neolithic, where holistic and focused scientific studies began, to Southeastern Anatolia, particularly to the 'Taştepeler' framework, by effectively resetting time, has brought about a change in focus. This undoubtedly holds high scientific value in terms of chronological and semantic integrity; however, it also makes it imperative, within the framework of 'Neolithization Theory', just as in the theories put forward for understanding the Neolithization process, to present relational data obtained from here for understanding the Neolithization process and the cultural development and interaction within this process.

The data presented in the Southeastern region, from Çayönü to the present day, point to the possibility that the process may have exhibited differences even between the Euphrates and Tigris basins. However, one of the most important elements is the change and shaping of the operation when the domestication of animals and plants is considered chronologically. As can be seen in the map provided above, the process developed slowly and in stages across many

locations. Many researchers today spend long years conducting their studies to understand the stages of this process. Those who work in this field and are dedicated researchers are defined as 'archaeobotanists' or 'archaeozoologists'. In these research fields, by examining the changes plants show in their domestication stages and the changes animals undergo in their domestication process, they gather information on which stages plants and animals passed through and where and how these stages occurred. Today, even the process of utilizing animal products, particularly milk and similar products, which has also been defined as the Secondary Products Revolution,[24] occurred in different time periods in different regions. Anatolia and other regions provide examples in this sense starting from the Late Neolithic period.[25] For instance, in a tomb in China recently dated to 3600 years ago, 'kefir cheese' made from a mixture of sheep and goat milk was found.[26] Barçın Höyük, a settlement in Northwestern Anatolia (Marmara) that can be defined as Late Neolithic, also provides data on the adoption of milk and dairy products. While each geographical region or climatic change possesses its own unique cultural characteristics, the economic models chosen and/or implemented by human groups adapted to this geography and climate are different.

Consequently, data presented with definitions such as 'the oldest' or 'the first' remain utterly meaningless today. For example, it is normal for two contemporary societies, one choosing a pastoralist life model and the other practicing an agricultural model, to have many differences, from their material culture elements to their life practices. In this sense, the question of which 'first' is being discussed where is itself data indicating that a series of problems cannot be solved even within a purely chronological framework. The persistent presentation of such data creates information pollution and confusion.

When we look at the 1960s, the studies on botanical remains obtained for the first time during the excavations at the Canhasan settlement using the wet-sieving or flotation method created an evolution in terms of archaeological and scientific studies. The importance of plants in human life is known. Plant use, not only for nutrition but also spreading across a very broad spectrum for different purposes such as medicine production or healing, is further developed through the method mentioned above or through advanced phytolith or pollen analyses today. Grinding stones used since the Upper Paleolithic, primarily in food production, are another piece of evidence for this. The grinding stone tool industry is still an industry that is not fully understood within Turkish archaeology and continues to be misidentified. It is necessary to state specifically that this industry is a continuation and advanced form of the chipped stone tool industry.

3. Agriculture – Wheat – Bread

As is conventionally the case, scientific research always seeks answers to questions such as "Where was it first found?", or "Where was the transition to an agricultural economy first made?", or "Where was it first domesticated?". The 'firsts' encountered in the press are not the same as the aforementioned scientific approach. In archaeology's past, there exist studies conducted with similar foci aimed at determining origins. However, today, the 21st-century understanding of science globally has moved away from exploration and focuses more on development and interactions. That is, while a scientific understanding focused on how the process occurred is developing, it is interesting that explorers and discoveries are still prominent

[24] Sherratt 1983.
[25] Dudd and Evershed 1998; Heron et al., 2015.
[26] Anderson 2024 (Smithsonian Magazine) https://www.smithsonianmag.com/smart-news/the-worlds-oldest-cheese-was-buried-in-a-chinese-tomb-3600-years-ago-now-scientists-have-sequenced-its-dna-180985152/

in archaeology. While research in botany reveals very comprehensive details, thanks to evolving research technologies in plant genetics, we have now transitioned to a dimension where evaluations are made within the framework of diffusion, interaction, and communication models, rather than merely discussing 'firsts'. Similarly, as in plant genetics, rapidly developing studies on human and animal genetics are leading the past to a different concept and are carrying thinking and inferences to a different dimension. However, 'scientific' research conducted within the framework of exploration naturally reaches erroneous and different conclusions.

In archaeological excavation work, collecting plant remains in a consistently reliable manner or finding them, unless they are in storage contexts or a preserved environment, is a quite challenging endeavor. In the past, various methods were tried to initiate such studies. Among these, the most effective method is the so-called flotation technique (Flotation/Flotasyon). We see the first known applications of the flotation method again in the 1960s work at the Canhasan mounds, from excavation work in Anatolia.[27] It is noteworthy that, thanks to its simplicity and functionality, it has transformed into a widely used application today and is accepted as a standard practice in excavation work. However, after a period of fifty years, the number of researchers specialized in this subject in Turkish archaeology does not exceed the fingers of one hand. Naturally, it is possible to ask: why can we not train specialists? Yet, it has been over sixty years since the interdisciplinary nature of archaeology was accepted in Turkish archaeology. The situation is valid not only for botany but also for other interdisciplinary studies. Here, based on the characteristic of interdisciplinarity that entered archaeology in the 1960s as the Braidwood model and was widely accepted in our country, the question of why we cannot train specialists, especially since the 1960s, needs to be asked. The fact that today, as in botany, or in other specialized fields, there is an extremely limited number of specialists or researchers being trained perhaps indicates that the accepted model of interdisciplinarity has not been fully adapted and its comprehensibility has not been ensured.

When we look at humanity's past or diet, it is observed that with the formation of a plant-heavy diet, activities focused on agriculture, particularly involving wheat, barley, etc., increased. The question of why humans transitioned from a hunter-gatherer economic model to a sedentary life and, consequently, to agricultural societies, proceeding along the path of domesticating animals and selecting specific regions to continue their lives, has caused very comprehensive debates. The debates have generally been evaluated within a framework of benefits and drawbacks. One of the most important positions on this matter is that by transitioning to a sedentary life and proceeding to domesticate plants and animals, they solved the food problem in a multidimensional way in the long term. Transitioning to such a process created a surplus product, meaning securing themselves in terms of food, and through animal domestication, establishing the possibility of utilizing this relationship maximally and over the long term. It is suggested that people feeling comfortable and secure regarding food would have more time, and within this time, they could allocate more time to their other activities. Did the security and guarantee brought by the economic system truly add so much? With the beginning of the application of this model in prehistoric societies, was progress demonstrated, for example, in art, technology, and various other points?

4. Agriculture, Surplus Product – Surplus Time

A process has been undergone, commonly believed and referred to as the Neolithic period, wherein with the transition of humans to a sedentary life, the food economy was brought under control, and consequently, it is thought that people had an abundance of time and could allocate time to other tasks. Although the general opinion that this process was a significant

[27] French 1971.

factor in the cultural development of humans was widespread for a period, in reality, the Neolithic period presents itself not as an advantage but rather as a disadvantage. When general evaluations and comparisons are reviewed, there exists research indicating that hunter-gatherer groups were actually richer in terms of time.

Where was wheat first domesticated? Today, even many individuals specialized in archaeobotany and conducting research in this direction will answer this question depending on datings. That is, they will attempt to answer based on the oldest 'known to date'. Since datings can yield different results for each region, and there are so many sites and remains awaiting investigation worldwide, it must be reminded that as long as all these are not researched and dated, statements are made solely based on the 'knowns'. Today, in the geography of Anatolia, it is not difficult to find plants such as wheat, barley, and oats that are undomesticated and grow wild in nature. This was also the case in the past. However, in archaeology, the beginning of the 'AGRICULTURAL' economy and the returns of this economic model are seriously debated. The presentation of this situation as a surplus product and surplus time, and its positive evaluation by some scientists, causes the issue to gain importance in this manner. However, it also overlooks the many problems arising from the understanding of surplus product and surplus time, and the agricultural activities extending to the present day. The understanding of surplus product and surplus time also means 'SURPLUS POPULATION', and nutrition oriented towards cereal products within the food value also brings other health problems. Research on population has demonstrated that it progressively increased with agricultural communities.[28] The difficulties of living within an agricultural economic model are great. Firstly, a larger population will be needed. This increasing population will create a vicious cycle; that is, a larger population will mean more food production. Today, heavy machinery is used for this reason. The Neolithic period agricultural economic model does not remain only with the vicious cycle it created. Anthropologists present evidence that such a life model also gave rise to various health problems.[29] In her anthropological examinations based on the Abu Hureyra settlement, Molleson addressed problems extending from the issues of sowing, planting, harvesting, storage, etc., of food products to their preparation, and even to consumption and post-consumption problems. In this work by Molleson, she particularly drew attention to many problems occurring in the body, primarily reflected in the skeleton, during the food preparation process.[30] The research, which proposed that the long-term use of grinding stones, the performance of the grinding process, and the daily tasks resulting from the need to feed the excess population required for carrying out agricultural work caused these issues, was presented as a result of life practices associated with the agricultural economy.

Barnard, as another researcher and anthropologist, has developed his studies on groups maintaining hunter-gatherer economies in his works.[31] Barnard proposes that the hunter-gatherer groups he chose as the subject of his studies accomplish the process of procuring sufficient food for themselves within a duration of 5-6 hours within the model they practice. In this case, it is also revealed that within the model practiced by hunter-gatherer groups, there truly is ample time on a daily basis. Furthermore, the model practiced by hunter-gatherer societies also shows its effects on nature in different dimensions.[32] When compared to the idea of Neolithic societies cutting down forests to open agricultural land,[33] we see the practical

[28] Bocquet-Appel & Bar-Yosef, 2008.
[29] Molleson 1994.
[30] Molleson 1994.
[31] Barnard 1983, 2004; Barnard and Spencer 2010.
[32] Bamforth 1991; Renouf et al., 2009.
[33] Clark 1965.

effects and effects reflected in practice of the hunter-gatherer economic model in terms of preserving the natural balance. Even today, we face the adverse effects of clearing forests for agricultural activities.

If the problem is not producing food or having surplus time, why did the economic model change in this way and why did people transition to a sedentary life? If there were a time problem or a need for surplus time, could artistic masterpieces like Göbekli Tepe and similar places and those of the Paleolithic period have emerged? The situation emerging as the most effective factor brought by agricultural activities is population increase. Usable labor force. The surplus labor force and its consequences are observed to be effective in fields such as specialization and crafts, and consequently, it is observed that trade and social organization accelerated due to specialization. In the long term, the emergence of power and managerial phenomena and subsequently, in later time periods, the formation of state understandings is an inevitable process.

5. Wheat and Bread

Since the Neolithization process, the propensity of people towards grain-based foods alongside their agricultural activities is remarkable. Even today, we see that products other than bread and bulgur, such as rice, etc., are consumed very intensively. It must be stated that people had already included cereal products, root plants, and fruits in their food menu before the Neolithic period, that is, during the Epipaleolithic period. Indeed, from the periods defined as Upper Paleolithic, we see some tool types within the grinding stone tool industry. This means that people may not have known the process of agriculture, or that there are signs showing that they knew these plants as wild plants and how they rendered these plants edible. Today, research is also being conducted on what people in the past ate, how they prepared them, or rendered them edible.[34] Since people could find certain foods in specific regions or under certain conditions, another scientific method applied, again depending on this, is 'isotope analysis'. Through these analyses, it also becomes possible to understand what kinds of foods people consumed during their lives. Many cereals, fruits, or root-type plants require a series of tools (from sickle blades to mortars and pestles), techniques, and implements to reach an edible state. For example, for an acorn or wheat to become edible, it must be ground and broken into pieces; to perform this operation, suitable stone tools, such as lower and upper grinding stones, heat, etc., and many components must come together. Food preparation is, in fact, a complex method. The simplest and most durable end point of all these components can also be the creation of dough or the transformation into a similar product. Today, what we define as bread is a new product reached as a result of cooking a mixture of flour, leaven, and water. Within the scope of archaeological research, the finding of bread residue in excavation works at sites dated to various periods is constantly announced. The product defined as bread should perhaps not be a surprise that people obtained a new, more concentrated, and longer-lasting edible food by mixing it with water during the process they performed from gathering grain and the grinding process until it transformed into smaller particles and even into a powder defined as flour. Derivatives of the product mentioned above can be obtained from very ancient periods. To give an example, although bread is claimed to be found in every excavation, as of now, the product that can be defined as bread and dated the earliest by carbon dating was found at a settlement named Shubayqa.[35] The bread remains recovered from this settlement, where the Natufian culture is observed, are dated to 14,200 BC, that is, to a period much earlier than the 'first' example in Anatolia. The find in question is extremely interesting and important when the

[34] Budd 2015; Cordain et al., 2002; Dounias and Froment 2011; Pate 1994.
[35] Arranz-Otaegui et al., 2018.

geography we are in and its relations are considered, but it is also beneficial to state that even for this find, it should be presented with the phrases 'to date', 'among the known', and 'for the time being'.

6. Discussion

Why does the proposition of 'firsts' gain so much importance? While archaeological studies currently reveal unknowns about humanity's past, and even about the environment, art, thought systems, etc., that were part of humanity's past, what does clinging tightly to these 'firsts' signify? Especially when the news in the press and the reactions given to them[36] are considered, does the desire to reach the 'first' and the 'oldest' finds provide a basis for scientific and systematic studies? How reliable are studies conducted with this understanding? Asking the questions here is certainly important. Beyond the questions, studies with well-evaluated scientific problematics and scientific coordination appropriate to the general concept will not only make local and regional studies better monitored but will also provide great benefit in terms of completing the missing parts. This is valid for studies covering all periods. Projects with extremely well-defined scientific problematics will, in this context, ensure that the studies develop towards a holistic purpose.

7. Conclusion

Among humanity's basic needs, nutrition and shelter certainly occupy the foremost ranks, inevitably, for the continuation of its existence. It has transformed the shelter problem from caves or rock shelters to temporary huts and from there to sophisticated structures. To give examples of these, the structures encountered at Göbeklitepe today constitute extremely interesting examples. Although various views are given about these structures, different interpretations are also put forward. Again, humanity's nutrition processes have also become increasingly more controlled over time, like the solutions they produced and developed regarding shelter. During the time spanning from their nutrition focused on protein to a progressively developing dimension and then back to a process heavy in plants and cereals, the strategic solutions they developed, on the one hand, determined their nutritional economies and cultural and technological development, while on the other hand, led them into a journey extending to the genetically engineered plants of today.

The conversion of cereals, root plants, or fruits into an edible format through various processes, beginning in the period defined as the Upper Paleolithic, and the gradual addition of different plants, etc., to the consumed types in this process with the use of fire, enriched humanity's diet. All these developed within a process. The variability, effectiveness, and brevity or length of the processes also developed and were shaped depending on the geographical conditions people were in, their raw material resources, communication networks, interactions, and many more factors like these.

While humanity has successfully shaped its cultural development among variables ranging from the food sources it consumed to the geographical and climatic conditions it was in, it has continued without knowing where, when, and to what extent its cultural process would be. Therefore, the evaluation of such processual phenomena on a regional or even local basis, and subsequently understanding what the developmental processes depend on, will certainly provide important inferences.

Upon evaluating the characteristic features of Central Anatolia and many other regions within themselves, both in the past and in the present, we observe that there are very significant differences between them. Central Anatolia was once described as a breadbasket or a grain

[36] Çilingiroğlu and Karul 2013; Dinçer 2015.

storehouse. In the process that has passed from those times to the present day, the change in climatic conditions, the emergence of differences in water levels and precipitation, and even seasonal variations are now highly effective and are producing dramatic consequences in many regions of the world.

The wetland areas located in the center of Anatolia, which were once covered with lakes, attracted people in the past, particularly during the Neolithic period, and led to the formation of unique sites such as Çatalhöyük. Canhasan is one of these. All these settlements have witnessed the processes that humanity's cultural and technological development underwent during specific periods. When we understand these processes for archaeological evaluation, define them as parts of a relational whole, and place them in their positions to form a larger picture, the resulting larger and more meaningful picture will, in fact, greatly facilitate our understanding of the processual integrity through our inductive approaches, and it will reveal the unique importance of each site in understanding the process in question, rather than merely asking where the 'first' or the 'oldest' occurred in humanity's cultural process. When archaeological research in human history is considered, these firsts and oldests are, as far as is known, for the time being. Developing and advancing research can always change them.

As a result of evaluating the data obtained chronologically in Anatolia, we see that the evidence of this processual phenomenon emerges again through chronological comparisons and scientific evidence, derived from data and datings obtained from layers where material culture remains that could be culturally contemporary were found. As mentioned above, these are the data obtained according to the phenomena within our immediate geography and in the light of the excavation work conducted to date. When we evaluate the world in general, we encounter different information and discoveries from different points. In this case, the question is actually this: within the processual development, must cultural evolution, development, and change be the same everywhere? And if not, what makes it different and distinct? Such a question will cause deep debates and will also bring forth different views, thereby enabling us to address not only processual development but also numerous topics that need to be questioned alongside it. Without discussing all these problems, understanding cultural development within a local and regional framework would be a more radical solution; and it is observed that even within many geographical frameworks we call local, for example, even within Southeastern Anatolian or Central Anatolian cultures themselves, there are differences, and when considered on a regional scale, much more fundamental differences are seen.

In this sense, it is necessary to state the following: In archaeological research, it is neither possible nor correct to excavate and reveal everything in a region. Considering both scientific reasons and issues of conservation, maintenance, repair, etc., and even potential new research methods that may emerge in the future, it is, in fact, correct not to do so. Furthermore, since archaeology largely develops through data obtained within the inductive method, it is very clearly seen that studies to be conducted at this point must be highly selective and careful, and they must support and complement the ones conducted previously. Particularly in local and regional archaeologies where processual development and change are observed, greater sensitivity on this point is required.

The scientific processes and data, which we have endeavored to examine within the broadest possible framework and which have evolved upon profound foundations, historically developed along a trajectory that remained distant from popular trends, centered instead on illuminating the past, and progressed through a dialectic of thesis and antithesis. This very dynamic facilitated the opening of new vistas and laid the groundwork for subsequent research. In the contemporary era, what contribution do the preoccupations with being 'popular' and newsworthy offer to this chain-linked progression of inquiry? It is precisely at this juncture—as previously noted—that we must once again pause at the point we have reached and engage

in a renewed examination of our position. Distinct archaeological traditions are observable across different nations. Should we intend to speak today of the first known 'bread' or the earliest 'ceramic' artifact, we must be entirely certain of its primacy. Alternatively, if one is to reset the historical chronology, it is imperative to base this upon a singular and unique datum, one devoid of any precedent. It is crucial to remember that the past of the entire world has not been exhaustively researched, and surprises will invariably await us. Consequently, proclaiming in the press or on social media that we possess the definitive 'first' of anything does not constitute a sound or scientifically rigorous approach.

At this juncture, it is pertinent to assert a general principle: scientific research evolves upon foundations laid by the past. In this regard, research that progresses by consolidating these foundations, and the researchers who conduct it, must operate within established standards and traditions—yet without conservatism. They should carry out their work through open and self-assured collaboration, while also regarding the elevation of academic prestige as a solemn duty. It is our hope that this imperative will be a central concern for the young researchers who are to advance this work in the future.

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