

# Ancient Smart Cadastrate: Akarçay Tepe Scaled-Cadastral Map

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**Keywords:** Cartography, Spatial Planning, Age of the Leo, Pre-pottery Neolithic, Cultural Landscape

## ABSTRACT

Anatolia is the home to early complex societies and has been the birth place or passage of many civilizations. Despite of various qualified academic studies and field excursions, excavations, and studies, Anatolian history is composed from a vast variety of unknowns. One of these unknowns originates from Akarçay Tepe, Turkey. The settlement is located in the middle Euphrates on the side of Şanlıurfa and on the south of Halfeti and north of Carchemish. Akarçay Tepe presents an example of a Pre-Pottery and Pottery Neolithic settlement. The settlement is in a region which has been occupied continuously since the Paleolithic Age.

A series of limestone plates, were found in-situ in Akarçay Tepe, during archeological excavations held from 1999 onwards. Today, these plates are exhibited in the Şanlıurfa Museum. Due to the absence of interdisciplinary studies and geospatial evaluations, these findings are named as “line-decorated plates” by archeologists.

This paper aims to present Akarçay Tepe plates are parts of a scaled- cadastral map unknown in human history, cadastral mapping has been known since pre-pottery Neolithic period 7950-7750 BC. (Pre-pottery period Layer V), and dates back to 8671 BC. It has a spatial plan characteristic. Human beings, with no reference to time and place created their smart cadastrate system, using technique and technology of their time. Pre-pottery Neolithic societies used stone and carved their maps on to it.

Spatial dimensions of exhibited plates are presented through several measurements with reference to google earth images of the village and its close surrounding. The evaluation of these plates here, with reference to other historical findings, will enable us to understand the initial step of land registration and cadastral application.

Maps and plans are for a social agreement, consolidation, and order. Not only today, but all throughout history cadastral maps form the grounds for settlement and social information systems. This paper discusses that in the geospatial maturity process of societies, cadastral maps like Akarçay Tepe plates were always demanded to guarantee ownership of land, its registration and to simplify spatial distribution of social parts, cultural links, and traditions where production relations are the determining factor. Today, the major difference is that cadastral map, once a proof of ownership of the agricultural production area of the slow civilizations, has transformed into a tool of registry prior to rent generating land uses. But, in every case, the need

for cadastral maps are unchanged. And, cadastral maps will always be on the basis of geospatial maturity of societies which are closely linked to and defined by social systems.

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Ancient Smart Cadastrate: Akarçaytepe Cadastral Map (9527)  
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## 1- INTRODUCTION

Geographies are a composition whole of cultural heritages formed in thousands of years and by different civilizations emerged reciprocally. The characteristics and acceleration of social relations all through human history have brought up the necessity of recording social and spatial relations. Establishing a social order and control of this order could mainly be possible by the control of land order (land property pattern and distribution of functional uses of a property (cadastral structure)). Decisions on the land order obligates the planning of cadastral parcels and their functional distribution. By the emergence of individualization and development of ownership, the individual, to guarantee the land effort is put on and to define ownership boundaries has drawn boundaries on the geographical space. As a result, land order inevitably became the basis of the social order and production relations.

Today, as it has been experienced in the past, land order forms the basis of civilizations. Land order designs economic and social structure. It is structured with the aim to guarantee belonging to a locality, presence on land, and sustainability of this presence. Land order also leads to social acceptance and provides a social status for the one having rights to property. Production type, method, amount and so, the share that can be taken from this production on land must be calculated. An overall change in the order could only be possible by the change of a civilization style and governance typology.

3-D scaled land models, 2-D spatial plans and cadastral plans are the tools of registry and presentation of property rights on land that are defined by socio-cultural interaction and the level of interaction. Besides these presentations and tools to define property rights, there are other spatial tools such as geoglyphs, tamgas, and geostamps. Every civilization governing a region or a locality defines ownership rights with a different presentation or a tool. All these presentations provide social communication.

Studies on the spatial distribution of ancient cultural possessions, networks, settlement pattern, land order, trade routes, and settlement typology are relatively less in historical geography, urban planning and archaeology disciplines. Nonrelated studies of different disciplines (Paranina and Grigoryev, 1999) and lack of communication have negative results in spatial studies. Studies are also insufficient to gather spatial data with a holistic approach. As analysis of relations between settlements, land uses in the surrounding area and land order are absent, together with the contribution of any sort of damage created by the humans on space, the perception level of the historical space, networks, boundaries, and possessions diminishes.

Despite acceleration of multidisciplinary studies and incredible development and knowledge concentration related to digital technology use in field studies, archaeological studies are stuck into the level of government and /or private sector fundings and issues handled on subject basis

(area, tumulus or grave mound scales, and living conditions or architectural characteristics, etc.). Due to high level of data provision, studies are diverted to Pre-Pottery Neolithic and Neolithic ages, southern Mesopotamia, tumuluses of Anatolia or closer periods like Roman and Byzantine periods and ancient artifacts.

Archaeology and architecture discipline studies concentrate on building materials, sacred places, temples, palaces, city walls and gates, monumental public buildings, houses and their architectural characteristics, materials and settlement order. Archaeological field studies concentrate on settlement boundaries and findings. And if anything is inaccurate, all spatial relations could give misleading results. In historical geography studies, spatial relations and networks of a certain area are evaluated on subject basis. Within this process, studies on ancient land order, its characteristics and settlement pattern and socio- cultural relations starting from the Paleolithic period and continuing in the Neolithic period are absent.

This Article; taking its grounds from this absence; is prepared to present the spatial dimension of Akarçay Tepe Line-decorated Stone Plates that are on exhibition in the Şanlıurfa Museum, Turkey. The article also aims to discuss even though low technology level was present at the Pre-pottery Neolithic period, land order defined in these plates are a presentation of a live system and are produced with a high technic. The article has the objective to prove that plates belong to several early settlements of Anatolia and are the presentation of their land order. The systems theory is used to analyze Akarçay Tepe stone plates as they are a part of a complex system and a symbolism of an upper spatial unity.

On the basis of data provided from Akarçay Tepe line-decorated stone plates and other findings; research process and method; relation of plates to ancient maps; settlements they are originating and their exact locations; technical specifications, techniques of modeling and production date form the study content and so, the article sections. Transportation system-settlement relation, settlement-topography relation, belief system, slope calculation formulas, qanat system, productivity-land amount relation, demographic structure and population, and population pressures of their period are uncovered by the study content. Although stated, material of production and modeling technic needs detailed analysis and is a subject of another article.

## **2- RESEARCH PROCESS AND METHOD**

Several plates exhibited in the Şanlıurfa Archaeology Museum has been named as “Akarçay tepe Line-decorated Stone Plates”. During a visit in April 2017, the author realized that these plates have a spatial dimension. The thought on agricultural cadastral system presentation of Akarçay Tepe or its close surrounding as they are found in Akarçay Tepe, started the research on May 2017. After a few efforts, permissions were granted by the Museum on 02 May 2017. On 31 August 2017, the head of excavations gave permission for only 3 plates shown in Figure 1.



Fig. 1. Search Permit Given Stone Plates. Plate A (Middle) Plate B (Left) and Plate C (Right).

No similar design of cadastral parcels has been determined around Akarçay Tepe and its close surrounding within the preliminary spatial analysis of these three plates before measurements in the Museum. However, another plate, for which search permission couldn't be received, but exhibited in the museum had a larger area and certain pattern. The plate, bigger than 45 cm (Özbaşaran, 2008: 835) (Fig. 2), is found to be similar to Kelekli village cadastral pattern (google earth image, dated 07.06.2009). Settlement's housing area is similar to thick lined middle section of the plate and is in ratio correlation. This section represents housing pattern lined along streets and composed of lining of housing parcels. This presentation has been accepted as housing area presentation in the analysis. Fig 3.

Kelekli settlement is bound administratively to Gaziantep Province Karkamış District and is located in the junction of Birecik-Karkamış and Nizip-Akarçay Tepe roads. Kelekli is close to Euphrates River and on the other side of the river in the line of Akarçay Tepe. Kelekli, located on the Nizip-Suruç axial relationship, is where the shortest distance of river passage is. Fig. 4. This plate will be named as "Kelekli Plate" from here onwards. Although asked for, no permission is given for the analysis of this plate.



Fig. 2. Kelekli Plate Exhibited in the Şanlıurfa Archaeology Museum.

a. The Kelekli Plate, b. Plate Drawing.



Fig 3. Housing Pattern Presentation in the Middle of the Plate

a. The Plate, b Kelekli Settlement Housing area (Location  $36^{\circ}54'45.87''\text{K}$   $37^{\circ}59'36.63''\text{D}$ )  
(Source Google Earth Pro 2018, Date: 26.01.2018).



Fig 4. Gaziantep-Şanlıurfa and Nizip - Akarçay Tepe-Suruç Pre-Pottery Neolithic Period Accessibility by Walking (Source Google earth Pro 2018, Height 383,3 km. Date: 16.01.2018).

Three plates were measured on 18 December 2017 in the Şanlıurfa Museum with technical drawing equipments. Measurements are presented as cm. There can be a  $\pm 0,1$  mm measurement mistake. Parcel division measurements are either from middle points or from sides where certain results can be get. Damaged surfaces are presented, but not evaluated. Thickness of roads are also measured. Technical specifications and measurement and presentation methods are also determined. After the measurement stage, one-to-one drawing of the plates is made (Fig 5-7). Plates were later redrawn to transparents.

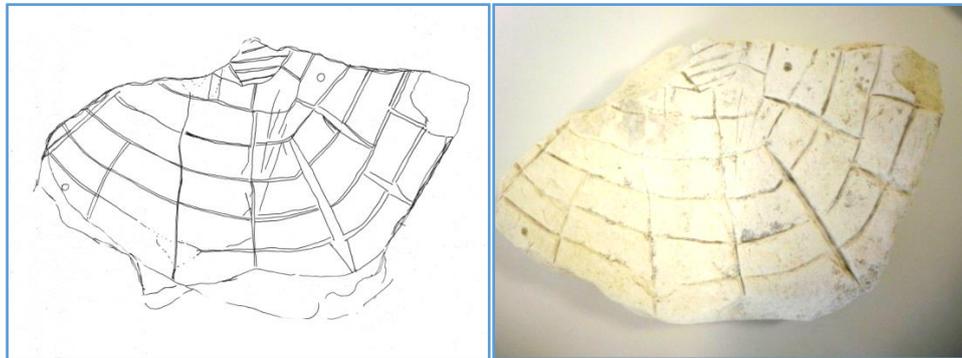


Fig 5. Plate A

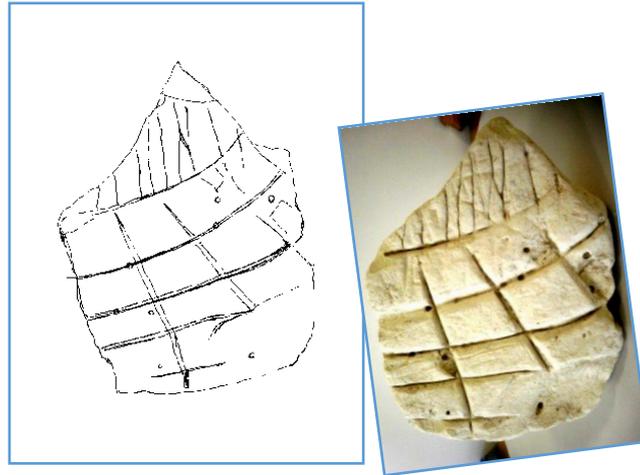


Fig 6. Plate B

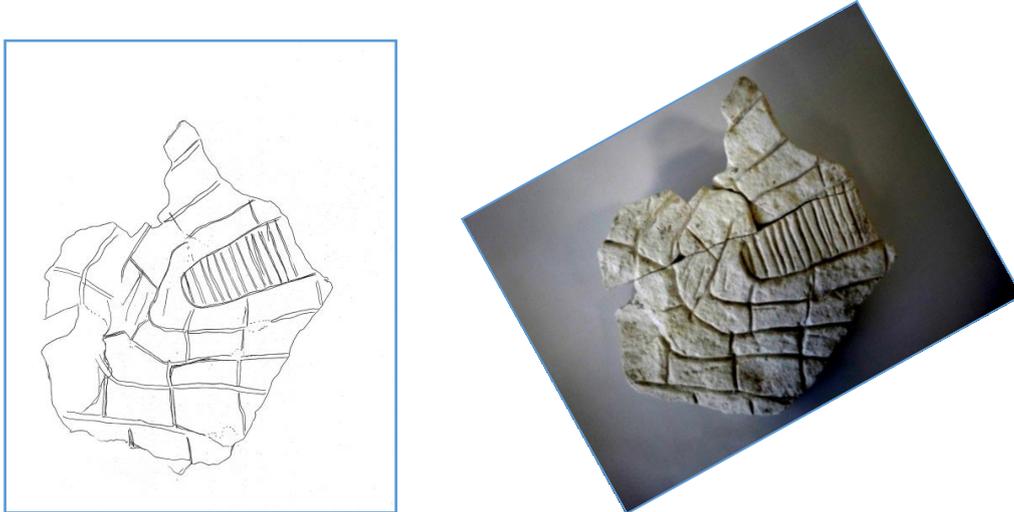


Fig 7. Plate C

Kelekli plate played a key role for spatial location determination of other plates. As plates give no applicable cadastral reference for Akarçay Tepe or its close surrounding and as Kelekli plate belongs to a further location, other plates are accepted to be belonging to other settlements.

Spatial analysis has been made by using Google Earth Pro program and images dated January 2018.

Topography, plate drawings (cadastral lines of land order) and accessibility routes are the main evaluation inputs. First of all, as the plates have land model presentation, concentration is given

to slopy areas mainly in the west, north and east of the Northern Mezopotamia after an initial search of valley settlements of Southern Mesopotamia opening to the Euphrates River. The wheel was undiscovered yet, so calculations were made by the author according to human walking distance for 2-3 days in relation to Akarçay Tepe. 13.646 km<sup>2</sup> of an area is searched. Fig 8.

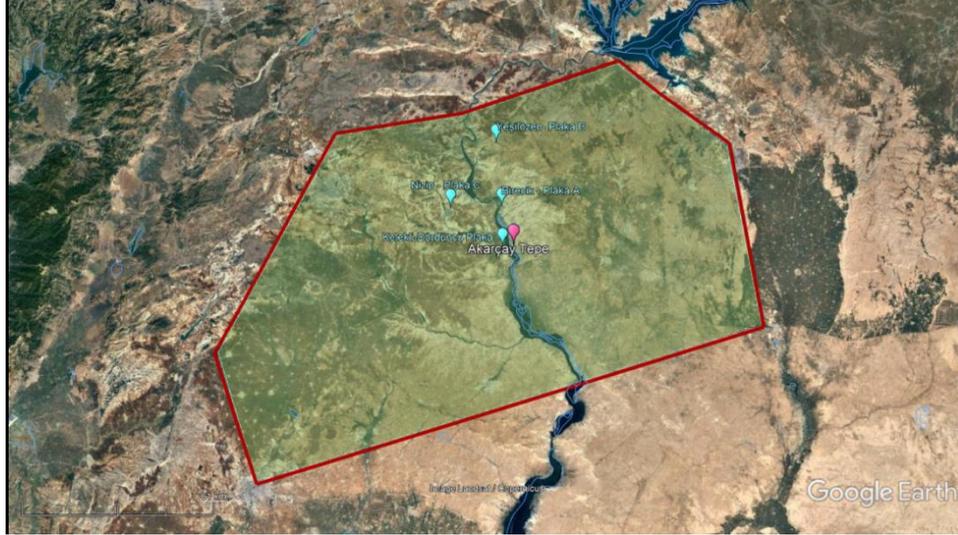


Fig 8. Research Area, 13.646 km<sup>2</sup>.  
(Source Google earth Pro 2018, Height 383,3 km. Date: 16.01.2018.)

Secondly, agricultural and housing technics of that period and settlement location selection criterias Kejanlı (2005:90) has stated were applied.

In Birecik, several alternatives were determined, these were checked with old photos of Birecik, and Plate A pattern is determined. In order to find the second plate location agricultural cadastral patterns and settlement structures around Birecik and again the valleys opening to the Euphrates River are analysed. Plate B measurements showed complete correlation with a section of Yeşilözen, which is a settlement located on the north of Birecik. This settlement is a regional entrance point from the northern mountains, giving Paleolithic settlement characteristics. To find out the third plate settlements located in the same distance are reevaluated. The third plate; Plate C, after the analysis of the main axis of Nizip-Suruç and measurement of 4 alternatives, is defined as Nizip old settlement area.

During this analysis for location determination, plate's scales were also evaluated. For all alternative areas, plate cadastral design, cadastral pattern on land and topography is evaluated. Plate shapes, slope direction, number of cadastral divisions, direction of parcel divisions, and hill-top location of settlements were compared with the land order and geographical references.

A second method has been applied in parallel in order to find the scale of the plates. The measurements of plates made in the museum have been compared with the measurements made in Google Earth for alternative areas. A ratio is questioned. Transparencies of plates are minimized in different ratios in order to find out the scale, and this is compared with both the plates' and land's current measurements. Application of another method resulted from the characteristic of the current land order that can easily lead to the fallacy of the increment due to human damage or successive and order changes. Areas giving a meaningful measurement and equal ratio have been accepted as the location. Basic inputs (such as roads, garden lines, lines of housing, topographic references) have been drawn on Google Earth images. Final measurements and clean drawings are made again on Google Earth images.

During measurements in the Museum, several presentations that can be technical specifications are determined. There appeared a need for extending the study content for understanding these presentations. In other words, this article covers the results of two separate analyses. The first one is the analysis of spatial dimension and location of plates. The second one, unexpectedly figured out during measurements in the museum, given as they are the proof of the first statement, is on the plate drawing and modelling techniques (technical specifications) and time dimension. The plate characteristics demonstrate production dates with reference to astrology, irrigation system and slope calculation. In this respect, modelling and drawing techniques of plates are defined and grid system is presented. It should be stated that the results of the second method application are shortly stated here, as these issues need further search and evaluation. The study has been supported with a literature survey.

The successive section is on the Akarçay Tepe Stone Plates and their relations with ancient maps.

### **3- AKARÇAY TEPE LINE-DECORATED STONE PLATES AND THEIR RELATIONS WITH ANCIENT MAPS**

Akarçay Tepe line-decorated stone plates (Arimura et al. (2000); Özbaşaran et al., (2007:183), Özbaşaran (2008)) has been found in Akarçay Tepe Höyük (Akarçay Höyük, Cort Höyüğü). The settlement is located in the Gaziantep – Nizip – Ayn-el Arap – Suruç - Şanlıurfa and Nizip Akçakale and Birecik Karkamış - Jerablus axial road junction. Pre-pottery Neolithic Akarçay Tepe settlement is located on the east side of the Euphrates River, west side of the Akarçay Village and partially on the southern section of the village. Akarçay Tepe, together with Mezraa Teleilat Höyük is one of the oldest settlements of the lower section of the Euphrates River basin (Çelik, 2008:13). The life in the settlement had started in the Pre-Pottery Neolithic and continued during the Neolithic period (Özbaşaran (2008), Özbaşaran and Molist (2007), Bozbay (2013:177)) for 2000 years without interruption (Balkan-Atlı ve Özbaşaran, 2017). Özbaşaran and Molist (2006:249), defines the date human living has started in this settlement as 7800-6200/6000.

83 % of the samples of Akarçay Tepe stone plates were found in 27 plan square (27 S, T, U, V) and especially, in 27 T and U squares which were once an open area. Only one of the samples

is found above the ground (Özbaşaran, 2008:835). Özbaşaran (2008: 833) states that the plates are at least 9000 years old and there are over 300 pieces.

To evaluate the spatial dimension of the plates and their technical specifications, their relation with ancient maps should be given.

Humankind has produced maps and plans all through out history. Ancient maps range from world maps to regional scaled maps or building and land plans in different scales. Çatalhöyük Map dated to 6200±97 BC (Göksöz, 2009) is the presentation of housing and streets and topographic references (volcanos). The Babylonians, around the 1<sup>st</sup> Millenium BC have produced clay tablets on which property rights are shown in order to collect tax and/or with irrigation purposes (Çalışkan, 2017).

As all Akarçay Tepe plates contain standard information, it can be stated that they were produced with a social common consciousness and with the intention to make a spatial presentation. Land order in all has been drawn with the same technic. But different than clay tablets, they have the third dimension. There was no paper or papyrus technology, therefore; drawings were made on the only possible material - the lime stone plates with the only possible way. Stone work and expression through pictograms are the characteristics of this period.

During literature surveys and internet search, it is observed that different civilizations have drawn maps and plans on plates. Fig 9. Non-existence of paper or measurement mistakes resulting from shrinking leather may have forced artisans to produce on clay tablets. Low cost of plates and tablets can be another reason for preference. Clay tablets must have replaced stone plates, due to their relatively easy processing.



Fig 9. Urban Plan of the Roman Empire (Plan Table), 203-211 A.D..  
(Source Pinterest. Realmofhistory.com. [Accessed: 17.07.2017])

Özbaşaran (2008:834) states the resembling characteristic of samples published previously under the terminology of “incised stone” or “plaquette décorées” in terms of raw material selection and scraping technic. According to Özbaşaran (2008:834), samples closer to Akarçay Tepe that are found in pre-pottery Neolithic settlements of Tell Aswad, Munhata ve Wadi Jilat 7 are only 10 cm in dimension and most probably, a representation of a different thought, will and belief.

The initial difference of Akarçay Tepe plates from known maps is its expression in the third dimension. Production of the plates in land model format is a proof of a need for an interpretation over, exhibition and analysis of current topography. Second characteristic of stone plates is their ornamented land uses (housing, agricultural lands, roads, springs, geographical thresholds, etc.). Thirdly and lastly, these plates were produced long ago than all the known ancient maps.

Akarçay Tepe plates belong to several settlements. Their locations are given in the next section.

#### 4- SETTLEMENTS PLATES BELONG TO AND THEIR LOCATION

The analysis of plates showed that parcel design is the definition of property lines. Besides a road a garden line can be the determining line or once a wide road axis can be invaded by houses today. In other words, every line is not a representation of roads. Several lines are the references of topographic thresholds and limitations. As stated before, there are special presentations for roads, parcel boundaries, housing areas, agricultural areas, irrigation or water wells in the plates. The divisions on the plates not only represent agricultural parcels but other uses and geography can be understood. Table 1. Evaluation of the plates together with the current land structure and the build-up, has provided the distinction of land uses and geographical thresholds.

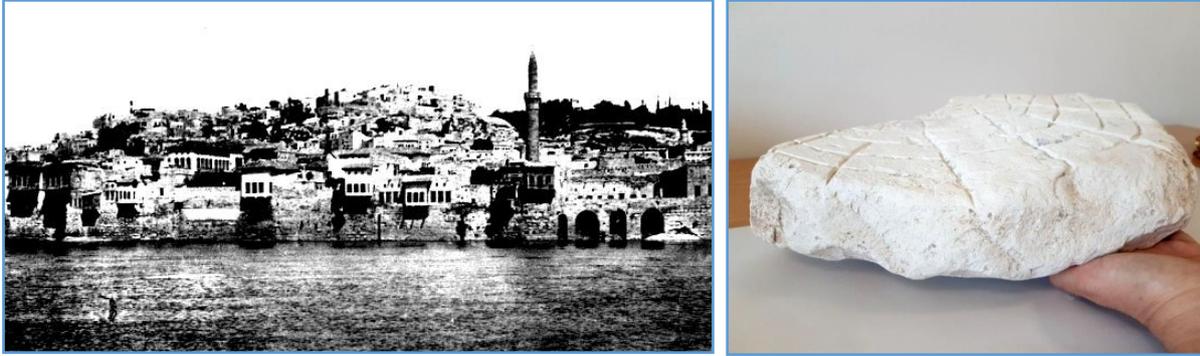
<b>PLATE</b>	<b>Number of Housing Parcels</b>	<b>Number of Agricultural Parcels</b>
<b>Plate A</b>	4	31
<b>Plate B</b>	10	15
<b>Plate C</b>	15	28

Table 1- Number of Parcels Relative to Land Use Typology.

Akarçay Tepe line-decorated Stone Plate A belongs to Birecik, Plate B (AT 02 261169 2) belongs to Yeşilözen and Plate C belongs to Nizip settlement area. Kelekli, Birecik, and Yeşilözen are located on the same geographical line. Fig.8. Settlement location axis can be a result of a longitude understanding and maps could be drawn with reference to this line. However, this is also a subject of further study.

## PLATE A - Birecik

Width of Plate A is 16 cm and height is 19.4 cm.. Widest section is 21 cm. (According to Özbaşaran (2008) it is 37 cm). The settlement is 13 km distant from Akarçay Tepe by bird flight. Plate A, is the section of the city starting from hill top down to Euphrates river. This section is the slope that faces west. The scale is 1/1000. Housing area is on hill top with protection and climatization purposes. Fig. 10. Picture 1.



Picture 1: Birecik Plate and Topography Relation

a. Birecik, Old Photo. (Source <https://www.bireciktso.org.tr/tr/foto-galeri/eski-resimlerde-birecik/> (accessed 19.01.2018)) b. Plate A.



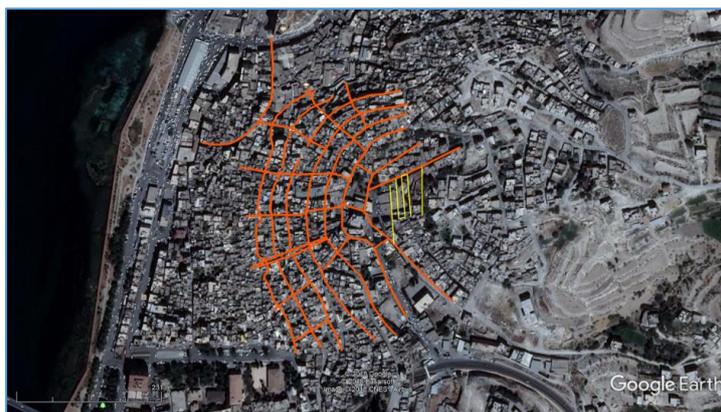


Fig 10. a.b. Location of Plate A in Birecik (Source Google Earth 2018. Height 382 m. eye distance 1.34 km, Location 37°01'43.41"K 37°58'50.95"D)

**PLATE B (AT 02 261169 2) - Yeşilözen**

This is the smallest plate. Plate B has 19,6 cm x 14,6 cm maximum, 12,5 x 12,5 cm minimum dimensions. The settlement is 33km bird flight distant from Akarçay Tepe. Plate B, belongs to the section between Pınarbaşı Street and the castle on top. Fig 11. Scale is 1/1000. Yeşilözen, is the regional gate opening to mountains areas in the north and is in the intersection of roads. This is also hunting animals' passage route. Akarçay Tepe is located in this region. South western axis heads to Birecik, whereas south eastern axis ends in Suruç.





Fig 11. a. Plate B, b, c. Location of Plate B in Yeşilözen (Source Google earth Pro 2018. Height 650 m., eye distance 1,34 km., location 37°12'36.47"K 37°57'21.30"D)

### **PLATE C – Nizip**

The plate composed of 3 broken pieces had been pasted by archeologists. It has darker color and a carved section on top of the plate. Fig 12. Plate C dimensions are 28,5 cm x 23 cm maximum, 17 cm x 15 cm minimum. 23 km away from Akarçay Tepe. In Nizip settlement, the plate belongs to the old city section bordered by Market Street, Republic Street, Spring Street, Religious Visit Street, Mill Street and Bath Street (Pazar Sokak, Cumhuriyet Caddesi, Çay Sokak, Ziyaret Sokak, Değirmen sokak ve Hamam sokak). The scale is 1/1000.





Fig 18. a. Plate C, b,c. Location of Plate C in Nizip (Source Google Earth Pro 2018, Height 496 m., eye distance 34 km, Location 37°00'35.69"K 37°47'13.30"D)

## 5- TECHNICAL SPECIFICATIONS, MODELING TECHNIC AND PRODUCTION DATE CALCULATION

The notion that makes plates unique is the conscious use of mathematics, geometry, astrology, spatial planning and map making knowledge. However, units of measure in that period is unknown. While plates are measured in the museum, it is found out that line drawings are almost equal and measurements are formed by integers and decimals. This civilization has calculated the land size and productivity. They are aware of four modes of mathematical operation. Plate producers were also capable of calculating angles and slopes.

Vertical lines on the plates represent topographic contour lines. An oblique ruler has been used for drawing vertical lines. Knives made of flintstones (Childe (1971:71), Borrell (2010)) can be thought to be used for this purpose. In all the plates there is linear processing. Rulers were used and plates were ornamented from left to right in the direction of changing contours. Fig. 19. Left hand has pressed the ruler and with an equipment of 1mm thickness; with movements from top to bottom, drawings were made. Carving method is the same. Today's model making method is also the same. Plates were processed after softening with water. Smooth texture of

the plates and dust it leaves are the proof of water usage. This technic must be preferred to prevent fractures and allows easy carving.



Fig. 19. Proof of a Ruler Usage.

Certain neatly carved holes and short lines were determined on the plates. Short lines are located where the plate lines are curving. Fig.20.



Fig 20. a,b and c. Short Line and Hole Samples.

Detailed analysis of these holes and short lines proved that these holes are reference points. When these holes are combined by drawing lines from middle points, there appears triangles. Today even mapping engineering computer programs use triangulation measurement method for the calculation of slopes and areas. Holes must be the presentation of clean water and irrigation system wells (See Ancient qanats in English (1968)). A certainty on this issue seems possible after a field study within another study content.

Common parallelism is also observed in measurements. There appeared a need to make a grid control. Major parcel island lines are extended and a grid is system is found out. Fig. 20. Short

lines are also extended. In all plate drawings, a second systematic that rotates the grid is found out. Rotation of the grid allows the one to measure and divide correctly the land at the same height. If to sum up, short lines are to rotate the grid, to correct contour rotation, and to achieve same height on land.

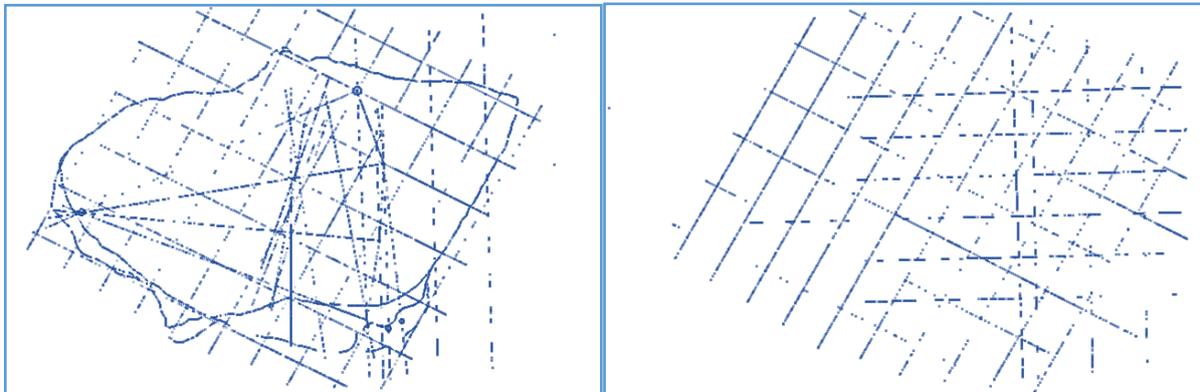


Fig 20. Triangulation and Grid Rotating Systematic.

Rotating grid has an inclined mosaic. The reason for creating an inclined grid is questioned and it is thought to be related to productivity. Productivity is bound to positions and movement of the sun, the world and the moon. Spring equinox is placed to the North. (Fig 21a) As a result, the grid pointed the line in between two astrological ages: The Age of the Lion and the Age of the Cancer. Fig. 21b. Plate grids are dated to 8671 BC.. Paranina and Grigoryev (2017:40) stated that astrology is the basic function of space-time relation. This is valid for the grid system of the plates. During 2002 excavations V. Period of Akarçay Tepe is dated to 8th Milenium BC (Late Pre-pottery Neolithic) (8750 BC +-40) (Balkanlı-Atlı and Özbaşaran, 2017). This fact suits to grid date. In addition, according to Borell (2010:122), the chipped stone remains from Akarçay Tepe comes from an uninterrupted sequence of layers that dated from 7580 to 6300 cal Bc.

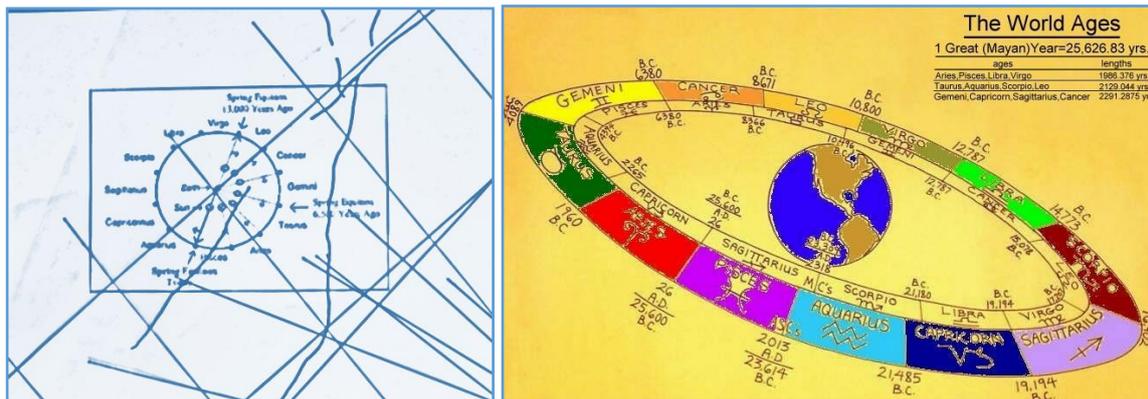


Fig 21. a. Spring Equinox and the grid intersection

b. Twelve World Ages. (Source Pinterest librarising.com (accessed: 12.01.2018))

## 6- CONCLUSION

Land order as a system construct is in the basis of spatial planning and is a reality that has been continuing since thousands of years. Maps, plans and models are a way to explain or to redefine space and land order in the second or third dimension. These tools are used in order to determine spatial relations, to organize or to define new rights or to protect present rights. They have always been and will be used in human history.

Although named as Akarçay Tepe Line-Decorated Stone Plates, none of the stone Plates found in Akarçay Tepe excavations and exhibited in Şanlıurfa Museum evaluated belong to Akarçay or its close surrounding. Plate A is from Birecik, Plate B is from Yeşilözen and Plate C is from Nizip. Topography have been mapped by scaling. Scales of all are standart and in 1/1000-scale.

Akarçay Tepe Line-decorated Stone Plates are a reality that provide data about the Pre-Pottery Neolithic Period space, spatial structure and relations, spatial networks, land order social relations and technic and technology level. They are products with space and time dimensions and provide information on the registry of settlements and agricultural lands, topography and geograpgical thresholds of the Neolithic period. Presentation of different functions is a proof of social concensus of future rights on land. Because of technology and technic of their time, their format can be grasped as a map and a plan at the same time. These plates are 3-D land models with spatial and cadastral plan characteristic. They must be produced to calculate floods, to make astrological observations, to differentiate agricultural lands from housing areas, to present geographical structure, and to define property rights on land or else.

Plates' grids present their date of production. Placing the spring Equinox and North axis to the grid, plates are dated to the end of the end of the Age of the Leo (8671 BC). We are in the year 2018, therefore; produced at the Pre-Pottery Neolithic Period, they are at least 10689 years old. And, they are older than the Çatalhöyük Map dated 6200±97 BC. In addition they are a part of a regional unity.

For Bülbül (2017:268) Çayönü presents an excellent planning and architectural example for a human group in a village level. The civilization that produced Akarçay Tepe plates in the same period of Çayönü also shows excellent mapping, spatial planning and irrigation systems construction skills. Plates are a proof of a dynamic and live system and high technical level. In addition to these systems, primitive technology with high technic and stagnancy and change of form and function is exercised at the same time, allowed the evaluation of these plates within the Systems Theory.

Basic reality Akarçay Tepe Line-decorated Stone Plates (land models) provides is that they are not a sembolic presentation which is coincidental and spontaneous. The plates were produced by a planned decision and preferred consciousness to satisfy objectivess with a certain content

and function. Akarçay Tepe land models are a product of artisanship. They represent a civilisation with developed measurement and drawing knowledge and skills. It can be concluded that their artisans can be accepted as the first mappers and planners.

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