

## A Project for Constructing an Archaeological Map for Egypt across Space, Time, and Human Innovation

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**Abstract:** Archaeologists are fond and even serious about locating the positions of ancient civilizations through the knowledge of positions of the remains as indications of them. They also intend to estimate the length of stay before their culture has been destroyed. These two items are the chief goal of the people working in the field of archaeology. Geophysics successfully answers thoroughly and successfully these two enquiries. A survey has been made on several cites and provinces in Egypt which includes at least third of the world monuments. On a visit to Patra in Jordan, the guides accompanying one of the authors during the field training of students from Kuwait University was speaking proudly of what was showing us in Patra. Then the answer was: If you have here such civilization and m monuments in form of Patra, we have in Egypt Cleopatra, by which he meant 1000 times as he has had there or even more. In this work in addition to locating cites and dates of remains and ruins that have been present in the past, there has been a summary of the purposes for such huge amount of these remains in Egypt; the reader will be convinced by them.

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### 1. Introduction:

Our colleagues and students in geophysics are fond of dating and locating archaeological sites all over Egypt. Throughout their studies, they may throw some light about the purpose or purposes of such monuments. This has been taken care of during this research project. Egypt being a target for attack from different countries for its prosperous resources and climatic conditions, besides its location midway between different continents, made the Egyptians recognize that they should defend baldly their land. For this reason, they build castles, tall and long and even very high fences around the cities and important places. Populations and the rules had a strong belief that they will meet a life longer and more important in the hereafter. This encouraged them to initiate temples and places for worshipping. In addition, they have to show up that they are willing to live happily. Then they improved their means of life regarding health, cultivation and education, ect. The geophysical methods applied are mentioned briefly to show that their effectiveness in the field of dating and locating sites.

### 2. Methodology:

The archaeological sites in Egypt have been subjected to various studies especially from geophysical points of view. These studies concentrate on identification of their localities in addition to recognize the periods or length of stay before their

destruction or being hidden deeply or even-in some localities at shallow depths.

Some of us have the opportunity either to supervise the surveys and follow the studies and research work for purpose of getting higher degrees such as masters or doctors or even for the sake of university prizes to encourage the workers to continue their enthusiasm in the field of research or even to hold higher ranks such as professorships in their universities. The authors of these papers find it better to add the possible purposes and aims of establishing such civilization in Egypt through such long periods of time. In addition, there are some reasons why such culture has been diminished or even stopped. A collection of the foregoing research work is presented there and some comments to follow up such results have been made as follows: Starting work the archaeological research submitted in the last decade of the past century by **Ismail (1992)** includes 34 sites from all over Egypt as is shown in map Fig. 1. These sites are taken to provide specimens oriented magnetically to be correlated with the predominant magnetic field to show up the history of localities assigned by such sites. As far as the direction and amount of the field of each site are matched with the field, then, it is easy to follow the history or the age of the dynasty. The theory is based upon the thermoremanent magnetization at which the iron material loses entirely magnetization as the curie point of substance is reached. Upon cooling from that point, the material soon acquires thermoremanent

magnetization detecting the state that such civilization has been destroyed, the time which is determined upon correlating the direction and amount the magnetic field of the oriented shard extracted from the assigned site with the earth's magnetic field at that time. This is the base of the Doctor's thesis of **Ismail, 1992**, in addition to dating with carbon-14.

It is very hard to follow a continuous record of the civilization from the work of **Ismail, 1992**, simply because the dynasties and even the kings within them try their best to destroy the cultures of their ancestors. However, estimates of durabilities of some Dynasties has been determined on the map fig (1) corresponding to different provinces in Egypt.

Reviewing the work of **Issawy, 1997**, regarding "Archeogeophysical Prospecting in Luxor Area, Upper Egypt. According to him it is shown in fig. (2) relies on the fact that the precision of the gravity meter is so high that the units used reach microgals rather than milligals in the past. This enables to determine the depths of the holes to a few meters. Accordingly, in addition to contrast between the materials filling the holes (which represent the tombs) and the surroundings, the location of the tombs in Wadi El Melouk because so easy as far as the adjustment of the instrument is made precisely. This research work did not mention why the rulers or meluk (kings) of ancient Egypt prefer the western bank of the Nile Valley at Luxor to be preferable for their burial. We can think that their belief is their death after the present life indicates the similarity between it and the sunset which is always directed to the west. The eastern bank of the Nile, however, at Luxor - where the temples of larger culture and civilization - denotes the start of life in the hereafter that certainly will be met with. This corresponds to the sunrise from the east. If they try their best to be hardworkers for the well fair of the humanity, their life in the hereafter will be good, profitable and prosperous. Anyone who does not take this into consideration will be losing everything. The application of microgravity surveying in the field of archeology is one of the best methods applied so far in addition to engineering purposes such as detection of caves and cavities before establishing roads and bridges.

Moving to another piece of archeological research, **Farrag**, working for Ph.D. in 1998 applied the archaeomagnetic methods to discover hidden places related to some tombs and pyramids along a very great distance through Lower and Upper Egypt. Some of these localities are in El Sharkiah Governorate (Qantir). Others are placed in Giza (Saqqera) and Fayoum (Hawara and Lahun). Still further, in Upper Egypt and Southern Sohag by about 50 kms Abydos Pyramid is located (map p.69, Fig.3),

the archaeomagnetic method is preferred because there is a big difference in magnetic properties between materials from which the monuments and the surroundings are made of.

It seems from the mode of the buildings excavated that discrimination was occurring against the population through the very modest houses of these people compared with those of kings and other high life families. The thesis of **Farag, 1998**, includes some hints about several branches of culture and civilization including all branches of life and even religion and belief. As an example of that in P. 116 and at the end of the page you may read: Astronomer / priests studied the sun, moon, and movements of stars with precision to plot seasons accurately they employed sacred geometry to orient each face of the step pyramid towards the cardinal point, and they created culture adept in medicine, astrology, taxation, law, military strategy, writing, religion, poetry, art, sculpture, ritual, mathematics, irrigation, farming, ship building and construction.

With such a rich heritage of living, it seems inevitable that Egyptians would believe in life beyond death was a continuation not an ending. Shallow graves were set in the hot dry sand during the I and II Dynasties, Mastaba tombs were then built for high officials from 3200-2700 B.C. using sundried bricks in a rectangular shape reminiscent of benches outside homes and were decorated with a paneled place façade.

The author described the pyramid in P.117 as follows: The step pyramid then connected tradition and technique with architecture, skill, and aesthetics. As the largest stone structure of its time in the world, the step pyramid elevated Zoser, the second king of the III Dynasty (ruled 2630-2611 B.C.) to immortality, Imhotep, his famous architect, high priest, and chancellor, was so renown for wisdom as initiator of his era that his name and title accompanied Zoser in stone inception in the complex.

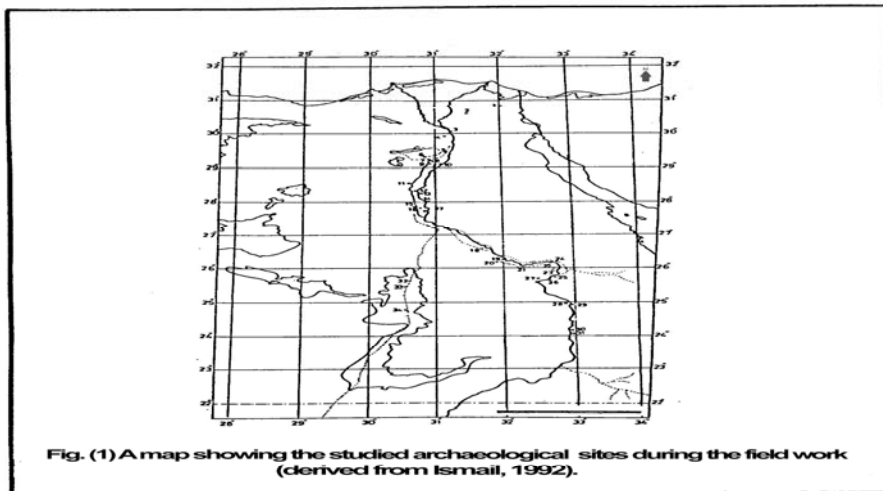
According to the fore going characters, we may be sure that the excavations and explorations in the field of archeology are mixed with the history of people occupying these territories. In addition this history clarifies their behaviours, attitudes and modes of life.

The thesis of **Saad M.R., 2003**, involved studying magnetic method to prospect the hidden monuments and archaeological features in Abu Sir area, Giza. In such a work the author discovered presence of some archaeological features such as tombs, burial room, dissected walls, all of them are expected to belong to the 5<sup>th</sup> Dynasty of pharaohs; who used to build their buildings by mud bricks (see Fig.4).

If we turn to the research project held by **El Galladi, 2001**, to achieve Ph.D. from El Mansura University regarding the studies on NW Sinai, it is found that the author devoted Ch. IV & V. to study and detect the archaeological sites in the area by both electrical and magnetic methods. The periods to which the remains belong to Roman and Islamic ones. This shows that the provinces of north and east Egypt were subjected invasion from foreign countries. These provinces became colonized to an extent that the colonizers settled a horse-race track of a very wide area (see P.62). Accordingly, they had to be

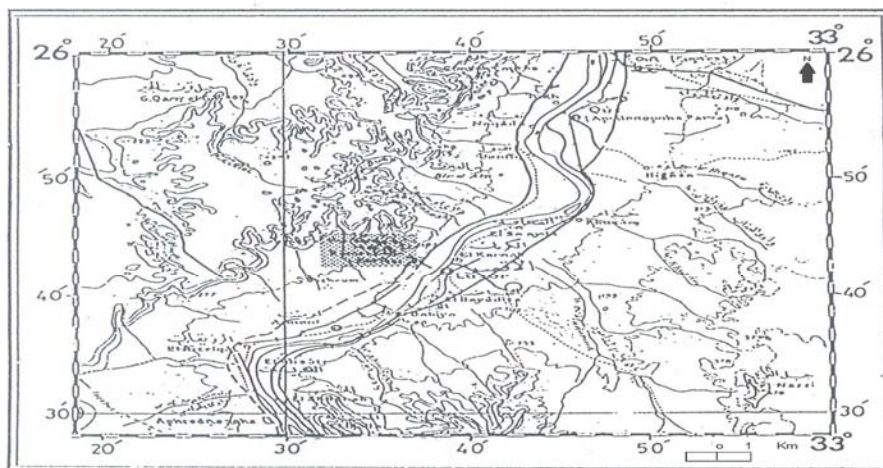
kicked out and driven away by war and battles and this has been done successfully by kings and brave fighters who initiated and built castles for this purpose as we shall see later on.

As far as the eastern and the northeastern sites in Egypt are concerned in addition to horse-race track of Romans, several authors (**El Kenawy et al., 2006**) discovered the remains of castles and battle fields indicating fights that occurred among the Egyptians and Hexose army from which we can conclude that those Bedouins were so greedy to colonize Egypt for a long time.



**KEY OF THE FIELD  
ARCHAEOLOGICAL TRIPS**

- 1) Tanis, 2) Tell Basta, 3) Kifer El Gabel, 4) Saqqara, 5) Medoam, 6) Hawarra, 7) El Lagoon, 8) Kum Oshaem, 9) Ahanyssa, 10) Bany suef, 11) Bahansa, 12) El Minal, 13) Bany Hassan, 14) Tell El Ameria, 15) Touna El Gabel, 16) El Ashmoneen, 17) Malawy, 18) El-Sheikh Hammid, 19) El Balyana, 20) Abedyos, 21) Hiw, 22) Nagada, 23) El Zuwwadih, 24) Dandara, 25) East Karanak, 26) Abu El Goud, 27) Thebes, 28) El Kom El Ahmer, 29) El Aduca II, 30) Nagas El Hager, 31) Alphanicin, 32) Bir El Gabel, 33) Hibis, 34) El Max



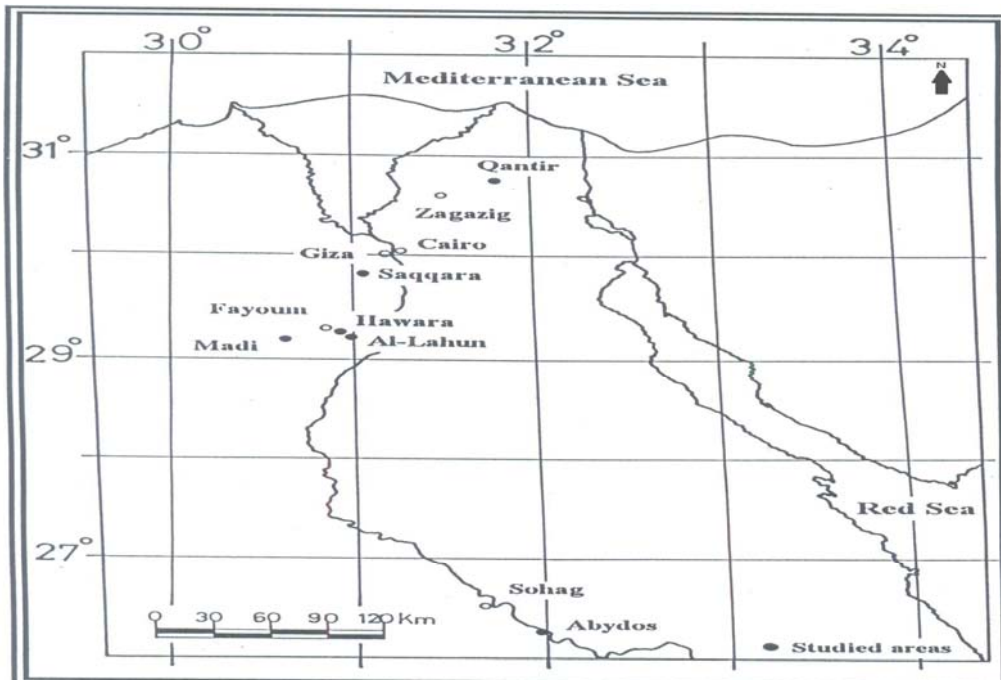


Fig. (3) Location map of the studied archaeological areas (derived from Farrag, 1998)

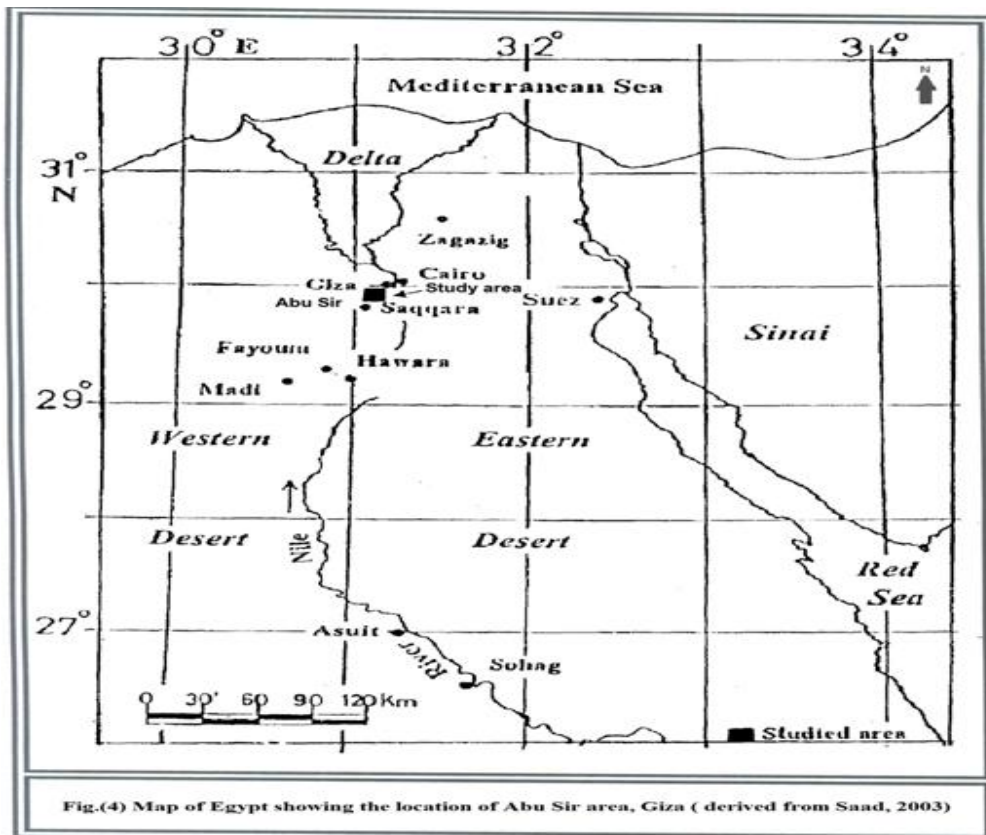


Fig.(4) Map of Egypt showing the location of Abu Sir area, Giza ( derived from Saad, 2003)

### 3. Discussions and Conclusions:

Egypt being located midway between different continents with very moderate climatic conditions and fertile lands in addition to plenty of water for irrigation, called the attention of different countries to invade it. After kicking them out, their remains and monuments are left. Pharaohs dwelled in Upper Egypt as it is away from war and invasion. Therefore, they initiated very wide mode of civilization including health, economy. The kings considered themselves as Gods and the rest of populations as followers (slaves) and they, the kings, have absolute power over them. Accordingly, they built temples and huge graves for the Gods. The populations, being slaves of the kings, worked very hard and without salaries. They could extract precious ores and plenty of jewels of such as gold. As far as agriculture was concerned, they have to follow and calculate precisely, the time necessary for plants and collecting crops to an extent they are the first to be familiar with leap and simple years.

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