

THE SPREAD OF THE ATERIAN BLADE IN AFRICA

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Abstract

North Africa knew the *Aterian* blade - I think the word is better related to the *Ater* Well in Algeria - which dates back to the Middle *Palaeolithic*. This research paper aims at shedding light on the spread of the blade in Africa.

Aterian blade characterized by the blade guilty instrument or trailing tongue which was used in hunting and possibly in other matters.

This blade was found in North Africa and spread to the West, South and East Africa. As a result of Middle *Palaeolithic's* man moving due to changing of the climate conditions. It seems that the climate conditions were affecting the *Palaeolithic's* man's moving to those directions to convey his new culture and knowledge to the people whom he moved to.

The Middle *Palaeolithic* differentiated in North Africa by the existence of a stone blade called the *Aterian* blade¹-the subject of the study-which was found in more than one place in Africa, and the study will follow the spreading of this blade in Africa².

The study aims to answer several questions: Why the Middle *Palaeolithic* men moved from place to place, and how they knew its routes, and whether it had a cultural impact from place to another and for the variety of the *Aterian* blade sites in whole Africa, the research is going to draw a map for it instead of drawing many maps for imagining the entire sites in a glance.

The archaeological site where stone tools were found for the first time is located near the stream valley called *Wadi Algabna* alongside cemetery of the city. This site is far from *Bir el Ater* about three kilometers to the south, and about four kilometers from the north of the phosphate mine, and far away from the *Bir* of the Priestess about 700 meters³.

Regarding the name of *Bir el Ater* and the *Aterian* civilization, Jamal Badri stated that there were two stories behind this name: *Bir Alatr*. The first of them that when the Muslims arrived to the area, the Berber Priestess gave the

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¹ I have to give a few examples of the *Aterian* blade because of its numerous models to avoid the excess of the number of the research pages.

² There are some studies that confirm the existence of the *Aterian* blade in Arabia, but the core of this paper is confined to Africa.

E. M. L. Scerri, 'A new stone tool assemblage revisited: reconsidering the 'Aterian' in Arabia', *Proceedings of the Seminar for Arabian Studies* 42 (2012), pp. 357- 370.

³ Gamal Badri, *adwā' lyāl hāratāl'ātryat* (Lights on Aterian Civilization) . Algeria, 2010, p. 27.

order, to her subjects, to put perfumes in the well to prevent the Muslims from drinking the water. It is historically known the Muslims defeated the Priestess and killed her after fierce engagements. The Muslims found scented water so they called the well (بئر العاطر) and by the time its name changed into (بئر العاتر). The second story is about the existence of a well in that area called "Atra or Aatra" which means "short" in the local tongue. So, the area is known as *Bir Al Ater*⁴.

Hugot said: ((At the present stage of research it would appear therefore that in the Sahara the *Aterian* takes the place occupied elsewhere by the Mousterian, and shares several of its features such as the use of the *Levallois* technique, which appears not only in the style of retouching but also in the typology of the finished objects. However the *Aterian* differs from the Mousterian in two essential characteristics:

- 1- The presence of tanged objects that might serve as boring instruments, either retouched or in a rough form, scrapers, awls or even drills.
- 2- Noticeable statistical differences from the classical Mousterian industry were found. Apart from this, however, the idea of a Mousterian substratum remains strong, and although we have no *Aterian* skeletons it is quite usual to attribute this interesting industry to relation of Neanderthal man))⁵.

It is believed that the *Aterian* man developed this new technology to facilitate his work after he noticed a shortage in his tools. This is shown clearly through its stalk which made carefully to help the hand to control that tool or to use it as an end to put other long parts like a stick for hunting⁶.

Jamal Badri stated that the pioneer of calling the *Aterian* civilization by this name is the archaeologist Maurice Reygasse who discovered it in 1922 when he was doing his excavations in the valley of *Bir el Ater*, Algeria⁷.

Arguments have revolved around the origin of the *Aterian* blade industry, it is an extension for the Mousterian industries which dates back to the Middle *Palaeolithic* or not⁸. P. David, Bruce Milford and Wabeouf believed that the

⁴Ibid., p.26.

⁵H. J. Hugot., 'The prehistory of the Sahara', General History of Africa, I, Methodology and African Prehistory, ed. Ki-Zerbo. J, Unesco, University of California Press, 1981, p.594.

⁶Gamal Badri, op.cit., p.57.

⁷Muhammad B. Mahran., *ālmghrbālqdym, msr w ālshrqālādnyālqdym* (9) (The Ancient Maghreb and the Near East), vol. 9. Alexandria, 1990; p.11; Badri, Gamal., op.cit., p.24; Bard. K. A., The Encyclopedia of the Archaeology of Ancient Egypt, edited by Bard. K. A, London, 1999, p.207.

⁸M. Cremaschi and S. Di Lernia., 'Holocene Climatic Changes and Cultural Dynamics in the Libyan Sahara', AAR16, No. 4 (Dec., 1999), p.213.

Aterian blade replaced the Mousterian one. It spread in Maghreb and in North and south Sahara.⁹ Camps and Hugo also believed that the *Aterian* was born from the womb of *Mousterian*¹⁰. Hugo said: "We know that the *Aterian* is a North African industry that was diffused southwards and stopped roughly along the banks of the great lakes of the southern Sahara"¹¹. The *Aterian* culture was widespread. We find it in Tunisia, Morocco, Algeria, *Saoura*, *Tidikelt*, and *Mauritania* where *Adrar* roughly marks its limits. We find it everywhere, in *Ahagger* at the *Admer Erg*, at *Tihodaïne*, at *Adrar Bous*, and also in the *Fezzan*, in *Zumri*, and at its most easterly point at *Kharga* in Egypt¹². Those places are emphasized by Elena Garcia who stated that the *Aterian* blade is African domestic industry¹³. In addition, Francis Orr who believed that *Alatrawas* found in all Arab Maghreb starting from Morocco (Dar Sultansites *Tafforlat*) up to Algeria, the borders of the desert and the Nile Valley (the Oases of *Siwa* and *Kharga*)¹⁴

Palo believes that the dates produced in the *Maghreb* and the Sahara were between 37 000 and 30 000 BC and constituted a coherent and plausible sequence. In its beginnings, the *Aterian* is thus in the early Middle *Palaeolithic*. It is subsequently contemporary with the *Castelperronian* and the *Aurignacian*, that is, the early stage of the Upper *Palaeolithic* in France at least¹⁵. Elena Garcia indicated that the *Aterian* blade discovered 40000 BC¹⁶. This date is welcomed by Francis Orr who confirmed this opinion by saying: "At about 40000 BC the *Aterian* industry that we merely know its tools, which resemble the Mousterian with *Levallois* faces, with a high proportion of trimmed surfaces. On the other hand, a substantial part of the tools consisted of guilty slimmed down tools on both sides. The first appearance of the *Aterian* dates back to the era of *Würm* the

⁹L. Balout., 'The Prehistory of North Africa', General History of Africa, I, Methodology and African Prehistory, ed. Ki-Zerbo. J, Unesco, University of California Press, 1981, p.568; Brose. D. S and Wolpoff. M. H., Early Upper Paleolithic Man and Late Middle Paleolithic Tools, *American Anthropologist* Vol. 73, No. 5 (Oct., 1971), p.1164.

¹⁰Camps, G., Les Civilisation Préhistorique de L'Afrique du Nord et du Sahara, Paris (1974), p.30.

¹¹Hugot. H. J., op.cit., p.594.

¹²Ibid., pp.594, 595; C. Gabel., 'Radiometric Age Determinations for Early Hominids and for the Pre-agricultural Stone Age in Africa', *IJAHS* 5, No. 1 (1972), p. 10.

¹³E. A. A. Garcea., 'Crossing Deserts and Avoiding Seas: Aterian North African-European Relations', *Journal of Anthropological Research* 60, No. 1 (Spring, 2004), p.44.

¹⁴Orr, Francis, ḥḍārātāl 'srālḥjryālqdy (The Palaeolithic Civilizations). Translated by Sultan Mehesen. 2nd ed. Damascus, 1995, p.147.

¹⁵Balout. L., op.cit., p.573.

¹⁶Garcea. E. A. A., op.cit. p.44.

Second, which is contemporary to the advanced Mousterian tools in Europe, but it lasted until about 25000 BC”¹⁷. Hugo said: "It is very difficult to place the *Aterian* in a chronological sequence. It may have begun 35000 BC¹⁸, while Caton Thompson attributed *Aterian* time to the end of the Middle *Palaeolithic* Period and the beginning of the Upper *Palaeolithic*¹⁹.

There are cases where *Aterian* implements have been found, in their original condition, in the neo-Tyrrhenian beaches which had just emerged as a result of the beginning of the last great regression (for example, at *Karouba*, near *Mostaganem*, western Algeria). The end of this *Würmian* interstadial (*Würm* 1/2) had occurred around 48000 BC²⁰.

Regarding Morocco, *Aterian* blades were found there in the Valley of *l'OuedDjoufElDjemel*²¹ and also in the Valley of *l'OuedGoujgal*²², as well as the *ElAliya* Cave on the region of Tangier,²³ in addition to Dar Al-Sultan which Barton and others dated it back to 108000 BC²⁴. Such date is considered to be the oldest one of *Aterian* blade.

¹⁷Orr, Francis., op.cit., p.147.

¹⁸Hugot. H. J., op.cit., p.595.

¹⁹Caton-Thompson. G and Gardner. E. W., 'The Prehistoric Geography of Kharga Oasis', *GeoJourn* 80, No. 5 (Nov., 1932), p.384.

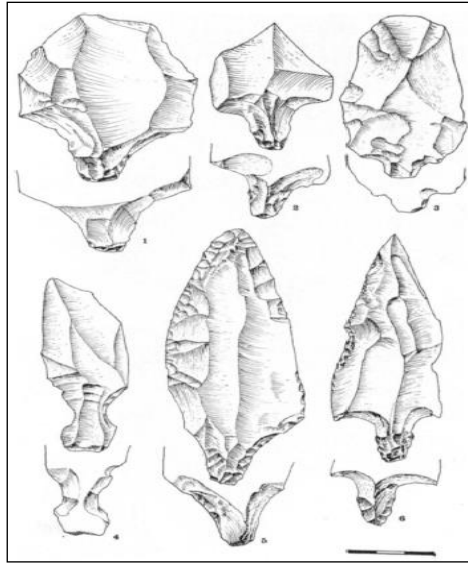
²⁰Balout. L., op.cit., p.573.

²¹J. Morel and A. Le Bretagn., 'L'industrie atérienne de l'OuedDjouf El Djemel. Comparaison avec l'industrie de l'OuedDjebbana. Le complexe atérien du Maghreb Oriental', *BSPF* 75, No. 11/12, *Études et Travaux* (1978), p.489.

²²A. Rodrigue., 'La station de l'OuedGoujgal Un aspect de l'Atérien marocain', *BSPF* 84, No. 5 (1987), p.158.

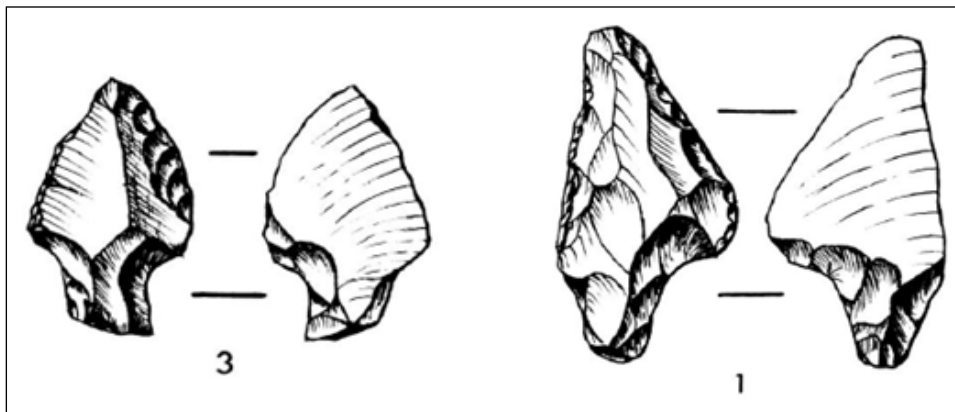
²³A. Bouzouggar and others, Study of the *Aterian* lithic assemblages from El Aliya cave in Tangier (Morocco), *L'Anthropologie* 106 (2002), fig.19, p.231.

²⁴R. N. E. Barton., OSL dating of the *Aterian* levels at Dar es-Soltan I (Rabat, Morocco) and implications for the dispersal of modern *Homo sapiens*, *Quaternary Science Reviews* 28 (2009), p.1929.



Morel. J and Le Bretagne. A., op.cit., fig.3.

As for Algeria, many models of Aterian blade were found there²⁵, among which were that made from flint and quartz in the Tiaret area²⁶



De Bayle des Hermens R. Gisements préhistoriques inédits de la région de Tiaret (Algérie). In: *Bulletin de la Société préhistorique française*. Études et travaux. 1964, tome 61, N. 2. Fig.1. 1, 3

And it was also found in the Valley of Saoura²⁷ as well as in the Fronzy Tiaret area²⁸.

²⁵R. Smith., 'L'âge de la pierre en Algérie', *RevArch* 35 (1932), p.140.

²⁶De Bayle des Hermens R. Gisements préhistoriques inédits de la région de Tiaret (Algérie). In: *BSPF* 61, N. 2 (1964), pp. 452-463.

²⁷ N. Chavaillon., 'L'Atérien du Fom el Hartani au Sahara nord-occidental (République Algérienne)', *BSPF* 82, (1985), p.307.

²⁸ De Bayle des Hermens., 'Les industries préhistoriques de la Cité Fronzy Tiaret – Algérie', *BSPF* 61, (1964), figs.1, 2, 3, 5.

For Tunisia, the *Aterian* blade was found also in its land, for example, at the site of *El Guettar*²⁹.

The archaeological remains at **Libya** indicated, by radioactive carbon 14, that the *Aterian* civilization in Western mountain and in the northwest of Libya, dated back to 43 000 BC³⁰, while Barbara Barish and Elena Garcia confirmed that it dated back to the Middle *Palaeolithic*³¹.



Barbara E. Barich and Elena A. A. Garcea., *Ecological Patterns in the Upper Pleistocene and Holocene in the Jebel Gharbi, Northern Libya*: fig.3. p.91.

The archaeological remains of the *Aterian* civilization were found in the Valley of *Uan Afuda*, as well as in the Valley of *Uan Tabu* in *Tadrarat Acacus* Mountains in the south-west of Libya. It dated more than 48 000 BC³². Elena Garcia pointed out the importance of re-dating the *Aterian* civilization, that's because the old dates return it back between 40 000 and 20 000 BC, while recent ones found in *Tadarat Acacus* region dated this civilization to more than 48 000 BC³³.

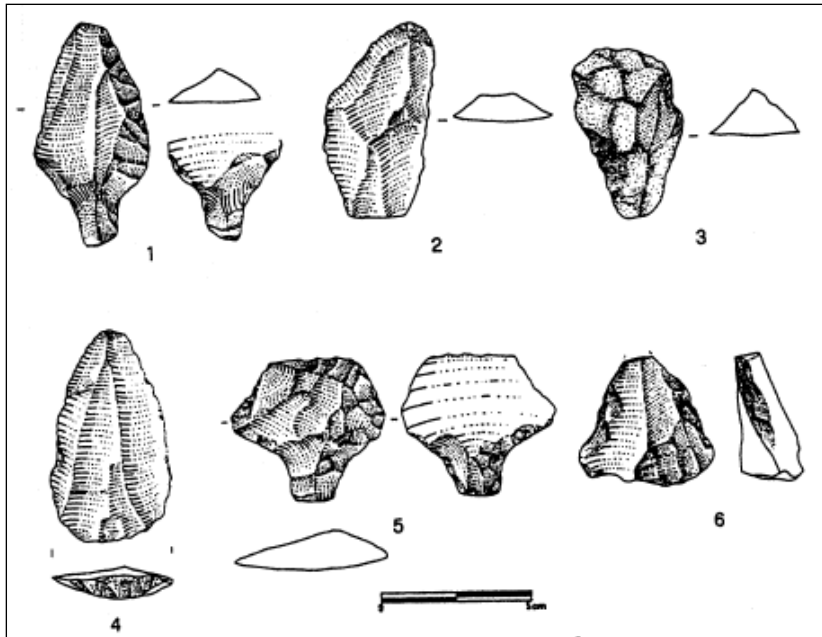
²⁹J. J. Hublin., 'Recent Human Evolution in Northwestern Africa', *Philosophical Transactions: Biological Sciences*, Vol. 337, No. 1280, The Origin of Modern Humans and the Impact of Chronometric Dating (Aug. 29, 1992), p.186.

³⁰E. A. A. Garcea., op.cit., p.34; E. A. A. Garcea., 'L'adaptation Atérienne Entre Sources D'eau et Sécheresse', *Africa: Rivista trimestrale di studi e documentazione dell'Istituto italiano per l'Africa e l'Oriente*, Anno 64, No. 3/4 (Luglio-Dicembre 2009), p.414.

³¹B. E. Barich and E. A. A. Garcea., "Ecological Patterns in the Upper Pleistocene and Holocene in the Jebel Gharbi, Northern Libya: Chronology, Climate and Human Occupation", *The African Archaeological Review, Vol. 25, No. 1/2, Modern Human Dispersals, Environments and Cultural Change in the Late Pleistocene of Northwest Africa (Mar. - Jun., 2008)*, p.90.

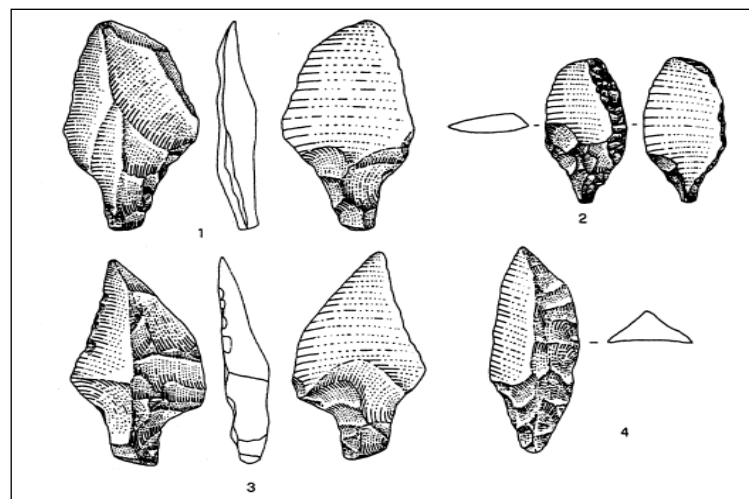
³²E. A. A. Garcea., *Crossing Deserts and Avoiding Seas.*, pp.35-36; M. Cremaschi and others., 'Some Insights on the Aterian in the Libyan Sahara: Chronology, Environment, and Archaeology', *AAR* 15, (1998), p.261.

³³E. A. A. Garcea., *Crossing Deserts and Avoiding Seas*, p.36.



The Aterian blade in Acacus Mountains in southwest Libya
 Cremaschi. M and others., "Some Insights on the Aterian in the Libyan Sahara: Chronology, Environment, and Archaeology", *The African Archaeological Review*, Vol. 15, No. 4 (Dec., 1998), fig. 2, p.267.

Mauro Cremaschi and others found, through their archaeological survey in Acacus Mountain of southwestern Libya, about 14 sites dating back to Aterian civilization, for instance *Uan Afuda* and *Uan Tabu*³⁴. While the Aterian blade was discovered in the regions of Edeyen of Murzuq, Erg Uan Kasain southern Libya³⁵.



The Aterian blade in the region of Edeyen of Murzuq, Erg Uan Kasain southern Libya
 Cremaschi. M and others., op.cit., fig. 8, p.278.

³⁴Cremaschi. M and others., op.cit., p.263.

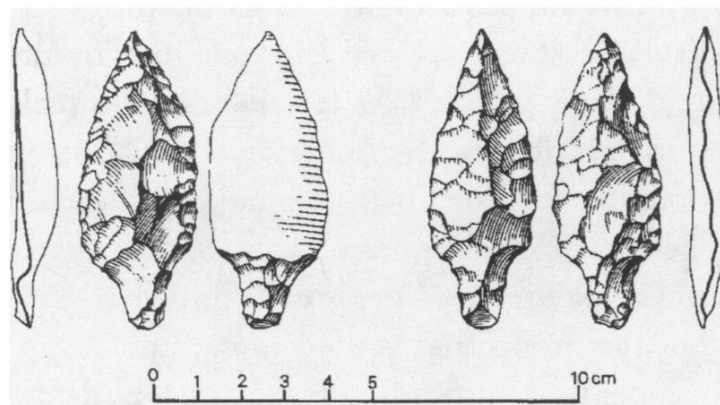
³⁵Ibid. p.278.

The *HauaFteah* cave contained human remains which include two Neanderthal mandibles³⁶. The *Aterian* blade was found as well in the *HauaFteah* Cave which was, according to archaeologists, a link between West and East Africa³⁷. The *Aterian* civilization there dated back to about 43000 BC.

The human bone remains from this stage were similar to the human remains of Neanderthal Palestine man; this matter leads to the existence of mankind and cultural links between Palestine and Morocco³⁸.

Regarding to Niger : models of the *Aterian* blade were found there in the *Kawar* desert region³⁹.

It was discovered also in **Chad** particularly in the northern part of Chad Basin. The Archaeological excavations that carried out on later area (1976 – 1979) resulted in the presence of the *Aterian* blade mainly in the regions of *Cegedim* and *AdarBoss*⁴⁰. Those excavations gave a chronology for the *Aterian* period that started 31 000 BC⁴¹. It is believed that the arrival of the *Aterian* blade to Chad probably came from the region of *Hoggar* in southern Algeria and it was accessed through *Tibesti* spread all over Chad Basin⁴².



Tillet. T., The Palaeolithic and Its Environment in the Northern Part of the Chad Basin, ***The African Archaeological Review***, Vol. 3 (1985), Fig.6, p.171.

³⁶A. Bilsborough., 'Late Pleistocene Human Remains from Cyrenaican Libya', ***Man***, (1971), p.694.

³⁷E. A. A. Garcea., L'adaptation Atérienne Entre Sources D'eau et Sécheresse, p.414.

³⁸Muhammad B. Mahran., op.cit., pp.14, 15.

³⁹T. Tillet. 'The Présence de pendeloques en milieu atérien au Niger Oriental', ***BSPF*** (1978), p.273.

⁴⁰T. Tillet., 'The Palaeolithic and Its Environment in the Northern Part of the Chad Basin', ***AAR*** 3 (1985), p.163.

⁴¹Ibid, p.172.

⁴²Ibid, p.175.

Regarding to Mali, the *Aterian* blade was found in its northern desert.⁴³

In Egypt, Caton Thompson stated that she found 28 type of the *Aterian* blade at *Kharga* Oasis only⁴⁴. She also found it in the *Dakhla* Oasis⁴⁵, Farafra, Bahariya and Siwa oases⁴⁶. Besides, she reported that the *Aterian* blade arrived to the Egyptian oases particularly the *Kharga* where they found sophisticated types of *Aterian* industry such as the tools, arrows and knife trimmed⁴⁷.

Aswan region and *Dongol* Oasis were other places where the *Aterian* blade was found⁴⁸. Besides, it was there in *Wadi Halfa*⁴⁹ and *Nabta Playa*⁵⁰. In addition, it was found in the areas of *Bir Sahara* and *Bir Tar-fawi* in southern Egypt⁵¹. Moreover, the *Aterian* blade was discovered in the Eastern Desert where these blades were found in *Sodmein* cave at the Red Sea Mountains northeast of Luxor and dated back to 38 000 BC⁵².

Ahmed Fakhry pointed out that Stone and Komnigton had found in the Siwa Oasis some tools which, according to them, had effects that came from the Maghreb region. *Aterian* civilization affected Egyptian sites that were found

⁴³N. Petit-Maire., "Past Global Climatic Changes and the Tropical Arid/Semi-Arid Belt in the North of Africa", *Journal of Coastal Research*, , Special Issue No. 17. Holocene Cycles: Climate, Sea levels, and Sedimentation (1995), p.89.

⁴⁴G. Caton-Thompson., 'Royal Anthropological Institute's Prehistoric Research Expedition to Kharga Oasis, Egypt. Preliminary Outline of the Season's Work', *Man*, Vol. 31 (May, 1931), p. 82, fig.3, p.83.

⁴⁵W. K Barnett and Others, 'News and Short Contributions', *JFA* 18, (1991), p.270. fig.2f.

⁴⁶A. L. Hawkins, *Getting Handle on Tangs: Defining the Dakhleh Unit of the Aterian Techno Complex-A Study in Surface Archaeology from Dakhleh Oasis, Western Desert Egypt*. Ph. Department of Anthropology, University of Toronto, 2001, p.88.

⁴⁷Caton Thompson and E. W. Gardiner., *Kharga Oasis in Prehistory*, University of London, 1952, p.31.

⁴⁸K. A., Bard, op.cit., pp. 11, 207.

⁴⁹P. E. L. Smith, *New Prehistoric Investigations at Kom Ombo (Upper Egypt)*, University of Montreal, 2009, p.39.

⁵⁰R. Bauval and T. Brophy, *The Prehistoric Origins of Ancient Egypt*, Toronto, Canada, 2011, p.150.

⁵¹V. Haynes., 'The Prehistory of the Egyptian Sahara', *Science* 193, (1976), p.106.

⁵²P. Van Peer, 'The Nile Corridor and the Out-of-Africa Model: An Examination of the Archaeological Record', *Current Anthropology*, Vol. 39, No. 2, Supplement: Special Issue: The Neanderthal Problem and the Evolution of Human Behavior (Jun., 1998), p.119.

at *Naqada*, between *Dendera* and *Marashda* near *Naga Hammadi*, *Assiut*, and in the suburbs of *Luxor*⁵³.

Sudan region had a share of the existence of the *Aterian* blades in its land, for instance the sites of *El- Multaga*⁵⁴, *Magendohli*⁵⁵, and also *Khartoum*⁵⁶. Those blades spread out on the middle of the desert in the site of *Ain Chelbli*⁵⁷.

Hawkins⁵⁸ and Mustafa Aasha confirm that in the areas of Morocco there were a lot of sites which date back to *Aterian* civilization, and that made Morocco the pioneer area of this industry. It was the main source of the distribution of the *Aterian* blade to rest of North Africa as well as the Sahara⁵⁹.

Jamal Badri concluded depending on that the concentration of *Aterian* blade sites from the west to the east is insufficient criterion to evaluate the impact of the Western effect on the eastern regions because there are lots of sites that have not been revealed yet or they have not been adequately studied⁶⁰.

Lakhdar, bin Bozaid wondered about the source of population migration and civilizing influence. So, he tried to answer some questions on the light of that the *Aterian* sites which located in the region were given all this civilization stages: how the linkage between Palestine Neanderthal men and Neanderthal in Maghreb happened? Was the *Aterian* blade been original in the region or an

⁵³Muhammad B. Mahran., op.cit., p.13.

⁵⁴Garcea.E. A. A., 'Paleolithic sites at El- Multaga, Sudan', *NyAk* 59 (2003), p.64.

⁵⁵D. L. Wallsmith, A Middle Paleolithic Assemblage from Nubia and its Cultural Relationships, Thesis Submitted in Partial Fulfillment of the Requirement for the Degree of Master of Arts in the Department of Archaeology, Simon Fraser University, 1983, p.68.

⁵⁶Caton-Thompson. G., "The Aterian Industry: Its Place and Significance in the Paleolithic World", *JRAI* 76, (1946), p.108.

⁵⁷A. Méry, "Armatures de pointes de flèches de la région de Reggan (Sahara Central)", *BSPF* 68, (1971), p.631.

⁵⁸A. L. Hawkins. A. L., op.cit., p.87.

⁵⁹M. Aasha, nmādhjmnāltwāṣlālḥdārybynshmlāfryqyā w ālṣhrā'ālkbykhlāl'ṣwrmāqblāltārykh (Examples of Civilizational Interaction between North Africa and the Great Sahara during Pre- History). Mohamad V University: Institute of African Studies, Rabat, Morocco, n.d. in: <http://www.tawalt.com/?p=23049>.

⁶⁰G. Badri, op.cit., p.34.

imported civilization? He said: “Then we have a demographic and cultural move from Morocco towards Egypt in the east and that was in very early time”⁶¹.

Perhaps the Aterian men moved from old Morocco to the east and south as a result of climatic conditions. They searched for any available resources and with no intention they distributed their culture which included the industries of Aterian blade⁶². Besides, there is no doubt that the contacts between Egypt and Morocco occurred in very ancient times dating back to pre-history in the Palaeolithic stage⁶³.

Hayes believes that those smart people had a great influence in the future of the Egyptian civilization⁶⁴. Consequently, Scerri draw a map distributing Aterian blade sites in Africa⁶⁵.



Place the Aterian blade in Africa

⁶¹Lakhdar, bin Bozaid., *ālṭāsylyazjrifyqblāltārkhālm‘tqdāt w ālfnālškhy* (The Tassili N'Ajjer in the Pre-History of Religions and Rock Art). Algeria, n.d, p.51.

⁶²A. L. Hawkins, op.cit., p.51.

⁶³Suleiman, bin Alsaady., *‘lāqātmsrbālmghrbāldymndhfjrālṭārykhḥtyālqrmālsāb qblālmylād* (The Relations of Egypt with the Ancient Maghreb from the dawn of History up to the Ninth Century BC). PhD Dissertation in Mentoury University, Qusantina, Algeria, 2009, p.125.

⁶⁴W. C. Hayes, *Most Ancient Egypt*, edited by Seele. K. C, University of Chicago Press, Chicago & London, 1965, p.66.

⁶⁵E. M. L. Scerri, ‘The Aterian and its place in the North African Middle Stone Age’, *Quaternary International* 30 (2012), fig.1, p.2.

Scerri. E. M. L, “The Aterian and its place in the North African Middle Stone Age”,
Quaternary International xxx (2012), fig.1

Needless to say that the dates provided for dating the *Aterian* civilization still need extensive studies to provide new results. Moreover, the large number of *Aterian* civilizational sites in Africa makes it difficult to gain access to final results about their date.

The existence of most *Aterian* regions in the area of the old Morocco - especially Algeria and Morocco – give a possibility for an opinion that this region was the source of manufacturing the *Aterian* blade that spread to the south and east. This opinion was proved by Barton who dates the site of *Deir Sultan* in Morocco by 108 000 BC⁶⁶, which is considered the oldest date to *Aterian* civilization.

Conclusion.

- The *Aterian* men distributed their blade in many parts of Africa due to continuity of their travels that caused by climate changes. Those men were looking for other places more suitable for living and that is proved by the existence of that blade in many places.
- That man who was accustomed to those routes was forced to look for permanent water sources when his regions were dry.
- The *Aterian* men associated with the Nile Valley populations and practiced agriculture. Yet, at the same time the *Aterians* were influenced by their original culture which was known later on as the Rock Art.

⁶⁶R. N. E. Barton, OSL dating of the Aterian levels at Dar es-Soltan I (Rabat, Morocco), p.1929.

List of Transliterations

This English-Arabic transliteration system could be found in the following consonants:

Arabic	English	Arabic	English
ء	ʾ	ظ	ẓ
أ	a	ع	ʿ
إ	ā	غ	Gh
ب	b	ف	F
ت	t	ق	Q
ث	th	ك	K
ج	j	ل	L
ح	ḥ	م	M
خ	kh	ن	N
د	d	ه	H
ذ	dh	و	w/ū
ر	r	ي	Y
ز	z	ة	ah/at
س	s	ـِ	A
ش	sh	ـِ	I
ص	ṣ	ـَا	An
ض	ḍ	ـِ	In
ط	ṭ		

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