

Artistic styles in the engravings of the ancient rock art in Wadi al Baqar (Valley of Cows) in the Sahara Desert in Libya

A study of ancient rock art in Libya and its whole heritage importance with other areas in the world

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I hereby certify that the work embodied in this exegesis and exhibition is the result of original research and has not been submitted for a higher degree to any other university or institution.

(Signed)

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Note:

At this time, I would like to attest that all of my data, which is about Wadi al Baqar, is original, and I did not submit it to any other university or higher institute before. All the photos collected from Wadi al Baqar have been taken by myself and I selected the location of rock art in Wadi al Baqar by GPS and obtained the maps from Google maps (see Fig 1 Appendix 1); therefore I have all the rights to use this data and photos in my exegesis. I have also provided a support letter from the Libyan Embassy (see Appendix 2) that certified that the study was fully supported by the Libyan government, which granted permission to Louai Abdulhamid to use details of Libyan rock art in this study.

Ethics and this Research

All photos from the field study have been taken by the researcher and he holds the copyright.

All Australian Rock Art used in this research has been found in the Public Domain.

All copyright sources will be acknowledged respectfully.

Abstract

There has been limited research on rock art in Libya with a small number of studies conducted in specific parts of the country. This exegesis examines a recently discovered rock art site in Wadi al Baqar in the Sahara brought to the researcher's attention through collaboration with Indigenous people of Libya, the Tuareg people. The majority of studies in Libya to date were conducted some time ago and the dearth of recent research coupled with the discovery of a new rock art site at Wadi al Baqar have given the researcher the incentive to make a study of Libyan rock art. The Tuareg discovered this site and this research was undertaken with their support and encouragement. As the researcher I will argue that rock art is important to both Libyan and world heritage. This study is an original and timely exploration of this newly discovered ancient art, which also provides insights into the ancient people who created this work thousands of years ago in the Sahara. To achieve these goals, data has been collected and classified from this newly discovered site. The rock art at Wadi al Baqar will be the principal focus of the study and will illuminate descriptive interpretations of life in the Sahara some five thousand years ago. This study uses rock art to explore the environmental changes which have occurred in the Sahara and the changing lifestyle of these ancient people. The exegesis will also discuss rock art in other parts of the world as a comparative aspect of this research project. Most importantly this exegesis will highlight the vulnerability of rock art in the Sahara and the critical need to protect these valuable heritage sites.

CHAPTER ONE

Introduction

This exegesis is about 'reading the rock art images as art and evidence of cultural life and that the collected images are evidence of human culture and language, in the Saharan Desert in Libya. The Sahara desert covers most countries in North Africa including areas of Morocco, Algeria, Tunisia, Libya, Egypt, Mauritania, Mali, Niger, Chad and the Sudan. The largest part of the Sahara is within the borders of Libya and Algeria, where the majority of rock art works are located. The study area is located at Wadi al Baqar in the Harare Province in the Libyan part of the Sahara, and research on this area will be linked to studies of rock art undertaken in other parts of the Sahara (Asyaad, 1970).

Terminology

The terms listed will be utilised throughout the exegesis and are explained here for clarity.

- Saharan rock art: covers most of North Africa: Algeria, Libya, Mauritania, Chad, Niger and Mali.
- Libyan rock art: is located in the Saharan region in Libya, which includes the Acacus Mountains, the Fezzan region. Therefore, Libyan rock art is considered to be part of Saharan rock art. Throughout this exegesis the term Libyan rock art will be used to differentiate from Saharan rock art.
- Rock art in the study area is that located in the Wadi al Baqar area, Harare Province, Libya only.

- References to the culture, traditions and history of the Tuareg refer to the Tuareg of Libya. The Tuareg in neighbouring countries are not encompassed in this study. All Libyan rock art dated in this study follows the studies made by Fabrizio Mori (1979, 1989) who arrived at his results by studying rock art areas in Libya and by dating all rock art periods in Libya.

Why the Study of Rock Art is Important

Rock art is part of the cultural heritage of humankind. There is no evidence that Rock paintings can be considered as examples of fine arts practised by early man like decorating cave shelters. In my opinion rock art can demonstrate to the contemporary world how the ancient people lived in their world and times. Rock art is in itself a window to the past and rock art is recognised today as a significant part of human cultural heritage. It can provide much information about the cultures and lifestyles of those who made the art. In addition, it gives a portal onto the origins of current civilisation, enabling scholars to extrapolate and understand different cultural, social and communication systems around the world.

Research into the rock art of recent times has progressed considerably because of improvements in technology, techniques, theories, and methods. Moreover, the scientific support that comes from an enormous number of volunteers who take interest in this field of study and who record and get pleasure from it. Importantly, the academic study of rock art adds to scientific and cultural knowledge and helps protect rock art areas and cultural heritage (Heyd & Clegg, 1988).

Silvia Tomaskova (1997) asserted that the concern for aesthetics in rock art research brings with it certain noticeable difficulties. For instance, it has been argued that the application of the term “art” to prehistoric symbols on rock might lead to the reproduction of modern cultural preconceptions projected onto the prehistoric era. The risk in such projections, amongst other things, is an unsuitable imposition of research findings on artworks that are in themselves ‘helpful guides of prehistoric skill, for example rock tools’. From Tomaskova’s explanation, the problem of aesthetic integrity lies in the recognition of the importance of the ‘investigation of transcendental artistic quality’, without leaving aside ‘the contextual role of the object’. From this, she concluded that archaeology would not be improved solely by opinion on representations nor photos alone on rock as art (Tomaskova, 1997).

Prehistoric rock art is one of the few remaining bodies of evidence that we have of the artistic, cognitive and cultural stages of early humans. Ancient rock art has been found in nearly every country of the world, from the tropics to the Arctic regions, in sites ranging from caves to the tops of mountains. Millions of rock art figures or motifs have been found and new sites are being discovered every year. This is a huge, semi-permanent and collective record; together they provide evidence of human evolution and the establishment of complex social systems (Robert, 1998).

The most basic confirmation of the evolution of symbolic systems is represented in rock art. Systems of writing and alphabets derive from the reduction of the image to a simple geometric representation. Frequent representative arithmetical symbols, dots and lines are found within the time-span of the better-known

representational paintings of the Palaeolithic era (James, 1998). As such, rock art can assist in understanding cultural history and the evolution of written forms of communication.

Some analysts do not believe that rock art can prove that the ancient people had developed either intellectual abilities or culture. According to Nicholas Humphrey, the most primitive rock art found in Europe (from about 30,000 years ago) is broadly supposed to be evidence of that time when human beings were developing a cultured or sophisticated capacity for symbolic communication; there is a study which explains rock art as a complex communication system or a way to transfer information between ancient peoples (McDonald, 2008). Critics of this assessment point to the results of a comparison between rock art and art made by a young autistic girl, Nadia, revealed surprising similarities in content and style; Nadia, despite her graphic skills, was intellectually challenged and had virtually no language. So Nicholas Humphrey argues that, ‘... the existence of the cave art cannot be the proof which it is usually assumed to be that the humans of the Upper Palaeolithic had essentially “modern” minds’ of understanding. (Humphrey, 1998). However, the results of the Humphrey study cannot be applicable in the majority of regions in the world (especially in the Sahara and Australia) because photos of rock art show a technical complexity that would require intelligence and sophistication. Hans contends the early rock artists made ‘art for art’s sake’ however, I find this interpretation purely tentative (Hans, et al., 1961). These assertions aside, Sabry E-Hakimi, (2004) describes the study of rock art as a way to investigate the lifestyles and culture of ancient people through excavations, documents, monuments, objects (and so forth) found within them. Caves constitute important repositories where bones

and other evidence of pre-human occupation are found, such as the remains of fires, food, utensils, ceramics, in addition to rock paintings and art.

Other archaeologists argue the prehistoric artwork shows complex religious or spiritual beliefs, while some feel that it is merely a type of storytelling. Perhaps rock art was made as part of cultural protocols. A spiritualist or a medicine person might create rock art in order to record his visions or religions for their people, a pattern observed in Australia:

Aborigines, the indigenous people of Australia, have the longest continuous cultural history, dating back some 60,000 years. It is widely thought that they used rock art to represent and communicate their understanding of the world and reflect their spiritual and religious life. Their rock engravings and cave paintings are an indispensable source of information for our understanding of prehistoric living (Sabry El-Hakimi, 2004).

In addition, rock art is the first registration of history and human culture on earth, because it is the oldest source that can provide information about humans in the ancient era. It is worth noting that rock art sites are important for people of today, as a link with their past, and a way of imagining how the system of life developed from the past until now. Furthermore, the analysis of rock art will help those who want to study how the human brain developed over time.

Significantly, rock art also gives us important information about the climate in ancient times, and how it varied greatly between different parts of the world, especially in the Sahara. In addition, it can be one of the most important ways to determine what kind of effects climate change had on the area and provides

information about the types of animals that were to be found (Mori, 1988). Saharan rock art depicts a wide variety of animal types that have long disappeared from the region, as well as evidencing occupation by human groups of a significant size, as discussed in Chapter Four. Equally, it records that the Sahara supported mixed modes of subsistence. Environmental studies have shown conclusively that although this region has now become the largest desert in the world, this was not always the case. (Hans, et al., 1961)

Libyan rock art also provides evidence of dramatic climate changes in this region over time. Volcanic rocks loaded with sulphates and salt, which are found in a number of areas in Saharan depressions, indicate the historical desiccation of the lakes that had covered much of the area. Also, the sands of the ‘ergs’ or dunes have been eroded by powerful water action from the time when the climate was extremely wet. Consequently, the sands have shifted and been piled up by windy action mainly in the lower parts of the huge Saharan continent (Lhote, 1973). This does not necessarily indicate that the Sahara, at least since man existed, has been under the sea. However, it has, like many other regions of the world, known periods of great abundance of water followed by devastating drought (Lhote, 1973).

Theoretical Framework

Globally, rock art is a cultural heritage from prehistoric society. It exists in a large number of countries in the world, with two exceptions, Holland and Poland, where such art might be discovered yet (Bahn, 1998). It could, theoretically then, be seen as a worldwide language that could be a basis for comparisons between the ancient arts and cultures. Rock Art is found in the Americas, Europe in Franco-Cantabria, Spanish

Levant, in Africa-Sahara, South Africa, Australia and Asia. 'The rock art was discovered after it had remained sealed for thousands of years' (Hans, et al., 1961). The recent discovery of the study site at Wadi al Baqar proves that ancient rock art sites continue to be discovered.

The area selected as the focus of this exegesis is the Sahara in Libya where there is one of the major African rock art sites. However, there are not many studies about rock art in that part of the Libyan Sahara. Tuareg leader, Offneght Alkony discovered the new site in the Sahara at Wadi al Baqar but this was the first academic study made of this significant site.¹ This exegesis addresses the problematic lack of recent Libyan studies about rock art. Furthermore the Libyan rock art will be contextualised with a wider consideration of rock art sites around the world.

This study assumes that the ancient people who were living in the Libyan Sahara area used rock art as a way to communicate and share experiences with others, going some way to explaining the diversity of rock art themes that include all aspects of their lives.

Aims of the Study

The first aim of the study is to offer original research that addresses the gap in data on rock art in Libya that results from a lack of recent formal studies and funding in Libyan universities. This study provides documentation and analysis of the Wadi al Baqar site in the Libyan Sahara. This will be discussed with more details in Chapter Three on methodology. The second aim is to offer a brief comparison between the

¹Mr Offneght Alkony one of the Tuareg leaders and knowledge holders in southern Libya.

rock art at the Wadi al Baqar site and Australian examples among others from ancient Egypt. This study considers styles of rock art, the purposes behind the engravings and the most important elements represented in the subjects of rock art scenes.

Organisation of the Study

This study is divided into nine chapters as follows:

Chapter One: the author explains the problems of the research project, aims, significance, hypotheses, the search terms and the issues of research in regard to the lack of artistic studies about Libyan rock art (the majority of studies are archaeological). The study explains the use of technology in the dating of rock art and why the ancient people made these artworks.

Chapter Two: Literature Review. In this chapter, the author presents the history of rock art in North Africa and the relationship between this and other examples around the world. The author discusses the historical and social connotations, the relationship between rock art and interpretations.

Chapter Three: The Methodology. The author presents the study's setting and the methodology used. Then, he indicates how he collected the data regarding rock art from other studies and books, through libraries. In this chapter, the author discusses the four periods of rock art in North Africa and provides an explanation about the styles of rock art in these periods.

Chapter Four: The author explains the characteristics and lifestyle of the ancient Saharan people in Libya through an analysis of rock art at Wadi al Baqar

Chapter Five: The author presents the details of a research journey carried out during the Libyan revolution and the challenges to an academic study of rock art in contemporary Libya.

Chapter Six: The author presents what was found at the Wadi al Baqar site and analyses the samples of rock art in each of the rock art periods.

Chapter Seven: The author discusses why Australian rock art was chosen and the importance of international comparisons.

Chapter Eight: This chapter discusses the significance of the preservation of rock art and the researcher presents the research recommendations.

Chapter Nine: Outcomes and conclusions.

CHAPTER TWO

Literature Review

This chapter discusses the literature relating to the central themes of this dissertation. It begins with an over view of the historical events that are relevant to current rock art issues. These studies provide an understanding of the rock art in Africa. They also provide detailed information regarding the technical and artistic features of some rock art sites in Libya and in other areas of the Sahara and the Middle East. Significantly, this study casts light upon the environment, climate and geography of the region. Additionally, these observations can apply to both Libyan rock art located in the Eastern Sahara and Mauritanian rock art located in the Western Sahara. These studies provide important information about the dating of the rock art sites, relevant to this study. Furthermore, they are studies that provide researchers with significant information about the relationship between Saharan rock art and examples found in other areas such as the Nile Valley. According to Mokhtar (1981) these studies provide an interpretation of the relationship between rock art and early forms of writing, which is relevant when explaining some of the purposes of rock art. Additional studies of Australian rock art will be considered to draw the comparisons required in the current research project.

Historical Background

Libya is known for its abundant prehistoric rock art however it has been very difficult for many years to gain access to these very important rock art sites. For the most part, the country is known for its natural resources, such as oil, which highlights it as a

location for profitable business enterprise. Yet, many scholars of rock art have ensured that Libya (along with Algiers) is also known as one of the most important locations of rock art in North Africa. This recognition is attributable to investigations of the important sites located in areas such as Tassili, the Acacus Mountains, Adrar and Hoggar. Significantly, Libyan rock art spans a vast period of time, making it a rich and valuable source, as Henri Lhote noted:

How many millennia have we to consider? Char-coal recovered from the newly-discovered prehistoric sites, when submitted to radio-carbon tests, give dates ranging from 3,550 to 2,000 B.C., and fossil pollen and spores indicated that the area became progressively desiccated from 3,000 B.C., reaching the true desert stage towards 500 B.C. (Lhote, 1973).

There are known examples of rock art - paintings and engravings - in several parts of the world, namely in Africa, Australia, Europe, North America and north eastern Brazil, which date back to 60,000 BC or earlier (James, 1998).

The area of rock art in Libya is expansive and some exposed excavations appear to have been used for ritual purposes that seem to be one of the most important functions in Tadrat Acacus in the Fezzan region in Libya, although this piece of information may not be universally accepted. Similarly, Australian rock art is believed to have had a ritualistic purpose, not to mention the splendid Palaeolithic works of the Franco-Cantabrian region (Mori, 1998). The rock art in North Africa is spread over ten million kilometres, with 30,000 individual engravings (Smith, 1967). I will demonstrate that Libya is one of the most important rock art depositories in the world (Clottes, n.d.) especially those in the southern parts of the country, which were inhabited by humans from the earliest stages of recorded history. Some evidence

shows that the Libyan people established one of the oldest civilisations in the ancient world (Weber, 1979; Mori, 1998). The Egyptians, Greeks, Phoenicians and Romans all tried to establish civilisation in the Sahara. They followed legends about gold and trade routes (Balout, 1955; Mokhtar, 1981) including the mythic lost civilisation of Atlantis (Lhote, 1973), which is said to have disappeared in ancient times. From that age, many stories are told of attempts to rediscover that part of history and people have made some changes to the “history” record in different ages, creating some confusion about the so-called truth and legend. In fact, the Libyan rock art might have been protected and kept undiscovered because the majority of Libya’s land today is sandy desert and it is difficult for anyone to live there. Likewise, the rockiness of the inhospitable terrain in much of south-west Libya has protected much rock art (Karl & Striedter, 1979).

The traditions and the culture that spawned this art have long since disappeared, providing challenges to researchers seeking to understand the past through art. The early discoverers of Libyan rock art came from the French Army in 1850, but academic studies began much later (Smith, 1967). The real momentum for the exploration of these regions started in the 1950s with the staff of the University of Rome and Libyan archaeologists. Nevertheless, studies and research about rock art in Libya are still few, with the majority of them dating back to the 1980s. Unfortunately, the political and security conditions in the region have been a prime cause for the delay of any attempts to conduct more recent studies and expeditions. This has inevitably made it difficult to obtain up-to-date information.

Who is living in the rock art area now?

It is important to understand the culture of Indigenous people who lived in the areas around the rock art sites in Libya, these people are known as Tuareg: an Arabic word meaning 'people who travel in the Sahara.' The name of the Tuareg tribes was first presented to Europeans by Henri Lhote, the famous French author and explorer, as they helped him in the exploration of the Saharan desert in 1933. Lhote worked for many years in the desert as a specialised scientist in the field of ethnography writing many books on the Tuareg (Lhote, 1973 & 1979). This exegesis draws heavily on Lhote's ethnographic studies of the Tuareg whilst acknowledging that many of his assumptions and conclusions are now contested. The Tuareg people currently living in the Libyan city, Ubari were extensively consulted to verify aspects of Tuareg history and culture.

The history and the origin of the people and nations who inhabited the Sahara desert are very complicated. The populace includes various mixed ethnic groups of immigrants, who occupied that vast area at different times (Lhote, 1979). These nomadic ethnic groups mixed together as time went by, and the proof is available in the cumulative culture of the Tuareg tribes. However, there have been some inconsistencies in the narration of their history, some of which were possibly introduced purposely by the Tuareg. It is suggested that such deviations in the narrative were created by some of the Tuareg tribes in order to gain a higher social status or because of the lack of data and information available about some incidents, in terms of their time and place of occurrence. This is precisely the way in which those tribes, or the so-called Berber, have been described within the literature (Lhote, 1979).

Tifinagh: the Ancient Libyan Language

According to Abdelaziz Abbassi (1977), the origin of the Tuareg language (Tifinagh) is a subject for debate; some researchers say that it is linked to the ancient Egyptian language, although according to others it belongs to the Indo-European language family. The majority, however, maintain that the term Berber refers to a number of related language varieties in the Hamito-Semitic sub-family of Afro-Asiatic languages, which are distantly related to Arabic (Abbassi, 1977; O'Connor, 1996). The Tuareg speak a language, which is the purest form of the Berber dialects according to Lhote (1979). These languages are spoken in non-continuous areas along the southern Mediterranean, and in sub-Saharan African countries like Mali and Niger and by the Tuareg in the Sahara and other sub-Saharan areas (Dris, 2012). Other researchers such as Cline, state that the Tifinagh script is linked to the ancient Libyan or Numidian writing that is understood to have been used in North Africa (Cline, 1953). However, both Abdelaziz and Cline state that Tifinagh refers back to the Hamito-Semitic sub-family of Afro-Asiatic languages.

Understanding language and writing is essential to the understanding of rock art as a form of communication. In the first place, large parts of rock art in Libya have been made by Tifinagh speakers. Secondly, Tifinagh provides a chance to understand the subjects of rock art - by understanding the “pie” words of Tifinagh writing. Finally, the study of the writing system can provide information about the relationships between different cultures in different areas or countries.

Inarguably, writing systems are among the most important inventions ever made by humans. By putting spoken language into a visible, material form, people could for the first time, store information and transmit it over time and across a space. The writing system was the world's first true information technology and consequently it was revolutionary. The very ubiquity of our writing system today has made it seem like a natural, unquestioned part of the human cultural landscape. Yet, it was not always this way. Although anatomically, modern humans existed for about one hundred thousand years, the writing system is a relatively recent invention—a mere 5,000 years old. How and why did writing first appear? (Woods, 2010).

One of the most important aspects of the writing system discussed in this exegesis demonstrates that written scripts were invented independently at least four times in different places; the Old World and Americas in Mesopotamia, Egypt, China, and Mesoamerica. The specifics of the writing system varied from place to place, just as did the apparent motivation to invent writing. It is clear, that in Mesopotamia, and perhaps to a lesser degree in Egypt, writing only came into existence with the emergence of state societies or civilisations. The earliest written texts from Mesopotamia, from the site of Uruk, are economic records, indicating that the early state needed to keep records of the people who worked for it. Thus writing allowed the bureaucracy to have an institutional memory that extended beyond the lifetime of any single priest or scribe, a role written communication continues to fill exactly those needs of the state, five thousand years later (Woods, 2010).

According to Christopher Woods, there is a close relationship between hieroglyphic writing and art; in particular how the writing system developed from art, concluding that, ‘...the Egyptian writing thus emerged as a local development, rooted in late prehistoric visual culture, notably in emblematic modes of representation’ (Woods, 2010). There is a definition, which presents writing as the conventionalised system of visual communication. Importantly there is a strong and arguable connection found between rock art and the writing system. We can understand that in some eras, rock art and the writing system served to do the same work. As Woods notes, ‘...a visual representation could always be paraphrased linguistically. Further, there is a strong relationship between the ancient Egyptian writing system and ancient rock art. Woods (2010) made it clear when writing, ‘during the Predynastic period the distinction between purely pictorial rock drawings and hieroglyphic writing is very hard to make.’ This point must stand because the same thing can be said about the relationship between Ancient Libyan language (Tifinagh) and rock art. Also one can agree with Woods when he writes that the writing system may develop gradually, rather than dramatically. The writing system is created when the lifestyle developed the need for complex administrative structures and associated institutions of scribal training. People needed a means to interpret and record their ideas and literatures (Woods, 2010).

This assertion is supported by some evidence that alphabetic writing emerged as a kind of shorthand with fewer than 30 symbols, each one representing a single sound, which could be combined to form words for a wide variety of ideas and things. This eventually replaced writing systems such as Egyptian hieroglyphics, in which hundreds of pictographs, or idea photos were needed. Each image was used to present

an idea or a thing. The scholars said they could identify shapes of letters, which evolved from the image of an ox head into A and from a house, which looks more like a 9, into the Semitic B or Bayt. The origins and transitions of A and B are particularly interesting as the Egyptian-influenced Semitic alphabet which was further developed by the Phoenicians, latter-day Canaanites, and passed to the Greeks, probably as early as the 12th century B.C.E. and certainly by the 9th century B.C.E. From the Greeks the simplified writing system entered Western culture by the name or spelling alphabet, a combination word for the Greek A and B, alpha and beta. The only words in the inscriptions, with which the researchers are possibly familiar, are the title for a chief in the beginning and a reference to God at the end (Wilford, 1999). Scholars such as John S. Justeson provided that the writing system of one of the oldest civilizations in the world is defined as a graphic representational system whose encoding and decoding of information make a crucial reference to language. Furthermore, this explained the origin of writing, which originates from the introduction of linguistic information into the coding process, by which graphic forms are related to meaning. This study considered that most Mesoamerican scripts (except the Isthmian system) were transparently depictive and therefore related stylistically to local pictorial canons; Mesoamerican scribes were always the calendar priests (Justeson, 1986).

It can be argued that the ancient people used rock art as writing or a system to communicate with their society rather than just a tool for a religious ritual, linking with McDonald's 2008 study, which provided that the principal aim of the research on rock art was to define a model for cultural interaction and to describe a prehistoric art system. The Information Exchange Theory provided the basis for this proposed

model. By perceiving a “style” from a functional perspective, the art of the region was seen as a conduit for the expression of social affiliations. The concept of social context (e.g. public versus private) has been extremely important in the development of this argument. Therefore, it carries the notion that style is a means of nonverbal communication used to negotiate identity (McDonald, 2008).

On the other hand, it can be argued that the study of Tifinagh is important in order to understand the subjects of rock art. In the first place, it is very difficult (especially when operating in open-air areas) to know if the people made these engravings in Tifinagh in the same era as rock art or in another era, because radioactive carbon technology cannot always provide accurate dates. For this reason, it is still possible that it was made in the next era. It is also worth considering why if ancient people were using a writing system, they were also making rock art when they could write what they wanted. Another factor must be found to provide reasonable propositions for the relationship between rock art and the people or culture behind rock art subjects. Therefore, the migration movement might provide a way to understand this relationship, because a comparison can be made between the rock art area and other areas of significance to this study.

Migration

There is consensus about the origin of the tribes that inhabited those areas, the Libbo to which the name “Libya” refers, migrated to the area of the Sahara desert from the seaside of the Mediterranean. The Egyptians considered them to be outsiders and called them “the people of the sea”, a name which has been used for a long time by the writers and authors of the ancient ages. A fact has been revealed: that those

people, the Libyans, were in fact the first inhabitants of Egypt. It is claimed that those tribes left the lands of Egypt as a result of a great drought and before them; some other groups had lived in the far western areas. However, the old classic age did not mention those groups, as the data and information available was from the beginning of Egyptian times and afterwards, through the Greeks. The most feasible opinion is that those people were of a single origin. The first appearance of the “people of the sea” in the desert was in the 12th century B.C. and that led to some confusion in the east of Egypt. Other new names appeared there such as Gilgamesh and Germant, to whom scholars refer as the ancestors of the Tuareg, and a number of other tribes (Lhote, 1979).

Migration is acknowledged as having a huge impact on culture as different groups and cultures come into contact with one another sharing and exchanging knowledge. The traditions of the Tuareg after the migration movement were influenced by a new relationship between the Sahara and other areas. The traditions of the Tuareg provides a complex view of their society: it can be a map or guide to understand how and what the Tuareg think about rock art and will provide a link between Tuareg traditions and the rock art itself.

The Tuareg Traditions in North Africa

The Tuareg are descendants of the Germants, who are one of the three most famous tribes that lived in the area, and when it comes to numbers, they are the biggest group. The Tuareg people inhabited a large area, covering almost all the middle and Western and north-central Sahara. According to Lhote the explorers’ attention was caught by the way Tuareg men wore face veils, which is a face cover that men wear to cover the

whole face except for the eyes. The Tuareg like the privilege that this veil brings them when they speak, nobody in front of them would know what they are thinking and what emotions they have when they hear certain words. They buy the best available of coloured silk and wear it with pride in a similar way to a medieval knight and his helmet Lhote (1979) observed.

Henri Lhote was surprised to see that it is a tradition in the society of the Tuareg that the eldest son of the eldest sister in the family is the one who inherits the wealth of the family and that this tradition is still being followed. The social hierarchy and the social system in the Tuareg community consists of certain classes, the first class is the nobility. The children in that class will take the name of their mother's family and all groups help each other during wars and in return, they receive a tribute (Lhote, 1979).

The second class is the Kaloli or the Goats Men who are the shepherds of the herds owned by the nobles. The members of that class are allowed to participate (with their nobles) in invasions against other clans and they have to pay a part of their takings to the members of the noble class. Children who are born in the Kaloli class also take the name of their mother's family. The third class is that of the slaves and they are not Tuareg, but Afro – slaves whom a son can inherit after the death of his father. The families, in which those slaves live, look upon them as family members. They live with the family and share whatever the family has, including happiness or sadness. The fourth class is that of the workers or blacksmiths and they have been

held in contempt for a long period of time. People were afraid of them due to their skills in forming metal and utensils (Lhote, 1979).

Marriage must happen between individuals from the same class and all classes of Tuareg marry according to the traditional marriage ceremonies about which everybody knows, except for the slave class, where the women were taken as concubines, and their children allowed asking for the higher social status of their father. However, they could not claim a leading position.

The Tuareg depend now on the meat of domesticated animals, as the wild animals that feature in some engravings are no longer available to hunt. They also rely on corn, dairy products, dates, wheat, rice and many other food sources apart from the eating of eggs or fish and birds (apart from ostriches) as Tuareg culture forbids it. The economy of Tuareg has been founded on livestock breeding, agriculture and on trade. Traditionally they taxed the caravans, which cross the Sahara, traded in slavery, and the spoils of raids made on neighbouring groups, which was stopped during the foreign period. In addition, salt is an important commodity. Along with dates, salt is exchanged with millet and cloth bought in the southern areas (Karl, 1995). They wear long blue garments, which give their skin a dark blue colour. Men and women wear long camisoles. The men wear long trousers under those camisoles, long enough to reach their ankles, whereas women wear long loose skirts. They also wear sandals, which they make themselves, and they make them suitable for the place full of sands in which they live.

The Tuareg have been divided since Algeria and some other African countries achieved their independence. The Tuareg now live in Algeria, Mali, Niger and Libya. It is worth noting that they have never been completely united nor have they been united by a national sense (Lhote, 1979).

The study of the traditions and migration movements must be considered along with dating techniques, because the study of the migration movement and Tuareg traditions alone do not necessarily provide accurate results. More accuracy can be achieved by dating rock art, which is therefore the next logical point to be made.

Dating

No one method of dating rock art can be used to the exclusion of others and archaeologists rely on multiple complementary methods to draw their conclusions. Such methods include but are not limited to the stylistic: iconographic study of imagery and the executive: excavations, patination studies, geographical studies and weather data (Bednarik, 2002).

The Dating Method by Studying the Iconography

Iconographic assessment attempts to relate the objects or happenings to archaeological or any other time-related systems of information. Communal requests are efforts to recognise known animal species, weapons or other objects, or to recognise life styles as shown in the art. Animal types might then be connected with palaeozoological or ecological dating information; other objects (boats, ploughs, daggers, swords, halberds, rifles and so forth) with dated archaeological finds or historical documentation, hypothetical scenes of hunting with a hunting-foraging style

of life, and hypothetically traditional photos carried out in archaeologically guided conditions (Bednarik, 2002). This is one of the best methods for determining the age of rock art - if we exclude the measurement method by radiocarbon dating. Also the iconographic method has provided additional information about the lifestyle of ancient people, their habits and their surroundings, which helps to configure a more accurate image of ancient times. This exegesis is a stylistic analysis of rock engravings and as such utilises iconographic study to understand culture through rock art.

The Dating Method by Studying the Style of Rock Art

The dating method from the history of art also has merit, however, the significance of the connection of this to traditions that are outside ethnographic or historical access has not been established, and neither can this method be thought of as universally effective within art history itself. Different artists might use diverse styles at different times and dependable ethnographic work with current producers of rock art offers no indication that the artists of an exact group (clan, language group, even family) automatically share a common characteristic style (See Mulvaney, 1995; Novellino, 1999; for pertinent ethnographic examples see Bednarik (2002).

The Dating Method by Studying the Techniques of Rock Art

Several techniques have been used in the creation of rock art; most of them have been used frequently in numerous areas and times. The probable techniques such as pictograms and petroglyphs, automatically narrow the field to those most easily available to the peoples of first eras. The possibilities in the use of this technique as a standard of age or traditional provenance are consequently clear. Variables of

technique are liable to taphonomic selection and this technique is regularly misidentified, mainly in the case of petroglyphs (Bednarik, 2002).

The above methods could not provide sufficient grounds and information for this research, for reasons pertaining to the nature of the study area and the special circumstances that were taking place at the time of the preparation of this study, which limited the ability to conduct extensive in situ analysis.

Recording the Rock Art

Recording is one of the important issues in Rock Art. There are a number of studies that discuss this point and try to provide the best means to make records. Computer technology can be highly useful (Brady, 2007). This study provides significant information about the recording of rock art. The researcher proposes that digital and computer technology can be the most appropriate tool currently available to identify and present rock art. This method was very important in teaching the researcher how to record rock art by using modern technology. Because the rock art sites are threatened through various reasons, including natural and human impact - making a recording of this site is very important to ensure and facilitate steps in its preservation.

Technical and Artistic Styles of Libyan Rock Art

The majority of rock art studies in Libya have been carried out in the Acacus Mountains in Western Libya, because this area is the first area that has been studied and it is the main rock art site in the region. Additional studies are needed across a wider area to analyse the features and local characteristics of ancient rock art.

In general when rock art in the Sahara is separated into particular periods, this depends on the standard used by the researcher. Different rock art researchers follow differing dating systems. Some studies like those of (Mori 1988), (Ki-Zerbo 1981) et al., present the rock art period as the early period of hunting period of undomesticated animals, which is estimated to be between 7,000-4,000 B.C. - in this period the rock art shows some kinds of animals such as elephants, rhinoceroses, hippopotami, giraffes, large antelopes, and ostriches. Rock art of this era is categorized by images of the Cape Buffalo or bubalus. This animal is now extinct and otherwise known about only from remnants and through rock art. For this reason some of the rock art researchers called it the Bubalus Period. From this period only engravings (no paintings in Sahara region) have been recorded. The technique of rock art in this period is naturalistic with close interest in detail and they display highly sophisticated powers of observation. The humans are shown armed with boomerangs, as well as a Neolithic form of axe and occasionally with bows (Osborne, 1970).

The second period selected by rock art researchers is called The Pastoralist Period, which is estimated to be between 4,000-1,200 B.C. This period is categorized by a kind of engraving, which is less naturalistic than those of the previous period. It has been suggested that the engravings of this period are inferior to the engravings of the previous period, which had shown technically and schematically improved engravings (Osborne, 1970). The third period of Saharan rock art is called the Horse Period and was probably between 1,500 and 2,000 B.C. (Mori, 1978). The rock art in this period portrays chariots, horses and images of tame dogs along with human figures are common. The fourth period is called the Camel Period, dating around 100 B.C. (Mori, 1988). According to Osborne (1970), the Camel Period is distinct as

‘figures in this period are characterized by being small, the execution is inferior and a schematic style is rarely distinguished.’ The important point that must be noted here is that there are gaps between the periods of rock art in the Sahara region, which allowed some studies to separate the rock art periods into six in number and therefore more that depend on the interpretation of rock art (Mori, 1988).

Rock Art Periods in the Sahara

According to the archaeologist (Mori 1988), there are five periods for dating all rock art in southwest Libya, indicated in the table below.

BC years by radiocarbon	Type of rock art engravings or drawings	The period
100 BC	Drawings and engravings	Camel
1500-2800 BC	Drawings and engravings	Horse
5095-2780 BC	Drawings and engravings	Cow and Pastoralists
6122 BC	Most are drawings	Heads Round
----	Most are engravings	Large Animals

Interpretation of the Rock Art

According to some studies made by Lhote, Mori, et al., who stated that there is a possible relationship between Saharan rock art and other areas such as Ancient Egypt. This relationship will help to interpret the subjects of rock art.

The Relationship between Saharan Rock Art and the Art of Ancient Egypt

Henri Lhote clearly claims that there is a relationship between the Ancient Egyptians and the Ancient people in the Sahara. While Pavel Cervicek believes that there is no relationship between rock art in Egypt and the Nile River and rock art in the Sahara

(Cervicek, 1978). Cattle were considered to be very important creatures in the ancient Egyptian religion, where some gods were depicted as cattle and in Saharan Rock Art. At Nabta Playa in the western desert of Egypt, evidence of the domestication of cattle dating back to the Middle Neolithic was identified. This brought socio-economic changes to the desert communities. These changes were later reflected in the Late Neolithic cattle tumuli and megalithic constructions at Nabta Playa. The Bos tumuli are symbols of cattle worship and the Late Neolithic site, as a whole, displays evidence of a community with greater social complexity than its contemporaries in the Nile Valley. Prolonged contact with desert pastoralists led to the first socially complex society in the Nile Valley which is discussed here as a potential source of evidence of the origins of cattle worship in the ancient Egyptian belief system (Brass, 2003). However, in other studies it can be found that some contacts confirm the transmission of the beliefs of animation from the Sahara to the Nile. These beliefs have a strong relationship with the subjects of rock art. This study focuses on how animals were fleeing from the drought in their territory in order to reach greener and more favourable regions in the Nile Valley: this movement includes people and their culture or beliefs (d'Huy & Le Quelle, 2009). For a number of reasons, this relationship is very important in order to understand and interpret rock art in Libya. In the first place, Libya is connected by the Sahara to the Nile Valley (Egypt). It stands to reason that any effect, cultural or climatic, must pass through Libya before any other country. Secondly, the style of rock art in Libya has shown clearly the Egyptian influence in a number of rock art sites, particularly given that the main subjects of the rock art in Wadi al Baqar are cattle. Effectively, this can help in understanding the rock art in Wadi al Baqar.

Conclusion

The studies of rock art provide information that gives a broad picture of ancient eras and it can show something of their lifestyle, species of animals along with comprehensive view of the environment in those times. The discussion of the relationship between rock art in the Sahara and emerging civilization in Ancient Egypt provide an understanding of the subjects of rock art. According to Mori (1998), the studies of the rock art era in the Sahara start before the era of Egyptian civilization. This information is collected by using different methods that are provided to assess and collect information. Therefore, these studies have provided the methodological basis and gave the researcher guidance to achieve the aims of this study.

CHAPTER THREE

Research Methods

The methodology was especially designed for open-air rock art sites and consists of two main parts: the categorization and study of each rock engraving, the latter making use of analytical methods. It was developed and followed before, during and after the field trip taken to Wad al Baqar. In most cases, I proceeded by trial and error, adjusting my approach as new problems arose and the work progressed, and the project also benefited from the body of scholarly work on categorizing and analysing prehistoric rock art.

The dispersion of rock art sites throughout the vast natural environment of the Libyan Sahara presented a serious problem for the supervision, presentation and dedicated academic study of this cultural heritage. A holistic approach of inquiry involving the use of multiple methods and sources of data collection was used for examining the styles, subjects and meanings of rock art in Wadi al Baqar. The study used both qualitative and quantitative methods of data collection, including participant observation, in-depth interviews, document analysis, and survey research. The decision to use both qualitative and quantitative methods of data collection was made because of their appropriateness to examine the different facts of rock art under study.

This study has used the analysis of rock art as a stylistic messaging tool to understand and collect information about the subject area and the ancient era. The

researcher has chosen this method, which is to describe facts by analysing facts. The main sources of my data are original digital photographs of previously undocumented ancient rock engravings and Wadi al Baqar. These photos are described in detail to catalogue, categorize and analyse the styles of rock art and technologies that were used. After photographing, collating and analysing the images the photos have been grouped stylistically and chronologically. From these groupings the researcher analysed the photos providing some explanation of the subject, the meaning and why the ancient people created the rock artworks.

Aims of the Study

One of the aims of this study was to record the previously undocumented rock art found in Wadi al Baqar in the Sahara of south-western Libya. The researcher used a digital camera because it provided a cost-effective method, particularly if recording needed to be conducted by those with rock-art expertise and without extensive training. The use of digital photography to document ancient art sites has a precedent, with many scholars of Australian Aboriginal art finding it effective:

A simple methodology for recording rock art has been recently developed in Australia and tested on Aboriginal rock art, including both petro glyphs and pictographs (engraved and painted images, respectively). The approach was based on commercial photogrammetric software and consumer-grade digital cameras, because it was believed that archaeologists, conservators and site managers need simple and cost-effective methods to record and document rock art. This methodology has been adopted subsequently by the Northumberland and Durham Rock Art Project working in conjunction with English Heritage, to assist in recording 1500 prehistoric engraved panels located across the north-east of England significantly (Jim H. Chandler, March 2007).

In this chapter the researcher does not provide a full description of the technique that has been documented elsewhere: as only brief details are required here. For greater detail information about this methodology refer to “The Photogrammetric Record” (Chandler, 2007).

The photos are taken perpendicularly to the rock art surface, with the camera pointing to the centre of the shape. The best method is to fix the camera on a stand and to use scaffolding whenever necessary. The most important issue is the lighting: a good photograph is one where good attention has been paid to the lighting. On an engraved rock face with a number of figures drawn with differing techniques, each hour of the day with its indirect or even frontal lighting, will bring out further detail. Raking light, in which the object is lit from an oblique angle, is the best, but as this precise angle of natural lighting only lasts a short time it has to be created by directing a light source onto the figure in question, from the most suitable angle. The technology of digital cameras provided great help to save time and to obtain acceptable results. In some cases digital imaging gave better results than the naked eye, given the harsh desert conditions where the severe lighting can interfere with vision.

Research Questions

The discovery of a new (to scholars) ancient rock art site in Libya warranted this original stylistic analysis, chiefly asking: What is the fresh information that comes from the investigation of rock art sites? This research project aimed to fill the gaps in knowledge of Libyan rock art, increase the understanding of art, history and culture in

the region and provide valuable insights through comparative analysis and addresses the following questions:

- a. How can the techniques and styles of rock art found in Wadi al Baqar be identified?
- b. How does the rock art in Libya compare and contrast with similar and/or different styles in other sites?
- c. What can be concluded from the comparison of Libyan rock art with rock art in other parts of the world, for example Australian rock art?

Research Focus Area:

The research was focused on the rock art of Wadi al Baqar in the Fezzan Basin in southern Libya: at that point where Longitude 12.848928 crosses with Latitude 27.597147 near Wadi Shatti. For comparative purposes photos have been taken from the site in Wadi al Baqar and some samples of Australian Rock Art (engravings) from Sydney Basin. From the photos of rock art in Wadi al Baqar the researcher has extracted and stylised the subjects and technologies of rock art to understand and interpret the focal point of the research.

Locating and recording the rock art site in Libya

It is suggested that to record rock art styles anywhere in the world, an approach based on commercial photogrammetric software and ordinary consumer-grade digital cameras can be used (Chandler, 2007). This cost-effective and simple method has been developed and tested in Australia to record and document Aboriginal rock art sites including both petroglyphs and pictographs (engraved and painted images,

respectively) (Chandler, 2007). The method was also adopted by the Northumberland and Durham Rock Art Project, working in conjunction with English Heritage, to assist in the recording of 1,500 prehistoric engraved panels located across the northeast of England (Chandler, 2007). The field study to document rock art at Wadi al Baqar proceeded as follows: all photos were taken with the digital camera (from Fujifilm Fine Pix S3200) focused perpendicularly on the engravings in situ. For example, sometimes an engraving can be found on the side aspect of a rock, so to take a digital photo of it, certain arrangements must be made, so that the camera's lens is perpendicular to the engraving and focussed on the middle centre of the framed image. The same procedure was applied to all the photographic processes, with different arrangements of the camera accounting for the engravings that appeared on different aspects of all rocks. Another very important consideration when taking the photos is the issue of lighting and the use of the flash. The best photo is the photo that combines the best resolution with the best lighting available so that details of engravings and colours appear without fading or out of focus effects. To get the most from the trip to document the site, the researcher had to take photos at particular times of the day, using some very sophisticated digital camera specifications to obtain the best possible photos. The previously mentioned techniques were followed, due to the fact that some engravings have surface scratches and to document them properly, these precise procedures were necessary.

Detailed Description of the Field Trip

The field trip will be presented with details in Chapter Four. The main reason for the trip was to compile up to date data about the site and to document it by taking photos on the rock art styles. The field trip was undertaken in a difficult political climate,

during the Libyan revolution. This conflict along with many other factors, affected this trip, the documentation and study of the art and the discussion about them follows.

Some of the rocks in the targeted location look very similar to chunks of iron. They are red-brownish rocks and look like rusty iron as we can see from (Figure 4 see appendix A). The study area looks like a cave or a shelter, as can be seen from (Figure 2 see appendix A) under which anyone could take refuge even though time had ravaged it. Moreover, the area looks as if it was a rest area for people and caravans traveling south to north and the opposite; this assumption is based on site geography and the nature of the engravings on the rock walls.

The researcher started work by taking photos of all the engravings found on the rock faces. He tried to estimate the date or era of the rock art, although radiocarbon technology was not available due to the political unrest and the circumstance of forces fighting in Libya at that time. As a result, the researcher had to follow the method used by Ki-Zerbo (1981). It is suggested that to study comparative colour changes in the patina of the engraving and underlying rock, we need to use an appropriate method that takes into account the subject of the painting itself. The method departs from the assumption that the patinas closest to our age are the clearest and they differ most from the natural rock (Ki-Zerbo, 1981). The researcher suggests that this method would help in the organization of the photos into categories and groups to facilitate comparison, access and dating. During the taking of the photos, the Tuareg man who discovered the site translated the meanings of some of the

engravings. The connection between early language and rock art is explored in Chapter Six.

Classifying Photos of Rock Art in Wadi al Baqar

After collecting the data, the researcher looked at them in their digital form, in order to classify and categorize them. From a preliminary survey of the data of the photos gathered from Wadi al Baqar, it was noticed that those photos could be put into three groups. The first group consists of the photos characterized by smoother lines and colours close to the colours of the rocks on which engravings are found. The photos of this group are the oldest due to the two previously mentioned reasons as can be seen in (Figure 5 see appendix A).

The second group consists of photos of artworks that are more recent in age with engravings comprised of smooth lines, however with colours very different from the colours of the rocks on which engravings are found, as can be seen in (Figure 6 see appendix A). The third group of photos are more distinctive than the two other groups: in the sense that the engravings shown in them have totally different colours than the colours of the rocks with symbolist or abstract lines, as can be seen in (Figure 7 see appendix A). It can be noticed in the photos of group two and three taken at Wadi al Baqar, that the presence of the Tifinagh alphabet is evident (El Aissati, 2005; Buckley, 2010).

The groups of photos give an indication to how life looked in that area at that time. There are engravings that show the activities of hunting, cattle herding, the breeding of different animals including ostriches, religious rituals with an engraving

of a Shaman and other activities. To shed more light on the groups of the data collected from Wadi al Baqar and their subjects, a detailed discussion about them and their background is presented below.

The grouping system followed in this research is that used by most of the researchers who have worked in the Sahara and were accredited by UNESCO (Ki-Zerbo, 1981). This system of categorization is based on two facts: that the targeted location for this study is in the Sahara, and that it has never been studied academically before. Therefore, the researcher must first compare the engravings found in Wadi al Baqar to the engravings found throughout the Sahara, so that the location gets to be documented first and examined in comparison with his peers on other studies in the Sahara.

It is suggested in some references that rock art in North Africa is divided into four main “periods” (Osborne, 1970; Lhote, 1973) while the others are divided to five or six main periods (Mori, 1988). These differences come about because there are no exact dates for each period and the times between main periods could be very long. This has caused some researchers to select it as a particular period although some others do not accept this division (Mori, 1978; Osborne, 1970; Ki-Zerbo, 1981). The majority of arguments are around the first main period where there is no agreement about its date (Mori, 1978; Ki-Zerbo, 1981).

When using a division of four periods, the first period is the early Hunting Period for the pursuit of undomesticated animals (elephants, rhinoceroses,

hippopotamuses, giraffes, large antelopes, and ostriches), which is estimated to be between 7,000-4,000 B.C. This era is characterized in the Sahara by representations of the Cape Buffalo or Bubalus, a species which is now extinct and otherwise known only from fossils: for this reason it is usually called the Bubalus Period. Only engravings, no paintings, are known from this period. The technique of this age is naturalistic with close interest in detail displaying highly sophisticated powers of observation (Osborne, 1970). The second period is called Pastoralist Period, which is estimated to be between 4,000-1,200 B.C. This period is characterized by its engravings, which are less natural than those of the previous period. It has been suggested that the engravings of this period are inferior to the engravings of the previous period, which had better engravings technically and schematically (Osborne, 1970). The Horse Period is the third period, estimated to be 1500-2000 B.C. (Mori, 1978). This period is characterized by the appearance of the chariots, horses are depicted and images of tamed dogs are frequent. The fourth and the last period is the Camel Period. It is dated around 100 B.C. (Mori, 1988). According to Osborne (1970), figures in the Camel Period are characterized by being small, the execution inferior and the schematic style is rarely distinguished' (Osborne, 1970).

The photographs collected by the researcher from Wadi al Baqar have been classified and categorized following these **four main periods** of rock art in the Sahara. After collecting, classifying and categorizing the photos, **three main groups** were identified.

First Group

This group contains photos of the oldest examples of art at the location, which crosses with the Pastoralist Period, due to the comparison of the style in this period in Wadi al Baqar, and with style of rock art in the Pastoralist Period, which is estimated to be between 4,000-1,200 B.C. (Osborne, 1970). The images of this group have been made by lines or dots knocked onto the rock surface. Representations of different kinds of animals such as cows, ostriches birds, birds, plants, dates palms, livestock and human figures can be seen. The representations of human figures of this group, led the researcher to place them in this group in the Pastoralist Period and in turn in his first group, because no older images can be found at that location. Further support for this classification arose from the engravings being of a small size and the engravers having represented those animals in a naturalistic style, while they showed the other animals in a simpler way. The engravers tried to present the skin of the main animal by dotting as can be seen in (Figure 8 see appendix A). The focus on the cows in first and second groups may cause us to think that there are messages or meanings embedded in this work. It could be hypothesised that in that period cows were somehow holy. This suggests a connection to the ancient Egyptian religion and is further supported by the fact the style of their horns is similar to those of the ancient Egyptian sacred cow (Figure 9 see appendix A). This will be explored with more discussion in Chapter Seven. The dating of these works needs more work and study by more advanced technological means than that which has to date been provided to the researcher.

Second Group

These artworks can be dated in a more recent age than the photos of the first group (Horse Period) due to making a comparison with the colour of the face of rocks, a method used by Mori (1988:1978). It is noted after taking photos at the targeted location, photos can be categorized under this group are fewer in number than the photos categorized under group one or even group three. This group of rock art is characterized by slender carved lines and the emergence of human elements with some of the written symbols of the ancient Tuareg alphabet, see (Figure 10 see appendix A).

In the photos that belong to this group the colours could indicate a number of things about the age of the engravings. The colour shows that the engravings are more recent in age so the colours of the engraved marks of the image can be distinguished easily from the colours of the rocks, which is evidence that these engravings are more recent than the first group, in which distinguishing the different colours is more difficult.

Third Group

The photos of the artworks categorized in the third group, are from the most recent era (Camel Period). This can be seen when comparing the rock art style of this period in Wadi al Baqar with the style of the Camel Period as demonstrated by Mori (1978; 1988). It is characterized by different properties, and the rock art that had been made in this era has a style and subjects of its own, and is made with different techniques as can be seen in (Figure 11 see appendix A). It has been suggested that rock art made by the humans of prehistoric ages, depicts religious rituals and faces from people's

public life. It might have been the changing of their life style and their beliefs that drove them to use a particular technology and to alter the style of art (Mori, 1988). The photos of this group show that the art is characterized by the use of simpler lines than those of the first two groups. They are also distinguished by abstract and inferior schematic styles.

Description of Scenes and Collected Photos

In Wadi al Baqar there are two main styles of rock art that can be documented. These styles have been categorized depending on what they depict. For example, the scenes of animals, plant elements, other scenes and elements, reflect certain characteristics and historical stages. That categorization gives us the ability to connect with the ancient age of these engravings and to present them to the world. These elements, as stated, are scenes of cattle grazing, scenes of the life style of ancient people with all the religious rituals and there is a scene of sexual practice, also there are scenes of birds and flowers. On the other hand the engravings represent scenes of some of the extinct animals from the Sahara region. Moreover, writings in the Tuareg language and forms that seem to be incomprehensible resemble the type of signs or symbols or kind of maps. All these subjects give us strong evidence to think that the site of Wadi al Baqar was active for a long period. Detailed scenes and discussion with detailed information will be presented in Chapter Four.

Analysing the Rock Art:

The main purpose of this analysis is to determine similarities and differences between the two styles of engraving in Libya and Australia. For that reason the following analytic method was followed with the collected categorized and documented data from Wadi al Baqar and the Australian engraving style. The first step in the analysis

is a sustained examination on the computer screen using different levels of magnification for all the groups determined, to differentiate the subjects of the engravings, items and their styles. The second step is to compare the subjects of the engravings, items and the styles of Wadi al Baqar with Australian engravings. For example, subjects will be compared in regard to activities, hunting, animal husbandry or trading. Those activities and others will bring rich information for comparison and add to what is already known on the topic. The third step is to conjecture about why people made or used rock art, in the light of what is already known and depending on the comparison of the data. A detailed analysis will be presented in Chapter Five with detailed information.

CHAPTER FOUR

The Ancient Rock Artists of Libya: A Study of the Evolution of Human Culture in Libya during the Cow and Pastoralist Periods.

Studying the relationship between environmental, biological and cultural change is an important component of any interpretation of rock art. This chapter looks at early human society and settlement in Libya and explores the culture of these early rock artists. It is not easy to determine what happened in the earlier periods, without some degree of speculation. Rock art provides an important source of the information about these ancient times and while any conclusions remain subject to dispute, much can be learnt from the paintings and rock engravings of these earlier human societies (Mori, 1998)

Historical Background

There is a great deal of speculation about ancient people of the Sahara in Libya because we are studying an era, with limited archival evidence. We rely on interpretations and ‘assumptions based on evidence of desertification art is the main source of our knowledge of ancient eras’ (Mokhtar, 1981).

Studies conducted by Charles B. McBurney (1967) contend that human activity in North Africa occurred some 100,000 years ago. The Cave of Haua Fteah is one of the most important Neanderthal sites in Africa, near Sousa City in eastern Libya. There are also other important sites in other North African countries. The Cave of Haua Fteah is the largest in the Mediterranean basin. The Neanderthals were different to contemporary human beings, however, they were the first to design and make clothes from the animal leather as well as the first to bury their dead.

Anthropologists such as Osama Abdarhman and Abubakar Shlabi believe that humans inhabited Africa before anywhere else in the world. This is believed because of the discovery of some remains of a man in Kenya, dating back 115,000 years (Alnoor، شلابي، 1995). The presence of Ancient people (Homo sapiens) in North Africa could date back to 60,000 years B.C. In that area tools such as arrowheads, blades and scrapers, which date back to between 40,000 and 60,000 years B.C., were found in some sites between Libya and Morocco (Pazama, 1973).

It is clear through the archaeological studies, which were carried out by Mori in the years from 1955 to 1964, that the region of the Sahara was once a vastly different environment with greater rainfall and rich grasslands. Engravings and drawings that were found in different areas of the Sahara, present an image of a land teeming with cattle and many other kinds of animals. These engravings and drawings have been dated in different periods as shown by Mori. It would have been impossible for many of these animals to live in a dry region, for example, the hippopotamus, crocodiles and others. It can be seen that the environment changed from a wet to a dry environment. This change took a long time to be completed and there is no clear-cut time to select. However, that environmental change and shift took place during the Horse and Camel Periods. This can be confirmed by evidence found through the depiction of the subjects in the rock art of this time period. As evidence of the dry period we can see different types of animals like camel and deer, species that are able to survive in drought areas.

It is evident that the region has experienced major climatic changes during these long periods which start with the Horse period around 1500-2800 BC and complete with the Camel Period around 100 BC. As a result of droughts, many of the larger animals migrated to other areas in Africa where the environment was more suitable, such as the Nile River area. They would have faced extinction in the Sahara. According to Hassan Sharif, it is possible that deer, sheep and cattle, replaced some of the bigger animals because small animals consume much less water than larger animals (elephants and hippos). The small animals can live on smaller herbage, while some of the large animals need the growth of forest and savannah trees (for example, the giraffe). At the same time humans developed their weaponry into smaller sizes, appropriate for hunting smaller animals (Hassan, 1989).

Who were the Rock Artists? The origins of contemporary Libyan society is drawn from a number of population groups, including African, Arabic, Greek, Phoenician, Roman, Turkish and Assyrian people, over time these groups have merged to form the nucleus of modern Libyan society (Ki-Zerbo, 1981). From anthropological studies, it is determined that rock art in Libya was probably created by a mixture of seafaring people who came from north of the Sahara and sub-Saharan people. It is possible that around 7000 years ago there were groups of people settled in parts of the Sahara who were not from the dark-skinned people who come from the sub-Sahara but were of Euro-African origins: there are four categories of these groups. Studies have supported the hypothesis that the present groups of people have coexisted in North Africa south of the Mediterranean (Mori, 1988).

Early Evidence of Human Activity

The well-known paleoanthropologist, Camille Louis Joseph Arambourg, accurately points out that Africa is the only continent where there is evidence, of an uninterrupted chronological sequence through all the periods in the development of man (Ki-Zerbo, 1981).

The archaeological record collected from the borderland between Libya and Algeria show that pottery was being manufactured as far back as 8000 B.C. (Mori, 1998). A number of scientists claim that the migration of human populations between Libya and Africa (Ki-Zerbo, 1981) also saw miscegenation and the emergence of new cultures. So that the ancient sources describe the ancient Libyan people as a mixture of those with light-skin and blue eyes and people with dark skin - in the form similar to the reality of this day and age (Ki-Zerbo, 1981).

Relationship between the Saharan and Egyptian People

It is evident that there was a strong relationship between the different groups of the ancient people of Saharan Egypt; however, there is a debate about the nature of this relationship. According to Henri Lhote, Egyptian civilization was strongly influenced by a Saharan civilization (Lhote, 1973; Julien & Jean-Loïc, 2009). Lhote (1973) finds evidence for this in the clear similarity in some styles of rock art from different locations, showing that there is a relationship between the Saharan rock art and the ancient Egyptian art. However the dating of rock art in Sahara will suggest the probability that there are artistic effects, which come from Egypt that appear to collide with the dating of different rock art periods. This is because there are radiocarbon outcomes that place the age of Saharan rock art before 5,000 BC. This

means that the theory that there are artistic effects that came from Ancient Egypt to the Sahara is hard to accept, especially when reference is made to Mori's results that keep to the possibility that effects passed from Sahara to Egypt, or this style was very common in the Ancient World before Egyptian civilization (Mori, 1988).

The Culture of Ancient people

This study is primarily interested in what rock art can tell us about the lives and culture of those who lived in the Sahara. Researchers such as Mori, suggest there was a transition and emergence of cultural change evident by evolving forms of rock art. For example, Mori noted that domestication of animals is depicted in rock art when the images of cows appeared with people. Depictions of human forms, at this stage, show pastoral scenes of grazing animals and daily life where domesticated animals were involved (Fig. 12 see appendix A). This change in rock art subjects can be evidence of domestication and animal husbandry. As I stated on page 38 the representation of cows can be hypothesised as their elevation to a deeper religious meaning. Up until the Cow and Pastoralist Periods before 7000 years, rock art reveals only images of wild animals which were probably hunted (Fig. 13 see appendix A): it can be inferred from these changes in the images of rock art that cultural evolution had occurred from 7000BC until 100BC.

It is worth noting that, some drawings and inscriptions that can be seen during this pastoral period could be attributed to African people with Caucasian features, suggesting the coexistence of ethnic groups in the same area. Also, during the Cow and Pastoralist periods images of women with long hair can be seen, including a

depiction of women with yellow hair (Fig. 14 see appendix A) and this is not surprising given the mixture of the ancient people in Libya (Mori, 1988).

On the other hand, is it possible to compare this disparity in human shapes to disparities that exist within the same ethnic group? It does not necessarily confirm the presence of two separate groups living in the same place. The nature of the information makes the researcher careful about drawing conclusions.

Unfortunately, after the period of herders (cattle) ended about 2780BC, the neglect of detail in the technique of rock art significantly reduced the possibility of collecting valuable information about human groups in later periods. In addition it must be noted, in the light of anthropology, that the characteristics of the ancient population in the Sahara are similar to the characteristics of the current population, the Tuareg. The environment could have encouraged the evolution of the existence of the Indigenous population in large areas of the modern Sahara (Mori, 1988).

Ancient Language: Amazigh and Rock Art Symbols

The Afro-Asiatic languages are prevalent in the Middle East, which consists of six equally differentiated divisions: the ancient Libyan language (Amazigh), the ancient Egyptian, Semitic, Cushitic, Ethiopian and Chadic (Fleming, 1969). The most important of these branches for this study are the ancient Egyptian and the ancient Libyan, which is noted in the sources as the language of the Berber people. The Berber branch of Afro-Asiatic has less of an internal differentiation than the majority of the branches of Afro-Asiatic, except the ancient Egyptian. There is a relationship between the ancient Libyan language and local languages in the Sahara, so that it is

believed that the Tuareg languages derived from this original source (Ki-Zerbo, 1981). The Egyptian writing system (a Pharaonic form of writing) whether hieroglyphic, hieratic or demotic had been lost when Justinian the First (a Byzantine Emperor) had closed the last of the Egyptian Temples in the sixth century of the current era. From that age onwards, only the spoken form of the Egyptian language survived into Coptic times (Mokhtar, 1981).

According to Gamal Mokhtar, some of the academic studies suggest that the invention of ancient Egyptian writing occurred in the Amratian period, called also Nagada the first which was around 4,000 B.C. making it one of the oldest known writing systems (Mokhtar, 1981). It is the closest writing system to the rock art period and added to that, there is a strong similarity between the ancient Libyan language and ancient Egyptian.

It can be rationalised that rock art might have served the purpose of communication, which the pictographs would serve in a later age. It is suggested that in the pictographic images, each a drawn or engraved image of an item or a living thing was used as a sign or character in pictographic writing. For instance, 'if our ancestors wanted to convey the meaning of the concept of "harpoon" or "fish" the transmitter had only to paint or engrave on a rock or a surface an image of a harpoon or a fish. This is exactly what can be called word-signs, which are words conveyed by signs that relate to a real item or living thing and in that way a single drawing or an engraving could suffice for the writing of a whole word' (Mokhtar, 1981).

Foods

Rock art along with archaeological evidence reveals interesting information about the food sources of early human populations in ancient Libya. The art work of the pastoral industry show that these human societies consumed dairy food and meat sourced from hunting trips. It is also reasonable to say that they gathered ostrich eggs, as traces of a bird and an ostrich, are found in rock art located in Tadrart Acacus (Mori, 1988). Other information comes from archaeological studies that had been conducted in the Sahara in particular, studies carried out by Mori in Uan Muhuggiag, which provide evidence of a number of plants that are now extinct, including the *Acacia Albida*, *Balanitesaegyptiacus*, *Zilla*, and *Neurada*. The amount of cattail plants (a wetland plant) that have been discovered in the site of Uan Muhuggiag does not indicate that all these cattails might have been imported from somewhere else: there is evidence of the existence of a large swamp or lake close to the site of Uan Muhuggiag, additionally there is a high percentage of *Artemisia herba-alba*, which provides strong evidence that the air was once humid indicating environmental changes (Mori, 1988).

Ancient Beliefs

Rock art can be used as a source of information about the ancient practices and beliefs of earlier human societies. According to Mori, from rock art subjects it can be known that their religion was based on offerings and sacrificial animals. Some studies interpret engravings that depict masked people as early rock artists portray a shamanic religion. However the researcher in this study does not support this interpretation for the following reasons. In the first place, we do not have strong evidence of the spread of shamanic religion in the Sahara. Secondly, the existence of ancient religions in

areas close to the Sahara depicted their gods in human form with heads of animals; it is logical to say that there is a similarity between the ancient religions in Egypt and the religion of the people of the Sahara. Rock art showing masked men wearing warheads or helmets in animal form, leads to the belief that their gods symbolized by animals, was very common in specific ancient Eastern beliefs such as the ancient Egyptian religion (Mori, 1988). It can also be assumed that they believed in life post-death and this can be seen in their carefully bound mummy burials found in Uan Muhuggiag in Libya. The radiation-age of this mummy makes it the oldest in Africa and older than any Egyptian mummy: if taking this along with artistic effects in rock art, it could lead to the belief that the science of mummification started in the Sahara and developed later in ancient Egypt (Mori, 1998). Although, with the intermingling of many cultures in the Saharan region, there can be great difficulty in separating and identifying these rituals. If any particular figure could be connected to a particular culture or religion, then it could be assumed that these people performed this kind of ritual before about 5,000 B.C.

Clothing

From rock art it can be learned that earlier human populations wore a certain style of clothing and paintings in the Sahara portray three groups or styles of clothes. (Fig 15-16 see appendix A) In the first group, ancient people can be seen who wear wide belts consisting of two to four pieces, always half-white in colour. People in the second group can be seen wearing wide white belts and people in the last group wear thin belts (Noten, 1979). Some kinds of clothing can also be seen made of woven yarn which is transparent to the degree that the person's legs are visible through the fabric as in the drawing in Uan Amil (Mori, 1988).

Sahara in the Ancient Age - Animals

From the archaeological studies, it appears that two groups of animals lived in the area throughout the same periods as the ancient people. In general, those groups can be divided into two main groups. The wild animals of the first group were targeted by ancient people as prey, because they were threatening the life of ancient people and were therefore considered to be very dangerous, for example, lions, elephant and rhinoceros. The second group includes those animals, which were wild and became domesticated, for example, cattle, sheep, ostrich, monkey and dogs.

The First Group: Wild Animals

In this group it shows that animals such as giraffes, monkeys, rhino, elephant, lion and gazelles were portrayed in rock art as wild or not domesticated. The giraffes appear in great numbers in Saharan rock art from the Ancient periods before the Pastoralist period (cattle) when the Sahara was covered with green pastures. According to the archaeological studies of Francis van Noten (1979), the giraffes were recorded as tamed animals in some depictions, while they still appear to be targets for hunters. It is possible that the giraffe was one of the first groups of animals that left the desert when the climate changed (Fig 20 - 44 see appendix A). Their exodus might have been due to the disappearance of their natural foods, an indication that the Sahara was once a wooded grassland and home to a sophisticated pastoral culture.

Gazelles from the oryx antelope family have been shown usually in rock art images when the hunting dogs have been preying on them or where they have been

caught in traps (van Noten, 1979). Rock art in the Sahara reveals a variety of animals and reptiles that have become extinct or have been forced to migrate due to climate change. The following photos of monkeys, hippo, and crocodiles provide evidence about the different environmental conditions that were in the region from 6,122 to 1,500 B.C. (Fig 17-19 see appendix A) (Mori, 1978).

Group Two: Domesticated Animals

Rock art in this period portrays animals and birds that were to become domesticated, including cattle, sheep, dogs, ostriches and horses and ibex. The majority of cattle engravings reveal cows with long horns that could pre-date engravings of cows with short horns. Most of the engravings show cows with short horns. According to van Noten, it is well known that in Saharan rock art the engravings date in an older age than drawings, which led to the inference that the ancient people were hunting cattle at the earlier stage of wild animals and then taming them in the next stage to use them in agriculture and grazing with goats (van Noten, 1979).

(Figure 22 see appendix A) depicts a Barbary sheep, a domesticated animal found in the earliest engravings and drawings of our ancestors and still present and alive in the great Saharan massif (Mori, 1998). From rock art it can be determined that the ancient people of the Sahara domesticated dogs. Rock art dating as far back as 5,000 years, shows man utilising dogs, which have been bred since the beginning of the era of shepherds when animals were first domesticated. The dog has appeared in scenes of grazing and hunting trips and others as can be seen in (Figure 23 see appendix A) (Mori, 1988).

In the life of ancient Saharan humans, ostriches were one of the most important birds (Fig. 24 see appendix A); they were used for a long time (like many other kinds of animals) by men until they disappeared from the Sahara due to climatic changes (Mori, 1988). The history of humans with ostriches went through two stages, the first stage being the Hunting period when ostriches were eaten for their meat or their eggs were collected and eaten or their feathers were used as tools and accessories and in the second stage humans were able to raise ostriches when they moved from the stage of hunting to herding and animal husbandry (van Noten, 1979; Mori, 1988).

Ancient Culture

Depictions in rock art of animals and hunting can tell us much about ancient Saharan culture. However, artists also directly depicted life at the time in drawings and engravings showing hunting scenes and grazing, dances and religious rituals and offerings, just as there are drawings showing boats and scenes of sexual pairings between a man and a woman (Fig 38 see appendix A). There are also scenes of women engaged in everyday life with attention to where they were living, the care of children and scenes of the decking and hair dye as well as dancing and playing musical instruments (Mori, 1988).

An idea present in the rock art of the Sahara was that it was constructed for decorative purposes alone which is difficult to support for long because the majority of rock art in Libyan Sahara has been discovered outside caves: except for two sites that are in Uan Amil and Wadi Kessan. Unexpectedly, the walls of the caves were

polished and perfectly suitable for drawing, yet the ancient humans preferred to draw outside. It may be that the purposes of the artworks informed this choice (Mori, 1988).

The Technology of Ancient people - Tools

Ancient people in the Sahara made their tools from stones, wood and animal bones. This is known from archaeological discoveries of knife-edges and battle-axes, which are made of bone (Fig. 25 see appendix A). Also gadgets were made from ostrich eggs and were found decorated with simple lines. Another important implement that is worthy of mention is that ancient man produced pottery from early periods and remnants have been found throughout the Sahara (Mori, 1988). The people of the Sahara lived on hunting and fishing and beyond that, they knew how to make porcelain, a fact that has been determined by the age of porcelain, in some places dating to the seventh millennium B.C. (Barich, 1979).

Weapons

Rock art in Libya depicts several fighting and hunting scenes with a variety of weapons and fighting tools. Some of these weapons resemble curved sticks, which are similar to the boomerang used by Australian Aborigines (Figure 26 see appendix A). This image can be seen clearly in sticks in the Teshuinat site along with drawings of bows and arrows in a pod that might have been made from leather. It is worth noting that they were using dogs trained to hunt prey. The most technologically complex equipment of ancient people in Sahara was the horse carriage, which appears in different scenes giving the impression that they were used for the purposes of hunting and fighting (Mori, 1988).

Conclusion

It is suggested that the progressive development of the human species could be attributed to environmental changes and cultural evolution. It is clear from the literature that every cultural innovation has been accompanied by a definite awareness. This extraordinary property, which emerged from an ancient past, might not be limited to our species or mortal bodies, but it is definitely shared by all our models of behaviour. It may be suggested that awareness is at least partly determined by genetic heredity, and it is adjusted by the varied waves of change from the environment (Edelman, 1992).

It has been suggested that language is not an exception to this rule. However, how language in its recognized form slowly appeared and emerged shall never be known for sure, but it is certain that it is one of the most powerful tools in the incessant formulation of nature and culture. Moreover language has been responsible for the magnificent speed of development of which we are, in this age, both authors and victims (Mori, 1998).

As previously discussed, ancient people in the Sahara had life and culture which were distinctively different in many aspects, with some similarities with the current inhabitants of the Sahara, if compared with the reality of the Sahara today. It was a savannah full of elephants and predators with streams and rivers. Different researchers and in particular Mori, have been able to provide evidence to reinforce these claims. However, the full picture will remain incomplete or even inaccurate

until new discoveries have been carried out, to recover the knowledge gap in human awareness of ancient history.

CHAPTER FIVE

A Research Journey during the Libyan Revolution, 2011

It is vitally important to provide some background material to understand this project. The former Gaddafi regime (Libyan Government from 1969 until 2011) was not supportive of rock art studies for more than 40 years and the rationale for that lack of support was totally implicit. It is not easy to get any evidence to support that the government was opposed to studies of rock art as there was neither official documentation nor written instructions preventing rock art studies. However, any local researcher would not get enough support from the Libyan government to conduct his research and any researcher from outside of Libya needed more than one permit from the Securities Agencies, Ministry of the Interior, Ministry of Defence or Ministry of Foreign Affairs depending on the target location of the study. In general, the regime did not welcome studies that were linked to the history of Libya in particular or tourism studies. It is known clearly that during the Gaddafi era the government supported the policy of a one-man show. Obviously, it can be seen that the government's programs were not enough protection for historical areas and there weren't enough funds in government's budget for rock art studies. Therefore, only a few studies have been conducted in the present era on the ancient Libyan history and specifically examining the rock art of Libya. This introduction is very essential for demonstrating the relationship between Gaddafi's regime and the difficulties faced in studying Libyan Rock Art. These difficulties witnessed Libyan researchers attempt to do their studies by making it outside of the country or looking for support from local non-government associations. It was under such circumstances that I ventured to Australia to undertake my PhD.

The rise of the movement of Libyan people demanding a change in conditions and government policy in 2011 was complex and had many differing influences and causes. This movement quickly turned into a divisive civil war involving international parties turning the Libyan country and regions into very dangerous places to move within and it escalated with the serious spread of all weapon types in an unprecedented way. At the height of the war, the Gaddafi government had been hiring mercenaries including African fighters from sub-Saharan countries, resulting in the proliferation of armed gangs who became out of control. The brutality inflicted upon innocent people was viewed internationally as catastrophic (BBC, 2011).

It was under these difficult circumstances, the researcher started his return journey from Australia to study an area in southern Libya known as Wadi al Baqar. The first obstacle that the researcher faced was that there were no flights in or out of Libya at that time because of the enforced no-fly zone issued by the United Nations Security Council. Therefore, the journey was taken from Australia to the United Arab Emirates and then to Tunisia, from where a car was used to go to the western region of Libya. This area was controlled at the time by the forces of the National Transitional Council and was more than a thousand kilometres from the proposed study site in the Sahara.

The field trip, which took place between 25 December 2011 and 5 January 2012, was to compile an up to date data record about the site and to document it by taking photos of the rock art styles. The field trip was only possible for a short time period, as it took place during a very hazardous time of the Libyan revolution. The

conflict along with many other factors, affected this trip and the following discussion provides the background to the problems faced and overcome in the field.

It should be clarified here that the area in which the targeted site is situated was in a very dangerous location and required special permission to visit. During the researcher's field trip, the Gaddafi regime's battalions were still in control of some areas. Some of these guerrilla groups of mercenaries were so terrified of the fast advancing rebels that they were willing to kill and steal anything valuable particularly a desert going car to escape to nearby Niger. The study field was in a high-risk area of Libya because of the presence of these armed gangs, the remnants of the followers of Gaddafi, including some mercenaries from African countries. All of these groups were clustered in the vicinity of the rock art locality, because it is the nearest area to Niger.

The researcher takes the opportunity, to extend his thanks to the rebel forces in Wadi al Alajal, who provided great support and protection with armed guards and desert scouts that enabled the researcher to visit the site and return home safely. Clearly, it was necessary to find someone who had a good communication with the revolutionary forces that controlled the rock art area in the Fezzan Basin to realise the aims of the project. The journey started from Tripoli (the capital city of Libya), precisely from the City Towers Hotel, where one of the Tuareg leaders was staying and waiting for the researcher. Mr Offnaith Alkony Balkany is a prominent leader of the Tuareg tribes, who live in the Fezzan region and Wadi al Alajaal (the Valley of Mortality), where the study's location was situated. The researcher was informed that

the data could be collected safely through crossing thousands of kilometres from Tripoli to Ubari, (which is the capital city of the Alajaal Valley), as the Libyan rebel forces control that area more effectively in the daytime; the message was clear crossing that area at night might lead to a great danger. There were many logistical problems to overcome and every simple thing needed to be thoroughly planned. For example, to discuss with the people who intellectually and culturally own the knowledge of the desert ways was very difficult. It could be related to the atmosphere of uncertainty and a lack of confidence that was prevalent in the country at that time. Additionally, in the war time the lack of any Libyan institutional funding support was a major burden. Many of the state institutions had stopped working because of the war, so that, even the universities and research centres that might provide the required support had been disrupted. As a result, the researcher was unable to receive the resources that could facilitate this work. For example, the researcher had to wait for a long time in order to communicate with the new government of the study area.

Taking these facts into consideration, the journey to the targeted location started from Tripoli at eight in the morning and reached the destination (Ubari) around six o'clock in the afternoon. Our convoy crossed the distance between Tripoli and Ubari in ten hours including moving through the capital city of Sabha in the Alshati Valley, where a fierce battle between Gaddafi's forces and the rebels had just occurred. Along the way, the researcher noticed thousands of spent cartridges, and the remains and debris of some of the just destroyed artillery. In Ubari, a reception of honour was waiting for the leader of the Tuareg and the researcher. At that time, the commander of the rebel forces who controlled Ubari City requested that the assistance, provisions, support and protection needed to reach the targeted location

would be provided to the researcher. Colonel Abubakar the commander of the Ubari battalion mentioned that visiting the Acacus Mountains would need heavy support from the armed forces because the valley was full of African gangs and mercenaries who were retreating and attempting to escape after losing many battles with the rebels.

The commander strongly recommended that it would be safer to visit only Wadi al Baqar, the area that was firstly discovered by Tuareg man, Mr Offnaith Alkony only a few years before. I was told that a car would be available in four days' time, and that we would have to wait until the vehicle was ready, a 4-wheel drive vehicle was necessary because the targeted area was in difficult terrain. As advised by the rebel forces, the researcher and his convoy had to return to Ubari before sunset. We left Ubari city in one of the Ubari battalion cars, which was equipped with the special equipment to enable the crossing of the harsh desert. I was accompanied by armed guards and trained desert scouts for protection and to guide us across the desert (Fig. 34 see appendix A). A digital camera, a GPS device and some sketch papers were packed and the researcher had to wear the local costumes so that appearance would not attract curious eyes or strangers. Moreover, it was necessary to dress in this way as it could efficiently protect the body in the very cold weather of the desert at night and from the sands in the daylight hours.

The company arrived at the targeted location after facing some expected difficulties such as time consuming and tense situations along the way where even the special 4-wheel vehicle became bogged in the soft sand of the desert (Fig. 27 – 29 see

appendix A). The Tuareg were able to get it out by using a special technique. People do get stuck in this area and die from hunger or thirst and it could be weeks or even months before anyone could retrieve their bodies. The closer we came to the location, the more solid the ground became. Some of the rocks in the targeted location look very similar to chunks of iron. They are reddish brown in colour and look like rusty iron as we can see from. The whole targeted area looks like a cave or a shelter, which anyone could take refuge even though time had ravaged it.

Moreover, the area historically seems to have been a place of rest for people and caravans traveling through the desert. This assumption can be figured out by looking at the nature of the ground and the nature of the engravings on the rock walls. This site is called Wadi al Baqar, which means the Valley of Cows. The Tuareg named it in this way because the first engravings to be seen there were engravings of cattle, recorded by Balkany in 2011. It is located north of the city of Ubari, about 100 kilometres to the west of the city of Adre, near Wadi Shatti. The winter weather was very cold, particularly at night and in the early morning hours. A thin layer of ice covered the sands of the desert.

There were tyre marks of heavy vehicles at the site as well as traces of a herd of camels. This activity can explain some of the vandalism in the Wadi al Baqar site. At the time, when the researcher was documenting the rock art panels, the escort explained how he had discovered this place and he translated a section of writing which covered some of the rocks. The Tuareg were very pleased to provide assistance

and support for this study because this work will help them to maintain the art, which they believe had been made by their ancestors.

The researcher started taking photos of all the engravings found on the rock faces and tried to estimate the date or era of the rock art. Although radiocarbon technology was not available due to the political unrest and the circumstance of forces fighting in Libya at that time, the researcher had to follow the method used by Ki-Zerbo (1981). It is suggested that to study comparative colour changes in the patina of the engraving and underlying rock an appropriate method that takes into account the subject of the painting itself should be used. The method came from the assumption that the patinas closest to our age are the clearest and they differ most from the natural rock (Ki-Zerbo, 1981). The researcher suggested that this method would help in organizing the photos into categories and groups to facilitate comparison, access and dating. During the site documentation, the Tuareg men who discovered the site translated the meanings of some of the engravings. For reasons of safety, after the researcher and his company completed the documentation, it was the time to go back to Ubari city. Two days later the escort took the researcher to another location in the south of the city. This second site had a different proliferation of rock art as compared with the major focus area. The artwork was more recent than those found in Wadi al Baqar, however, the second location still holds significance because of the presence of old rivers, the traces of streams in the area and some rock art engravings that needed to be studied. Three days later, the return journey took place during daytime as suggested by the Tuareg, to guarantee a safe journey to Tripoli. Nevertheless, the journey was two days late because of a severe storm.

The top Libyan universities are located in the north coast of Libya, which is further than 1000km from the main areas of rock art in Libya. The essence of Libyan rock art in the Sahara is restricted as any person planning to go there must have access to 4WD vehicles making academic research of the site difficult. Before 2011 the usage of these cars were restricted to approved users like the army, police and some people who had a special permission for driving them from the Ministry of the Interior. Given all these factors, the study of this site was highly complex.

It is important to mention that only a small number of researchers and research centres in Libyan universities have any explicit interest in the study of ancient rock art. Also this branch of art is not available in all Libyan universities. It can be found only in the Academy of Post Graduate Studies, Omer Al-Moktar University and the University of Tripoli. A small number of researchers like Ismail Mabrouk Khalifa Albebas, who focused on the technical and artistic values of the rock art in the Acacus Mountains and Wadi Bergoz. His research was under the supervision of the Academy of Post Graduate Studies at Al-Fateh University and he has tried to make an interpretative study of rock art. Other researchers study the rock art as items in art design. Significantly, most archaeologists who conducted research on Libyan rock art have been focused more on the age of rock art rather than the style of the engravings themselves. Only a few of these studies (like the research of Ismail Mabrouk) concentrated on the artistic styles of rock art and were made in the period from 2000 to 2010, while the majority had been carried out at an earlier stage, which is an incentive to search for more recent sources in order to address this deficiency. It is important to report that Ismail Mabrouk's research was also supported from groups of

Tuareg people not from the Libyan government. Therefore this study of Saharan rock art is rare and original.

CHAPTER SIX

Rock Art in Wadi al Baqar

This chapter discusses the findings of the research fieldwork conducted at Wadi al Baqar in relation to the artistic engravings of cattle on rocks. These engravings depict a variety of images of cows, which indicate significant variations that show how rock art in general involves different styles, different interpretations of its subjects and how different cultures interact with rock art. Further, a discussion on those concepts and another three important points will be presented. Those points include discussion on the importance of the rock art area of Wadi al Baqar, the exact location and what the documentation of the targeted location will be likely to add to our knowledge about rock art in Libya and about the styles of rock art there.

Dating Rock Engravings of the Wadi al Baqar Site:

Several methods have been used to date rock engravings in the Sahara, with archaeologists such as Mori (1979) using a number of methods including radiation technology and another method aims to define the chronological stages of rock art by comparing the colour of the engravings and the style of rock art with the colour of the face of the rock itself. As a result of these studies, the schedule put by archaeologists such as Mori, et al. (1979), the rock art periods in the Sahara allow us to determine the age of the engravings, depending on the artistic style. As suggested by Mori after he used the radiation technique and the other method in Uan Muhuggiag rock shelter in Acacus (which developed the chronological schedule that is drawn upon here), the estimated date of the rock art in the location starts from 5,000 B.C., which is known as the Cow Period in Saharan studies. Using a similar process as Mori the face colour of the rocks at Wadi al Baqar can give initial and accurate information about the date

of rock art at Wadi al Baqar. In general, as suggested, there are three periods for comparing the style of rock art in Wadi al Baqar with the style of rock art in Mori's table of dating rock art in southwest Libya; they are the Cow Period, Horse Period and Camel Periods respectively.

Stages of Rock Art in Wadi al Baqar:

The subjects of the engravings of rock art in Wadi al Baqar show the life style of ancient people with two different engraving styles. The artists tried in the first style to reflect the reality, while in the second style, all the shapes are of an abstract nature. The two styles and the subjects of rock art will be discussed in more depth throughout this chapter. The first period in Wadi al Baqar is called by the name "large horned cows", the second period is called the "holy cow stage" and the last period is the "camel stage". In this chapter these stages will be described in detail by focusing on three main aspects: the first point on the most important artistic elements that come with every stage. The second aspect is in the description of the most important art techniques that have been used to make Wadi al Baqar engravings. The last aspect describes the subjects and landscapes, which can be found in Wadi al Baqar.

The First Period: Large Horned Cows

The first period under discussion depicts rock engravings of figures, which include humans, plants and animals. The main kind of animal is cattle, which appear with large horns, this depiction of the cow is different if compared with those, which are shown in another main rock art area in Libya (Acacus) where the cows have great horns that are curved forward. Some of the Tuareg stories suggest that these cows became extinct because of the shape of their horns, which prevented them from

feeding on the short grass, so that is why they were the first to leave the Sahara when the climate changed. The ancient artists engraved this cow in different styles compared to the styles of other animals, trying to show it in a realistic way. The artists used the drip method to show its coat while they used the friction method to identify the main forms of the animal. It is reasonable to suggest from the frequency of cow images that at the time, the cow was very important for the people in Wadi al Baqar as can be seen in the second stage.

Along with the engravings of cattle, there are other kinds of animals depicted, such as monkeys, ostriches, hedgehogs and another extinct species of cattle from the region. Moreover, human figures appear with some plant forms including flowers and some palm trees. These images are very important because they reflect what might have been the first kind of aesthetic sense on the part of the ancient people of the Sahara. It is difficult to explain the reason behind the engraving of flowers and birds in comparison with the interpretation of the other inscriptions that contain wild and large animals. Therefore, it could be hypothesized that the ancient people had a sense of beauty - an aesthetic sense.

The rock art images in the large-horn cattle stage are very difficult to select or to describe, because great damage has been done to many of the rocks from this period. The damage to the rock art can be classified into two types: the first had been made by other ancient people in previous eras; a good example of this kind of damage is shown in (Figure 39 see appendix A) where we can see a human figure dancing or fighting, but the full scene of this engraving is missing, because other ancient people

have since engraved over them with images of some deer or goats. The second cause of damages has been made by people today and in recent decades as the site is used for camel herding and the passage of heavy vehicles. A large number of rock artworks in Wadi al Baqar have been broken into pieces of different sizes and these pieces have been moved from their original place by the processes of the weather and time due to wind erosion, which leaves us with forms carved on rocks with changed obscured symbolic connotations a bit like a jigsaw puzzle. These scattered pieces are more difficult to interpret and to understand.

The Holy Cow Stage

This stage has the smallest number of engravings compared to the other two in Wadi al Baqar; this is according to a comparison between the number of engravings in this stage and the number of engravings in the other two stages. There are only seven engravings that can be attributed to the style of stage two. With the discovery of Wadi al Baqar for research purposes only occurring a few years ago, no archaeological study has yet been conducted, thus it is still possible that an archaeological survey in this site might reveal new examples of rock art, which would allow us to make further exploration or development of relevant information. In stage two, the cows are seen in a stand-alone character as they do in the first stage, this style of engraving could lead one to believe that the rock art was made to enable the hunters or the ancient people to pay respect to the cow according to their beliefs. There is one engraving in the Wadi al Baqar site that could give evidence to support the idea that this cow had some kind of holiness. This animal was engraved as a single cow with symbols of Tifinagh written around its shape, which reminds us of the method Egyptians used to describe their sacred cows. The similarity can be seen clearly when comparing the photo of the

cow from Wadi al Baqar with an image of the Egyptian holy cow (Figures 35 and 36 see appendix A).

This engraving of a cow in (Figure 36 see appendix A) is important in a distinctive way, because this mix between the engraving and the type of writing will determine the probabilities of interpretation of this pattern. The writing around the cow's engraving according to local Tuareg man, Mr Offnghit Wadi al Baqar is in Tifinagh and describes the cow in the engraving as one of the most legendary cows in the stories of the Tuareg. It was given to the people by god to provide them with nourishment and to give them a sense of Motherhood. First it is from the god who holds absolute power in the universe and it is the source of the sense of Motherhood for humans. Moreover this cow is important to scholars in understanding why the ancient people made these engravings. Therefore, the presence of this cow in Wadi al Baqar will give the people who live there peace and satisfaction of God who will be the cause for the production of quantities of good food. In addition to that, there are several points of similarity between the Tuareg and Ancient Egyptians stories. This similarity can be summarized in that both Ancient Egyptian and Tuareg stories pay the cow respect and link holiness to God in some way. For more information about the Egyptian sacred cow, see Cerny (2008).

Most of the other engravings in stage two show other kinds of animals in mixed groups, with cows and other herd animals. Also, the human figures in the engraving in this stage show a carriage with four horses similar to the Garamantes vehicles in the paintings found in the Acacus (Mori, 1988). It is well known that the

Saharan inhabitants were heavily dependent on these vehicles for movement, fighting and grazing their cattle.

The other important engraving in stage two shows a child playing with a toy in the form of a human being (Fig. 40 see appendix A). This is another important engraving for a few reasons, firstly this type of figure is very uncommon among rock art subjects and importantly this figure could be another link between the Tuareg and the ancient rock art in the Sahara. The Tuareg believe that this engraving shows one of the legendary giants of Tuareg mythology and mentioned in some religious stories; giant people were living in the middle of the desert in the region of Jabarin in the western Fezzan basin. In Algeria, it is worth mentioning that the word Jabarin in Tuareg language means “the land of the Giants” and the same word in the Arabic language gives a description of extremely powerful people who are impossible to defeat. The engraving of the human child with a toy and the sacred cow is very important because it provides links between the modern Tuareg people and the ancient rock art of the Sahara.

The Camel Period

The third stage is called the Camel Period because it is similar to the archaeological stages identified by archaeological studies in other areas of the Sahara (Osborne, 1970). Two points distinguish this stage - one is the kind of animal that is shown on rock engravings and secondly, the artistic style of these engravings. The animals are characterized by groups made up of cattle and others such as ostriches, dogs and sheep (Fig. 38 see appendix A).

The most important characteristic of this stage of the study is the appearance of a cow goddess - like the Egyptian god Hapi-in the Egyptian language or Abis in Greek (Cerny, 2008). The engraving shows a cow that has levitated over a group of animals and floats over their horns like a disk or the disk of the sun (Fig. 48 see appendix A). It should be noted that the worship of the calf in the ancient Egyptian religion falls in the First Family period (Cerny, 2008).

However, the style of engravings in this stage was on a lower style-level than the other two stages, when comparing stages one and two with the last stage. This result corresponds with the conclusions of some other studies on other areas in the Fezzan region, this result confirms that the engravings belong to the Camel Period in the Sahara, which is the latest rock art period in the Sahara (Mori, 1998 & 1988; Osborne, 1970; Ki-Zerbo, 1981). The researcher will suggest some hypotheses to interpret or understand why the artistic style of this stage appears as a weaker artistic style than the other two stages, after comparing the style of engraving stages.

The first explanation for the difference in style is due to the increased hardness of the rocks as result to the change of climatic conditions and increased drought in the region. So that, in that age, the artist could not engrave the animals with smooth lines as could be done in the earlier time. As well, it may have been the decline in the level of population along with the rising of the temperatures of the region that caused a decrease in the ability of people to work in these conditions, especially in most of the

engraving areas which were in the open air of the valleys in the mountains, as is the case in the Acacus Mountains (Mori, 1988) and Wadi al Baqar.

There is also a hypothetical answer to the question: why did the ancient people make newer engravings over the top of the older one? To answer this question, we suggest that with changes of population the first group migrated out of the area while a different group of people replaced them. The new group was from a different culture with different artistic traditions, so they did not respect the work of the ancient group. The new group might not have had the technical ability and experience that was enjoyed by the first group. Another hypothesis suggests that there could have been a new culture or a new belief that spread in the same ancient community that had made the first engravings, and pushed them to change their artistic style, this hypothesis is supported by the fact that the Saharan region has seen many migrations in different periods. The reason for entering or joining other human groups who have their own traditions is explained in Chapter Five. The researcher is not going to hazard the suggestion of the possibility of a new group controlling the rock art areas and changing the artistic style, because there are writings in Tifinagh in both stages two and three, which will lead us to expect the hypothesis that the declining level of the population with increasing temperatures in the region caused stylistic changes in the last period of rock art. One of the Tuareg translated some Tifinagh writings, prayers to the God of the great to protect people who cross the land with respect for the traditions and orders (Balkany, 2011). These writings also bear curses and fright for those who do not respect those orders. Moreover some writings document the ownership of the place by the Tuareg group and give guidance to water places, which will help anyone to cross the Sahara region (Balkany, 2011).

Elements that make Up the Plates of Wadi al Baqar:

We can list the elements of rock art in Wadi al Baqar as follows:

- Scenes of cows, from the place that has their name, some of those cows with very big horns (See Figure 37).
- Scenes of Human sexual interactions (See Figure 38).
- Scenes of masked men, some of them semi-dancing or some type of ritual to ancient gods (See Figure 39).
- Scenes of people dancing or engaged in a kind of movement. These are important engravings in stage two they also represent a child playing with a toy (See Figure 36).
- Scenes of horse-drawn carriages (See Figure 41).
- Scenes of dogs hunting or herding (See Figure 42).
- A similar image to the one on the cave walls of Lascaux in France (See Figure 43).
- Scenes of giraffes (See Figure 44).
- Scenes of birds, flowers and date palms (See Figures 45 and 46)
- Scenes of ostriches (See Figure 47).
- Scenes of herds of cattle with ostriches (See Figure 48).
- Scenes of incomprehensible symbols (See Figure 49).
- Some Tuareg writings (See Figure 50).

Techniques and Styles of Rock Art in Wadi al Baqar:

As it was shown in Chapter Four there are three main genres and styles of rock art in the Sahara, which come from four periods. Some of these samples of rock art are presented as paintings or engravings. However, there are no paintings that can be

shown at this time in Wadi al Baqar because all the rock art in this site are engravings. Although, this suite can be analysed by using the same standard of engravings used in the Saharan region. In the next section the main styles of engravings in the Sahara are presented with a comparison of those styles with the rock art engravings in Wadi al Baqar. The next sections will explain the styles of rock art in this area.

Styles of Rock Art in Wadi al Baqar:

The first style of rock art in the Sahara is in the Bubalus style, which is centred mainly in Tassili and the Fezzan region with characteristic carvings. In this style the subject is regularly comprised of outsized animals standing alone. Examples of this style are similar to the rhinoceros and pelicans at Wadi Djerat in Tassili and the elephant in Galjeien in the Wadi Mathendous. The second stage, which is chiefly characterized by the occurrence of antelopes and mouflons (wild sheep,) also has round-headed human figures depicted. In these styles the treatment is still partly naturalistic or symbolist. Also there are some examples of magic, which can be ascertained from some totems, the masked men and ritualistic dancing. However, the subject usually does not stand-alone and is often presented in the form of paintings. We cannot see any engravings in Wadi al Baqar that can be put under this heading, while the next two styles can (Ki-Zerbo, 1981).

The most important types or styles of rock art in the Sahara consist of naturalistic paintings and engravings that are often presented in small groups or as lone images. The figures of humans are shown in action when they herd cattle and goats with the assistance of dogs. (Ki-Zerbo, 1981)

The last type, which was stylized, is represented by symbols or abstract figures, so there is not a universal style. The engravings produced in an exacting way, degenerate to distorted outlines, with dotting or more irregular stippling. The weak lines are lesser and in some way complement the sturdy and severe lines of the former age, which is an improvement that catches the action. Every so often movement can be seen in the side view of three sectors and lends itself to a recovered stylization along with new forms of expression: by the end of this era it transpires alongside the appearance of the typescript from the Tifinagh alphabets (Ki-Zerbo, 1981).

Subjects of Rock Art in Wadi al Baqar:

The subjects of rock art in Wadi al Baqar are in the four groups that can be selected from the field notes. The older one is the same colour as the rock with smoother lines. There are more artworks made in this style, which could cause us to think that the majority of rock art in Wadi al Baqar was made in that period. This is in regard to the second type or style of rock art in the Sahara, because the engravings are often presented in small groups or alone; there are also some human figures showing herdsmen practising ritual and hunting prey. In the second one, the colour of the lines is different from the colour of the rock. However they have still been made with smoother lines. They portray subhuman forms - horses and carriages or images of animals that stand-alone or in groups. The style is similar to the first type with some of the properties of the second type of Saharan Rock Art. The third type of rock art that can be seen in Wadi al Baqar has been made by engravings on different coloured rocks. It has more symbolic or abstract lines than the others; this type is similar to the third type of Saharan rock art. In the fourth group, it can be seen that there are pieces of Numidian and Tifinagh alphabets with animal forms in the rock art types. The use

of writing with the shapes of animals can guide us to think that the rock art was using language to inform or to communicate between groups of people. In general, rock art in this area seems to be in song form to inform about the area of Wadi al Baqar or to give the visitor information about where he can get something. We can see a similar function in Australian rock art; Josephine McDonald explains that Australian Aboriginal rock art was used as a communication system (McDonald, 2008). However, some of these Libyan engravings have been made over other older engravings, which have made the study of these images more challenging. This could lead us to think that this artwork was not sacred because anything that has a relationship with religion must carry a kind of holiness, which would protect it from being changed or tampered with in any way.

Although it can be noted that some of the images of cattle are rendered in a symbolic form such as the sacred cow in the ancient Egyptian civilization. This point needs more scrutiny from Egyptologists and the exact age needs to be determined because it could possibly give continuity to a directory on ancient Egyptian religion. It is worth mentioning that in the nearby site at the Uan Muhuggiag rock shelter, Professor Fabrizio Mori discovered the black mummy, the oldest mummy of a child in the world and it is older than the Egyptian mummies (Mori, 1998). These images (about hunting, cattle herders, ostrich, Shaman and rock art) give us some information about the life of these people. It promotes the belief that the desert was inhabited and that the direction of migration and civilization was effectively from the Sahara to the Nile Valley and not from Nile Valley to the desert as some researchers think. The similarity between rock art and Egyptian ancient art may lead us to believe that the

two civilizations were from the same origin, or that the Egyptians came out of a desert civilization.

Moreover, we can note that the subjects of rock art in Wadi al Baqar are very much like the rock art in Tadrart Acacus. In fact, the geographical location and the style of rock art suggest that it is the same people who produced the art in Wadi al Baqar and Tadrart Acacus. In Wadi al Baqar, there are three types of cows in the inscriptions: the first is buffalo like and the other types like the sacred cow of the ancient Egyptians. The final one shows a strange cow with horns curving forward to the front, like the cattle described by Herodotus² in his book on the description of Libya.

Finally, there are some engravings that are difficult to interpret for several reasons, because some engravings have been damaged or destroyed due to desert factors, while other engravings seem to be like maps or symbols whose precise meaning is difficult to determine. The type of damage is “crash rock” where engravings have been shattered into pieces of various sizes. According to this field of study the damage has been caused by rock falls as well as wind and sand erosion.

The Technique of Rock Art in Wadi al Baqar

The technique used to create the artworks is the important part because it gives a lot of information including who the artists were and information about the environment

² Herodotus, 484 - 425 B.C., Greek historian, called the Father of History, b. Halicarnassus, Asia Minor. Only scant knowledge of his life can be gleaned from his writings and from references to him by later writings, notably the Suda. He travelled along the coast of Asia Minor to the northern islands and to the shore of the Black Sea; he also at some time visited Mesopotamia, Babylon, and Egypt. By 447 B.C. he was in Athens, and in 443 he seems to have helped to found the Athenian colony of Thurii in Italy, where he probably spent the rest of his life completing his history.

and the materials from that era and the various conditions that helped to create the style. It is difficult to think that we would find the engraving from the Camel Period executed with the same technique as earlier periods, when the natural rock was strongly worked, using large and deep grooves: although smooth rock also varies, even during a single era, from one work to another (Mori, 1998). When we study the techniques they give us strong evidence about the dating of rock art in this area. In this way, we can easily find similarities between the styles and techniques that are in Wadi al Baqar and those of the Acacus area.

The two periods of rock art in Saharan shelters are enormous. According to Mori different ethnic groups might have been involved in rock art areas in the Sahara, and these groups had different historical backgrounds, which may have been the basis of their techniques (Mori, 1998). From the photos of rock art in Wadi al Baqar, we can say that the area was used for a long period because there are some rock art styles from different eras. For example, the photo from the Horse Period which shows the Garamantic³ chariots, and the one that shows Tuareg camels, which is definitely from the Camel Period and is the last trace of an activity which then disappears permanently from the rocks (Mori, 1998).

On the other hand, the damages to the rock art in this area, whether made by either humans or by the environment, have all caused significant interference and have blurred the reading of some milestones. The moving of some pieces of rock art

3 The Garamantes were likely present as a tribal people in the Fezzan region by at least 1000 B.C. They first appeared in the historical record in the fifth century B.C., when Herodotus noted the Garamantes were an exceedingly numerous people who herded cattle (that grazed backward!) and who hunted "troglodyte Ethiopians" from four-horse chariots. (*Kingdom of the Sands*, by David Keys, Volume 57 Number 2, March/April 2004, n.d.)

from their original places has made it more difficult to select from which layers they came. Together with the breaking of a single-image into a number of pieces, all of these factors will make the reading of the photos of the re-collected parts of these artworks very difficult. Especially, if we take into consideration the size of the rocks themselves and the desert nature of the place along with the lack of possibilities or choices imposed by the reality of the war in Libya in 2011.

Finally there is some more important information about the people who made the rock art in Wadi al Baqar. The techniques and styles can show easily that there are two separate cultures involved in the making of the rock art in Wadi al Baqar. At different times, the style of one culture was being developed and made in one place, while the other group of people was using the place as a rest area whilst they were travelling in the Sahara. The information tells us about the different cultures, when a comparison is made between the styles shown in some of the photos. For example, comparing the photo of a camel with the photo of the shaman indicates definitely two different cultures. It could be the same nation that had dramatically changed culturally, or another nation had invaded and conquered the area.

The researcher believes that the study of Tuareg stories could offer insights that lead to the understanding of rock art in this area, especially if we know that there are some local interpretations based on a particular understanding of the relationship of the Tuareg to these cultural images: this is what I have observed when I have gone to the area of Wadi al Baqar. However, the problem is the secret Tuareg stories kept with the older Tuareg people who do not reveal them easily. At this time some of the younger Tuareg people have accepted this idea of stories registered with their elders.

CHAPTER SEVEN

A Comparison between Rock Art in Australia and Libya

This chapter presents how the rock art in Wadi al Baqar compares to the ancient rock art in Australia. I take the opportunity to acknowledge that coming to Australia to undertake my study opened up a wonderful chance to analyse rock art in such diverse areas as Australia and Libya. I must confess that this exegesis does not present a major comparative study of the two countries and their rock art as Wadi al Baqar remains the major focus of this work. I have taken the opportunity of my circumstances to offer some thoughts on Aboriginal rock art and Libyan examples. In the future I would like to undertake a comprehensive study between Australian and Libyan rock art.

There are some important questions that need to be raised and it clarifies the research ideas and concepts around this comparative analysis. The questions are, why make a comparison between Australian rock art and Libyan rock art? How has Australian rock art been presented? How has the Saharan rock art in Libya been presented? Finally, this chapter will throw light on the similarities and differences between styles of rock art in both Australian and Libya.

Why compare Australia to Libya?

First of all, it is important to know that Africa might perhaps be the ultimate continent for rock art (Clottes, 2002). Libya is part of Africa and has one of the most significant regions of rock art in Africa. Also there are many questions about this art still without answers. For example, no one knows exactly why those people made the art and how

they understood the world. So that a grouping of theories that attempts to explain and comprehend this art can be useful. In addition, these theories build upon the European imagination because the first exploratory people used their own cultural base in analysing the art. Their observations were made without comparing the rock art with rock art in other parts of the world such as in Australia. So the answers might be helpful in getting a better understanding of Libyan rock art. Furthermore, in the last few years, new areas have been discovered, which have not been studied before. This presents a good opportunity to collect new information, for example, in Wadi al Baqar.

Furthermore, new information issuing from different places in the world tells us about the relationship between the new world (America and Australia) and the other continents in the world. According to some studies there are some references that may drive us to think that there are relations between the Middle East and the New World or may argue that the ancient people knew about America (Fell, 1976) or Australia (Senff, 2011). However, numbers of researchers like Nigel Davies did not accept what Barry Fell (1976) and others presented about the relations between the old and new world. In addition, the myths of Indigenous people in different places in the world tell us about the types of relations between the old world and the new world in ancient ages. As Barry Fell (1976) has argued, there is a relationship between the Mediterranean and the south pacific. In other words, the ancient world had known about Australia 3,000 or 5,000 years ago, suggested by the most current archaeological discoveries unearthed a few years ago of large engraved rocks in Iran. These contain maps of the world, which are 3,000 or more, years old. Appearing on these rock maps (besides the coast of Asia and a western land form which could only

be America), are some of the islands of South-East Asia and a landform that might or might not be Australia (Gilroy, 1977). In my opinion there is no strong evidence that there is any link between Aboriginal Australia and any area in the Middle East.

Libya and Egypt share a common history from ancient eras, so it is easy to see the Egyptian effects in Libyan rock art discussed in Chapters Three and Four. Therefore, if the researcher can couch any connection between ancient Egyptian travels and ancient Australia, this relationship might be pursued along the lines of Rock Art. As presented in Chapter Five, the Libyan rock art in southern Libya shows groups of hunters using sticks, which are like the boomerangs used by Australian Aborigines (Mori, 1988).

However, we cannot be certain what determine the type of connection. Is it possible that the Egyptian language and culture was prevalent in that era as a global culture? On the other hand, is it possible to transmit cultures and arts without direct human contact? To look at this equation, we need to have a deeper understanding of the cultures and arts in Australia and other countries.

Australian Aboriginal Art

Australia has sound reasons to be considered as a good region for a global comparison of rock art with Libyan rock art. Firstly, in Australia the people who created this art are still a living culture and still producing rock art, indeed Tindale was shown a fresh engraving by Jabili of the Njangamarda tribe at Port Headland in 1935 (Layton, 1992). Furthermore, ‘... a group of paintings at Nangaluwurr were made, also in 1964,

by Najombolmi's friend Djimogor, a Wardjag man who came into the region from Arnhem Land many years before' (Layton, 1992). It is not known exactly how the Australian Aboriginal people understood the world and clearly, the meaning of the artworks. What is more, some Australian rock art works were made in the same era as the Libyan rock art.

Man reached Australia late, by about 40,000BC, and New Zealand (Maori) perhaps not much before AD 1000. The early rock paintings of Australia reveal a way of life, hunting with spears and boomerangs, not to change significantly for millennia (Boardman, 2006).

In Australia, there are experts who can empower this research and there have been previous efforts that tried to make a link between ancient art in Australia and some areas in Africa, such as Tanzania (Pettigrew, 2011). Finally, some theories contend that the Aboriginal people in Australia came from Africa through Asia, so in this way it can be seen that the Aboriginal people in Australia and Libya could be from the same brotherhood or ethnic group.

Australia is one of the most important regions of rock art in the world. This chapter will try to explain the places of rock art, styles and the meaning of the shapes. The rock art area covered wide parts of the Australian landscape. I will endeavour to present just a small sample of regions of rock art that will help this study in regard to its targets. The main sites relevant to this study are the Sydney Basin, Central Australia, Western Desert, Kimberley and Arnhem Land.

There are many forms presented in Australian rock art. Some styles can be selected from these forms including the "X-ray" and the mouth less heads of the

Wandjina heroes in the western Kimberley. Another form has the delicate internal detail of “X-ray” paintings in Western Arnhem Land. The last form has the vibrant ochres and white concentric circles with parallel lines in the centre. Australian rock art has been a characteristic of Aboriginal Australian cultures since the Pleistocene age, which dates to more than 10,000 years ago. Moreover its beginnings are perhaps as old as the rock art of hunter-gatherers in Western Europe. Communities, whose economy is effectively one of hunting and gathering, have in Australia, survived to bring rock art and their culture into the present. Throughout this era, neither rock art nor Aboriginal economies have remained static. In fact, the population of Australia extended from sparse and patchy settlements 40,000 or more years ago, to cover the whole continent at densities, which not including eastern Australia, are often a slight equivalent to those achieved by European colonists (Layton, 1992).

Australian Aborigines, whatever their ‘tribe’ or dialect unit, could find this assurance in what is called (in translation) the Dreaming. It was, and for many of them still is a rational way of viewing themselves and the world about them, taking into account their special needs. It provides explanations, not only of obvious, visible things, but also of less-tangible aspects of their psychophysical environment. It arranges things in patterned sequences, which is a way of attempting to predict them. The Dreaming is a synthesizing concept, uniting human beings and natural species, the land, the sky and the waters, and all within or associated with them: and that relationship is cemented or made irrevocable by spiritual linkages with or through mythic or spirit beings. Aboriginal man was dependent on nature: but he was also dependent on his deities and other supernatural characters. He relied on them to ensure that the cycle of the seasons was maintained, that the land was replenished

with vegetable and animal foods, and that human beings continued to survive in what was often a harsh environment (Phillips, 1978).

The analysis for relations between anthropological and archaeological research into Australian rock art is largely habituated by two main factors. Firstly, the remote parts of northern and central Australia have been occupied by Aboriginal communities with active artistic traditions, to which rock art belongs in most cases up until recently. On the other hand, the other regions of Aboriginal Australia have been heavily impacted upon by European colonisation that such links are missing or confused. In those areas of provable continuity, there is evidence of change in the current time. Although, this has the advantage, from a critical point of view, to help the processes of change in Aboriginal art, it also warns against using modern information to extrapolate too far into the past (Layton, 1992). McDonald (2008) divided Australian Aboriginal art into four periods:

1. Pre Bondaian 30,000 years ago to 8,000BP
2. Early Bondaian 8,000 years to c.4,000 years BP
3. Middle Bondaian c.4,000 years to c.1,000 years BP
4. Late Bondaian c.1,000 years to European contact

Rock Art in the Sydney Basin:

The Sydney Basin is located in the state of New South Wales in south-eastern Australia. This area comprises approximately 300,000 square kilometres that stretches between Newcastle in the north and Wollongong in the south, between the coastline in the west and the Great Dividing Range in the east. The age of the Sydney Basin art

can only be projected back into prehistory for about 1,000 years (Woods, Paul & Tacon, 1998).

Christopher Chippindale and others in their book *The Archaeology of Rock-Art* give us a definition of the Sydney Basin styles:

More than 4000 art sites have been recorded in the region, roughly divided equally between the two art contexts. In no other area of Australia have dual media been simultaneously practised so extensively. In most Australian regions one medium developed to the seeming exclusion of the other (for example Cobar, Laura, Kakadu), or the two forms are diachronically distinct (western New South Wales, central western Queensland). In Sydney, however, the schemata used for the two art components are very similar. This is manifested in the motif range used, in the form of these and especially - in the general character of the regional motif assemblage. The main difference between the two components is, of course, technique, but also size. Size difference is mostly due to the differences in size of 'canvas' of the rock surface available (Woods, Paul & Tacon, 1998).

In the Sydney Basin, there are two art contexts, which are in shelters and on open air engraving areas. The sheltered areas have generally been pigment art or paintings, although infrequently engravings as well. 'In general almost all of it is as definite as the techniques employed to manufacture the artefact' (McDonald, 2008).

"Art" is defined loosely as all humanly made marks, which occur in repeatable identifiable forms. In Sydney, art results from either the application of material (coloured, black or white pigments) for pigment art or from the removal of the sandstone matrix by a variety of techniques (for petroglyphs or engravings¹⁰). Both art assemblages were classified using motifs, the majority of which have recognisable forms - human, animal or inanimate objects, or can be categorised as geometric shapes. A large proportion of the art consists of

unrecognisable or incomplete motifs particularly in the shelter art assemblage. These motifs were included in the initial analysis of both art assemblages, since they provide a more accurate census of the two assemblages and their general technique information. The motif classification used was based on taxonomy of visually recognisable figurative forms. These have been given the names of the forms, which they most closely resemble but these terms are analytical labels (McDonald, 2008: 43).

Saharan Rock art:

In the context of comparison with Australia and as stated earlier I reiterate that the rock art in North Africa is assigned to four main periods (according to Mori 1978) as follows:

1. The early Hunting period of undomesticated animals (elephants, rhinoceroses, hippopotamuses, giraffes, large antelopes, and ostriches). This era is characterized by representations of the Cape buffalo or Bubalus, a species which is now extinct and otherwise known only from fossils, and for this reason it is usually called the Bubalus period. Only engravings, no paintings, are known from this period. The technique of this age is naturalistic with close attention to detail, which displays highly urbanized powers of observation. Human beings are shown armed with boomerangs, a Neolithic form of axe and occasionally with bows (Osborne, 1970).
2. The art of the Pastoralist period, dating from circa 4,000 -1,200 B.C., is very widely disseminated in shelters below overhanging ledges of rock. The style is less fully naturalistic, at times it is just about representation; also the technique is substandard compared to the best engravings of the Bubalus period. Paintings can be found in the Tibesti, Tassili, and Hoggar massifs. Figures are usually collected together in scenes which show a talent for composition and an awareness of perspective, such as was not set up in European Ice Age art (Osborne, 1970).
3. The period of Horse falls into two phases. An earlier one featured with the depiction of the chariot and a later one in which the chariot is superseded by the mounted horseman. The larger pachydermata are no longer portrayed, domestic cattle still appear and mouflons and tame dogs are frequent. Within the last part of the period, camels and horses were described. The horse and chariot were brought to Africa by the Hyksos invaders of Egypt, but the rock paintings with their horses extended at the gallop, possible derived from

Crete and Cyrenaica. Herodotus indicates to the use of the chariot by inhabitants of the Sahara in the 5th C.B.C. it had been used until Roman times. The chariots are frequently reduced schematically, animals and human figures although conventionalized are often energetic and lively. It is sometimes known as the “double triangle” style from the convention of representing the human body (Osborne, 1970).

4. The latest phase, when the camel had come to North Africa, continued up to the current time. The numbers of figures are generally still small, execution inferior and the schematic style is rarely distinguished.

Another period, which has been named “round headed” because it contains human figures in the style is assigned to a period intermediate between the Bubalus and the Pastoralist (Osborne, 1970).

Techniques and Styles of Rock Art in the Sahara

In wider terms, three main genres and styles can be differentiated in the Sahara, more or less concurring within the periods previously mentioned.

1. The archaic, monumental in size with symbolism that overshadows semi-naturalistic representation. Humans appear to be suffering from the impact of the might of the animal kingdom, which needs to be subdued - if necessary by magic. The first generis represented by the Bubalus style, centred mainly on southern Oran, the Tassili and Fezzan regions, with carvings characterized by notable observation. The subjects are stand-alone large animals. (Ki-Zerbo, 1981)

The semi-naturalistic treatment, plain and austere confines itself to essential outlines, which are drawn with masterly skill. Examples could be seen in the rhinoceros and pelicans at Wadi Djerat (Tassili), the elephant at Bardai (Chad) and the elephant at In Galjeien in the Wadi Mathendous. The second phase is characterized with the existence of antelopes and mouflons, mostly painted. Men are with round heads everywhere. The

treatment is still semi-naturalistic, sometimes symbolist; but the line is lively rather than austere, and may betray excitement and even pathos. Magic is not far away and can be felt in the animal totems, masked men and ritual dances. Subjects do not stand alone (Ki-Zerbo, 1981).

Ki-Zerbo states that there are small images, but also continuous friezes and frescoes. Such scenes are considered to be the largest in the world. This style, which is located in the Tassili, generates scenes depicting great horns, masked dancers as at Sefar, and the priestess or White Lady of Ouanrhet. (Ki-Zerbo, 1981)

2. The second genre is mainly composed of naturalistic paintings and carvings of small subjects, which set either alone or in groups. The treatment is highly descriptive. It is already believed that man is on the move and that he is the dominant factor who controls the cattle, dogs, sheep and goats. More colours are used it is the Sahara of villages and encampments. The eponymous site is taken to be Jabbaren (Ki-Zerbo, 1981).

3. According to Ki-Zerbo:

The third genre is stylized, symbolist or abstract. Earlier techniques are engaged, but often depreciate. There is, however, no general decline. The engraving in particular degenerates into blurred outlines, with dotting and rough stippling, the delicate line, though inferior in some respects to the strong, austere line of the earlier period, is better for catching movement, sometimes in three-quarter profile, and lends itself better to stylization and new forms of expression. For example, the man at Gonoa (Saharan Chad) is outlined with elegance reminiscent of a pen-and-ink drawing with eyes, pupils, hair, mouth and nose represented with almost photographic accuracy. The use of washes also makes possible the rendering of very subtle nuances, as in the case of the antelope calf at Iheren (Tassili), with its unsteady legs, coming to suck its mother while she almost tenderly lowers her head to it. This genre lends itself well to the stylizing of horses and chariots and subsequently of the dromedary, but it also lends itself to the stylization of man, who becomes two isosceles triangles as at

Assedjen Ouan Mellen, or has nothing but a long neck where his head should be. The tendency is thus both to the mannerisms of pencil drawing and also to somewhat slapdash stylized geometrical representation, which, by the end of the period, occurs alongside characters from the Numidian and the Tifinagh alphabets. It is evident from many details, such as Arab saddles with cantles, which are obviously later than the seventh century of our era that such compositions fall well outside the realm of prehistory (Ki-Zerbo, 1981).

Similarity and Differences between Australian and Libyan Rock Art:

First of all, it will be clearer if these comparisons are presented in points, each one covers an important area. For example, the subject of rock art and the techniques of rock art, the location of the areas of rock art and the items in the images. This style of study gives an extensive view of rock art and allows a better understanding. In the next section I will show each point as clearly as possible. To be more selective, the researcher selected the area of Wadi al Baqar as the exemplar of Libyan rock art and the rock art in the Sydney basin as the exemplar of Australian rock art (clearly this was also the closest to my location at Newcastle, New South Wales whilst I was in Australia).

Subjects of Rock Art in the Sydney Basin

The majority of rock art examples that include recognisable forms of human, animal or inanimate objects, can also be categorised as geometric shapes. The main images in the Sydney Basin area show the human foot/track (*mundoe*), followed by fish, macropods, human and bird tracks (McDonald, 2008).

In Wadi al Baqar

The majority of rock art images that are recognisable in the Fezzan region are human, animals and plant forms while the rock art in Wadi al Baqar has human, animal (camels, horses, birds and cattle) and geometric or non-realistic shapes. The important thing that distinguishes this site is the frequency of the representations of cows.

Techniques of Rock Art in Sydney Basin:

In general, there are two contexts for rock art in the area of Sydney Basin. It can be collected in rock shelters and on open engraving sites. The sheltered sites in general contain pigment art (pictographs) and infrequently engravings (petroglyphs) (McDonald, 2008).

In Wadi al Baqar:

In general, there are two contexts for art in the Fezzan region. Art is found in rock shelters or caves and open engraving sites. However, Wadi al Baqar has only the open-air engravings and so far no evidence has been discovered of paintings there.

Where are the Areas of Rock Art?

In the Sydney Basin:

The Sydney rock art area is located in the southeast coast of Australia between the coastline and the Great Dividing Range. The Hawkesbury sandstone formation, which is the surface bedrock in the centre of the Sydney Basin covers an area of approximately 190 x 90 kilometres - 17,100 square kilometres (McDonald, 2008). The city of Sydney is located towards the centre of the study area, and the cities of

Newcastle and Wollongong roughly define its northern and southern extremities (McDonald, 2008).

In Wadi al Baqar:

This research has focused on rock art in Wadi al Baqar in the Fezzan Basin in Southern Libya, which is located at that point where Longitude 12.848928 crosses with Latitude 27.597147 near Wadi Shatti. Images have been analysed of photos taken from Wadi al Baqar and some examples of Australian rock art (engravings) from the Sydney Basin. From photos of rock art in Wadi al Baqar, the researcher highlighted the stylised subjects and techniques to understand and interpret the rock art stylistically.

Within the arid desert region the rocks are very solid because of the high proportion of iron in their composition and the extreme heat and hardness gives it a similarity to iron ore.

The Important Items of Rock Art:

In the Sydney Basin:

The Australian rock art displays elements from the surrounding environment like fish, turtles, kangaroos and subhuman forms in geometric shapes as well as the scenes of hunting and the life style of Aboriginal people and so forth. It also features decorative and complex paintings, while the engravings are simple and do not reach the same level of intricacy as the paintings. It can be seen that the beliefs of Aboriginal people have made a clear impact on Australian rock art.

In Wadi al Baqar

The majority of images show animals and plants that are no longer present in the local environment as result of climate change: for example, cattle, ostriches, birds, flowers and dogs as well as rituals and ancient carriages. The site also has scenes of a culture that no longer exists and images cannot be found that have a relationship with the current culture except in a few that depict the written sentences and people dressed in familiar traditional Libyan Tuareg clothes.

Conclusion of the Comparison

The two bodies in the study areas in Libya and Australia represent different manifestations of rock art traditions with significant commonalities, while they show naturally characteristic qualities suitable to their different repertoires of technical options. There are outstanding similarities in the ways in which rock art is produced with several major differences. For example, marine depictions dominate the engraving assemblages in the Sydney Basin, as a coastal region, but these themes are not shown in the art assemblages in the arid Wadi al Baqar region.

There are also great differences between the styles of rock art in the two areas. Australian rock art features figures from the supernatural realm such as spirits. No such shapes of spiritual belief are seen in Wadi al Baqar. The human figures were often shown in styles comparable to reality, while supernatural shapes can be seen in both the Fezzan (Tadrart Acacus) region and the Sydney Basin. Furthermore assemblages of Australian open-air engravings are generally larger than the assemblages of open engravings in the Wadi al Baqar site.

Sheltered art sites are present in large numbers across the entire Hawkesbury sandstone landscape, while the distribution of engraving sites is more restricted. There is a dense core of engraving sites in the central coastal area of the Basin. Engraving sites decline in frequency towards the northwest, although assemblage sizes in this area are very large. To the south of the Basin, particularly south of the Georges River, the number and size of engraving sites diminishes (McDonald, 2008). While, the rock art site in Wadi al Baqar is located in the Sahara on the coast of what is believed to have been an ancient sea or a dried up lake that disappeared thousands of years ago; McDonald (2008) asserted that: ‘the Sydney region’s engravings are somewhat all the same and that there were no characteristic domestic divisions. This result is as would be projected in a regional art body. The CA results do demonstrate, however, that stylistic changeability can be discerned across the region. In only one area is this changeability important enough to suggest a style boundary (McDonald, 2008). On the other hand two methods can be construed from the study field at the rock art site in Wadi al Baqar. The first one is the oldest, which passed in two phases and gave the impression of lasting a long time. In some images the shapes bear many details and show tentacles, skins, animals and horns very clearly. The second style is more abstract and its forms are elaborate with graceful lines and the time of the latest era is uncertain. McDonald writes in her research that:

The model adopts the view that style is a means of non-verbal communication used to negotiate identity. It is proposed that the rock art in the Sydney region functioned as a prehistoric information superhighway. Through stylistic behaviour, groups around the region, who were not in constant verbal contact with each other, were able to communicate important social messages and demonstrate both broad-scale group cohesion and within-group distinctiveness (McDonald, 2008).

The local people in the Fezzan region mentioned that the rock art is based on myths and “news” from the ancient Tuareg kingdoms and this art returned to them as messages and the wisdom of their grandfathers. These messages tell them how the life starts from water; this point is compatible with Aboriginal people’s beliefs in Australia and the Middle East. I again emphasise that at some point in the future I would like to undertake an extensive study and comparative between Australian and Libyan rock art. In this short entre I have but just begun to scratch the surface of possibilities.

CHAPTER EIGHT

The Importance of Rock Art Preservation

Vandalism and destruction is known in all those parts of the world where there is rock art, in America, Australia and other countries and the Sahara is no exception. Vandalism and natural degradation is one of the most important challenges that will face any researcher who has an interest in studying Libyan rock art. The destruction of these rich cultural sites can be found in all Saharan countries but in Libya, the matter is quite worse as there is no real protection against the effects of damage in general and the deficit is more so in desert art. Although there is law to protect relics with special police to protect archaeological sites, for many reasons these procedures are ineffective. The most important reason is the poor training of the police, which in turn causes a lack of personnel, equipment and because of poor salaries there is a lack of enthusiasm among individuals. Before 2011 when the country entered into the revolution, the spread of heavy and light weapons encouraged the increase in crimes of assault and the theft of relics, especially in those sites found far from the population centres where there is no government control.

Most forms of vandalism involve the defacing of inscriptions and images by black and blue coloured paint. Some of the cracking of engraved pieces may have been exacerbated by the passage of heavy vehicles through the rock art sites. As well there are rumours among residents about some residents and tourists who take fragments of the rock art to sell. Most of the damage is concentrated to the rock-shelters most accessible to visitors (Fig. 53 – 62 see appendixA)

Vandalism in Libya could be categorized as follows: damage done purposefully by visitors and damage done by environmental factors. The Tuareg people claim that there are some known reasons that drive some Libyan people to cause damage to Rock Art. The first of those reasons is the visitors of rock art areas. Since the majority of rock art areas are located far from any government security centre and there is not enough staff to conduct effective security supervision of all the rock art areas. Many visitors go to rock art areas without any kind of supervision or formal guidance. Some of these visitors bow to temptation and greed and attempt to take away souvenirs by breaking and removing pieces of rock art, which results in major damages. Some other visitors use heavy vehicles to cross over areas of rock art in the Sahara, which cause significant damage on the rock art sites.

Some people come to make damages for another reasons. These people want to destroy the rock art paintings and engravings, because they believe that the art paintings and engravings were made by people, who did not believe in God in ancient ages, so this art must be destroyed. There are other reasons that drive people to try and destroy the rock art. Rock art is used as evidence by Tuareg people to confirm that they are the true tribal owners of areas within the Sahara so that other groups of people try to remove and destroy the evidences

Some of the younger Tuareg people try to do some engravings and paintings over the already existent ancient rock art to show how they can do what their grandfathers had done. This has resulted with further damages to these important rock art areas.

Additional damage to these fragile rock art sites has been made by environmental factors, with the Saharan climate at times unforgiving; it is extremely hot and there is a lot of sand that can be moved by the wind. These movements can cause damages to rock art areas by covering the rock art engravings by sand or can be a reason of bringing the rock down. The wind can remove the sand from under the rocks, which will cause the rocks to crash and collide with other rocks (Fig. 55 – 56 see appendix A).

Another cause of damage to rock art in Libya now is the political situation. From 2011 until now the current government faces problems all around Libya so its grip has become much weaker than the past. The government will concentrate their attention on protecting the people and restoring order more than any other thing. This leads to leaving the rock art areas without any protection at all for the foreseeable future.

There is evidence readily available that some damages have resulted to Libyan rock art sites through the actions of oil companies. Some of these oil companies built their oil pressure stations and oil fields in areas of fragile rock art. According to Dr Joaquim Soler and Dr Nick Brooks who studied some of the damage to Libyan rock art in the Western Sahara, it could be concluded that these problems are very applicable in all Sahara regions not just in Libya. But the situation of Libya in the current period of this study made it possible to see damages that are common in different areas.

Clearly there are threats linked with the environment of the region of rock art but other dangers to rock art are linked with people's customs, traditions and neglect. Similar damage to ancient art sites that is found in Libya is witnessed in many other countries, including Australia and America. It can be argued that the vandalism and damage is a symptom of the way the rich historical significance of rock art is neglected and undervalued.

Recommendations for Protecting and Preserving Rock Art

- The researcher recommends that other researchers who are interested in rock art study in the Sahara region compare the ancient paintings with other area across the globe including Aboriginal paintings in Australia. This study would in the future like to complete this work, which started with just a small sample comparative of sections of rock art.
- The researcher forwards several recommendations to the Libyan government for work to support the studies of the exploration of Wadi al Baqar site and to work to remove the incursion of sand dunes from around the rock art site.
- The researcher requests the Libyan government to protect the rock art sites and to adopt modern methods and standards of rock art protection to ensure their preservation and protection against damage due to natural factors and/or human action.
- The researcher urges the Libyan government to encourage interested researchers to conduct studies on the non-documented and partly studied sites

to provide updated data and to provide the technological support for these studies.

- The researcher urges the Libyan government to attempt to redress the existing damage through the rehabilitation of rock art sites. Those who contribute to the damage should be held responsible and pay for rehabilitation. The vandals are usually easily identified having their details such as phone numbers and their names, nationalities and stations, recorded on the rocks
- The researcher demands to take advantage of the great political change in Libya and to encourage the local people to create a civil association to protect the rock art sites in the Sahara and to support researchers who study them taking into consideration that the local people have the willingness to cooperate with such works as it happened with this study.
- The researcher urges the Libyan government to develop a program for rock art studies in Libya, which has to be separated from Libyan programs to study abroad. At this time, there is only one program for all studies including all scientific disciplines. A dedicated rock art program would provide the opportunity to avoid the obstacles that currently face the researchers.

CHAPTER NINE

Conclusion

In this exegesis the researcher has argued that Rock Art was the first communication system used by humans as a register or explanation of life amongst social groups.

Rock art is a strong link to ancient times and our cultural heritage.

We know that the men who lived in the millennia between 30,000 and 8,000 B.C. lived a nomadic or semi-nomadic life, hunting and gathering their food with tools made of flint, bone and wood that they had the use of fire; that they had an art of such sophistication seems almost to be an anomaly (Sieveking, 1979).

This knowledge reveals how rock art is an important repository of information about the lifestyle of ancient people as explored in Chapter Five

These humans painted and engraved their lives in caves ‘on walls and rocks but also on ceilings and floors’ (Bahn, 1998) where they were living. It is difficult to know exactly why the first humans painted or engraved these works, it may be evidence of magic or it might be mythological. These works are still one of the important resources in delivering a view of human life in former ages. What is more, it provides significant ways to comprehend earlier periods of history. As a result, cave art has given us important information about the type of art that was being produced in those ages, where those humans were living, and the main subjects which were contained in these works.

As described earlier the ancient population of Libya was composed of different groups with a variety of ethnic qualities. So, the ancient Libyan inhabitants were composed of groups from sea peoples or and mixtures of Caucasian and groups

of darker people. However, it is clear to note from studying ancient drawings and engravings that these groups had been living together in everyday life for a long time. This description is like the current composition of today's population in the Sahara region.

On the other hand, the ancient people in the Sahara had a life and culture, which was characteristically different in many aspects, with some of the current inhabitants of the Sahara, when matched with the certainty of the Sahara today. The Sahara was once a savannah landscape with many streams and rivers, as explained in previous chapters. However, the full picture or spectrum will remain unfinished or even inaccurate until new discoveries and interpretations have been carried out to improve our knowledge in filling in the gaps between human awareness and ancient history.

The Tuareg tribes are definitely an Indigenous Libyan people because they originated in Libya during ancient times. The Tuareg people in Ubari city were very pleased to provide the researcher with assistance and support, because such work helps to maintain and protect their art forms. They believe the art is a direct connection to their ancestors and identifies the Tuareg as the Indigenous people of Wadi Alajaal. They were greatly disturbed because of the lack of security, so they have offered to support any future effort aimed to study and protect the ancient arts in their region.

This exegesis was based on a study site in the Sahara, which has never been investigated or recorded in any academic form before. The first aim of this study was to record and document the rock art in the Wadi Al Baqar site. For a deeper understanding of rock art, a minor comparison was made between the rock arts in Australia and those of the Sahara. An interpretation of this topic was discussed in the first part of Chapter Eight. The results of the comparison between the rock art in the Sydney basin in Australia and the rock art in Wadi al Baqar in Libya was evaluated in this section.

The main problems faced by the process, analysis and findings of the engravings in the study site at Wadi al Baqar, comes from the recognition of the damages that have been made to these very special and significant sites. This sad situation is very common in rock art sites and archaeological studies around the globe. The state of vandalized rock art is known in all parts of the world - in America, Australia and other countries. The Sahara is no exception, so this presents one of the most important issues that will face anyone who is interested in the rock art of Libya. It is so in all Saharan countries but as evidenced in this study in Libya there are some of the worst cases.

In Libya there is no real protection against the destructive effects in general. Although there is a law to protect relics, with special police to guard archaeological sites, it is under-enforced and these procedures are ineffective for many reasons. The most important is the poor training of the police, which contributes to a lack of personnel, equipment and, because of poor salaries, a lack of enthusiasm for the task.

This situation existed before 2011 when the country entered into the revolution which brought the spread of heavy and light weapons, which in turn encouraged and increased crimes of assault and the theft of relics, especially in those sites found far from populated centres where there is no government control.

Most forms of vandalism consist of the defacement of inscriptions and engravings by black and blue coloured paint. Some cracking of engraved pieces has been exacerbated by the passage of heavy vehicles through the rock art sites. In addition, there are rumours about residents and tourists who steal fragments of rock art for the lucrative art market or for souvenirs. Most of the damage to the most accessible rock-shelter is clearly attributed by visitors.

In order to find links to establish a greater understanding of rock art, the researcher is encouraged to compare the rock art in the Libyan Sahara with examples in other areas around the world. So establishing links around the world can be a logical way to fill in the gaps in our knowledge. This has driven the researcher with this study to choose a preliminary comparison with Australian rock art and make connections that may prove beneficial in the future.

In conclusion, it is this researcher's hope that through this study others may be encouraged to comprehend, understand and take an interest in studying and protecting the rich cultural knowledge that remains in Libyan rock art sites. The fragility and lack of protection of these national treasures hopefully has been demonstrated

throughout this project. This exegesis has demonstrated the great value of the stylistic interpretation and wider study of rock art to understanding the emergence of agriculture, language in this region. The early culture of the ancient inhabitants of this region is illuminated by this original study into Libyan and Saharan rock art in the Wadi al Baqar region.

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APPENDIX 1

This appendix is in effect the exhibition component of the exegesis and displays the images gathered by the researcher at Wadi al Baqar in the Harare Province in the Libyan part of the Sahara. Additionally I have included other supporting images that proved integral to my exegesis.



Figure 1: Map showing the area of study undertaken by the researcher from Google Maps.



Figure 2: The study site at Wadi al Baqar



Figure 3: The author at Wadi al Baqar



Figure 4: Image taken on 29/12/2011 by Louai Abdulhamid at Wadi Al Baqar. ‘Some of the rocks in the targeted location look very similar to chunks of iron’.



Figure 5: Wadi al Baqar



Figure 6: Wadi al Baqar



Figure 7: Wadi al Baqar



Figure 8: Wadi al Baqar



Figure 9: Horned cow, Wadi al Baqar



Figure 10: Tuareg alphabet - Wadi al Baqar



Figure 11: Wadi al Baqar - scene of camels, which are not well executed. They could have been added relatively recently as suggested by the kind of style and subjects - Wadi al Baqar



Figure 12: Engraving of domesticated cattle can be seen women collected milk from cow from Pastoralists period around 3000BC.

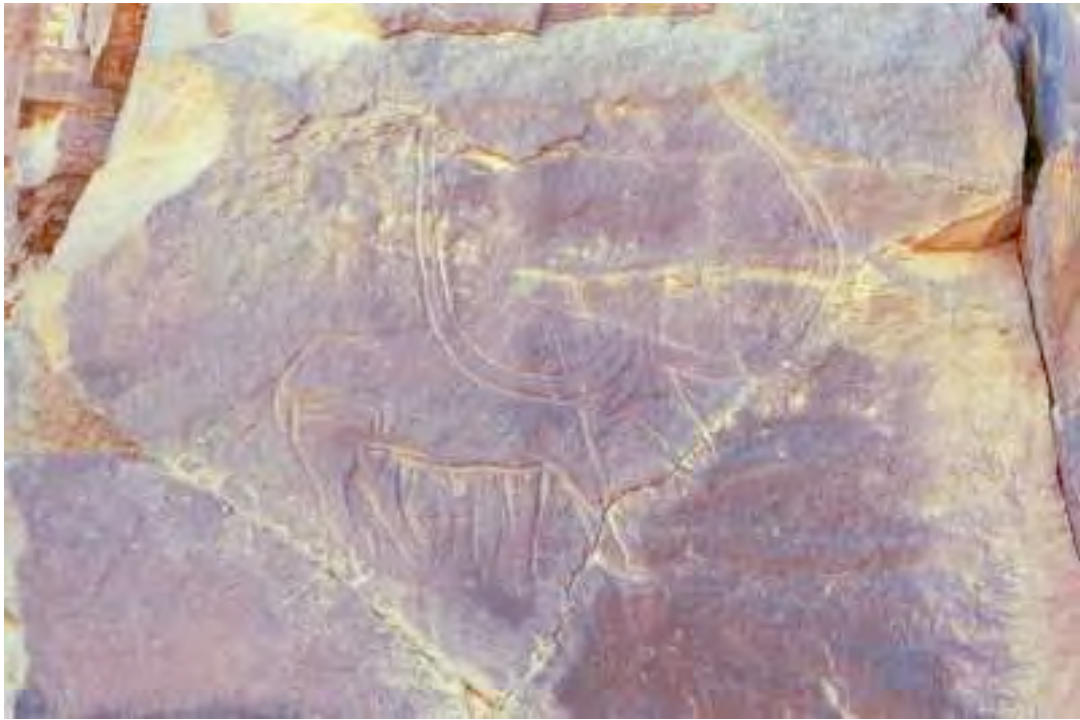


Figure 13: Engraving of wild cattle with large horns from large animals period before 7000BC

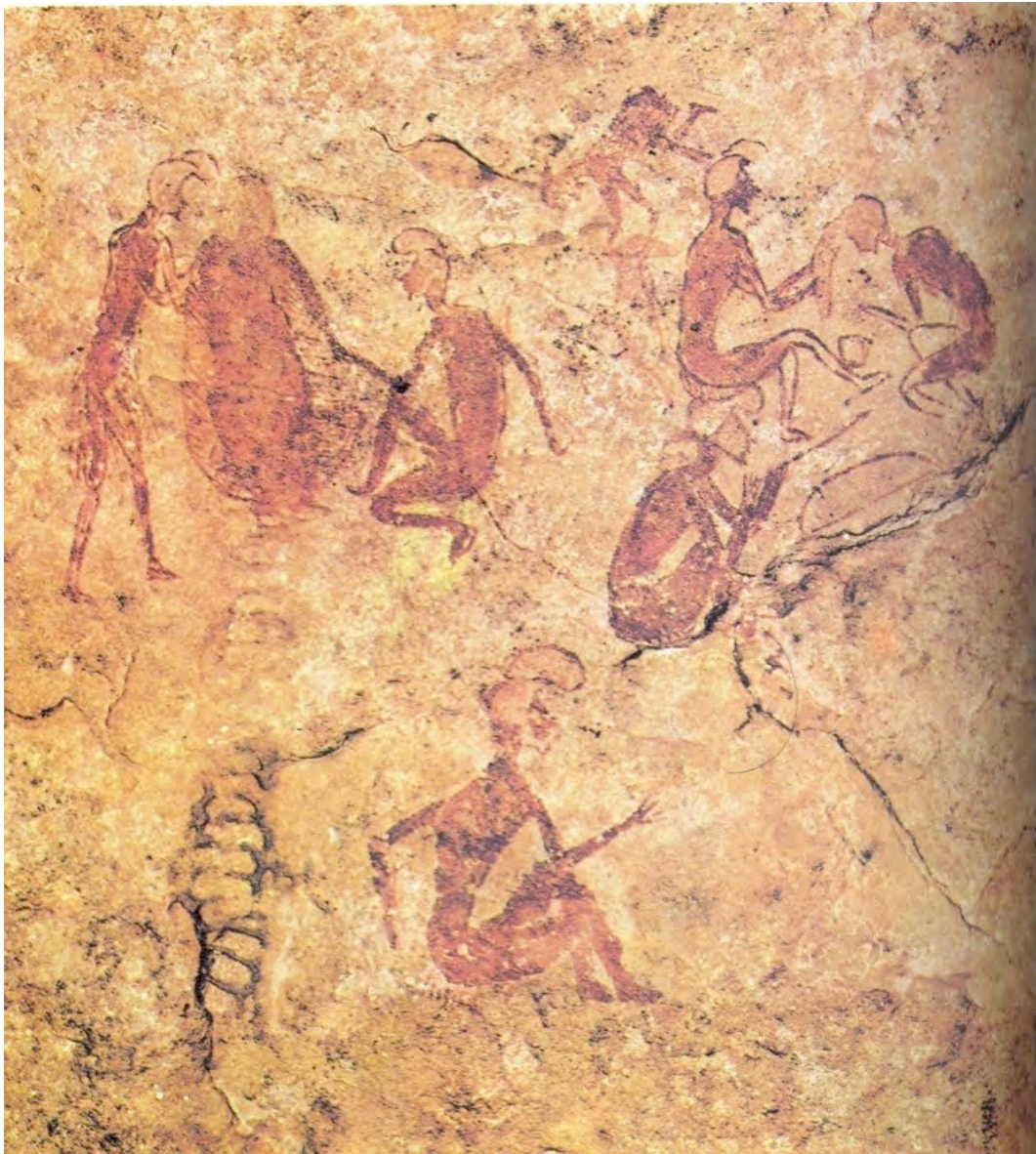


Figure 14: women with yellow hair from old Pastoralists period around 7000BC (Mori, 1988)



Figure 15: Hunting from Pastoralist period around 7000BC (Mori, 1988)



Figure 16: Image showing clothing from Pastoralist period around 7000 BC (Mori, 1988).



Figure 17: Engraving of crocodile in Libyan Sahara from Large Animals period before 7000 BC.



Figure 18: Four monkeys of Amadriad type from the Mediator pastoral role around 6000 BC (Mori, 1988).



Figure 19: Rhinoceros from the old pastoral role around 7000 BC (Mori, 1988).



Figure 20: Giraffe from the old pastoral role around 7000 BC, this photo taken from (Mori, 1988).



Figure 21: Ibex running from the old pastoral role around 7000 BC (Mori, 1988).



Figure 22: Barbary sheep at Wadi al Baqar depicts a domesticated animal found in the earliest period.



Figure 23: Barbary sheep from the old pastoral role around 7000 BC (Mori, 1988).



Figure 24: ostriches from Sahara Pastoralists Period between 5000 and 3000 BC.

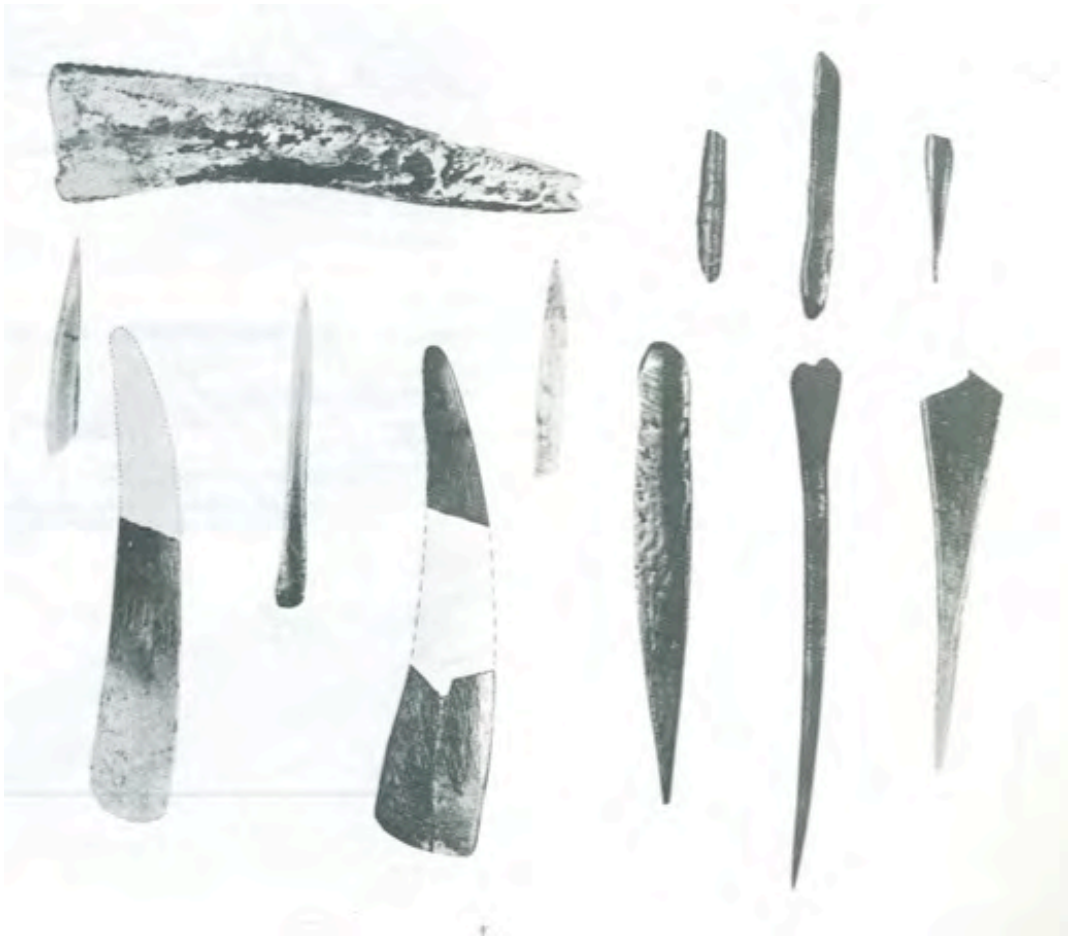


Figure 25: Bone tools of Ancient Saharan, circa 5000 BC (Mori, 1988).



Figure 26: Wrestling or fighting from the old pastoral role around 7000BC note the boomerangs (Mori, 1988).



Figure 27: The perils of Sahara travel taken in 29/12/2011 by Louai Abdulhamid



Figure 28: Armed escort, field trip, Dec 2011.



Figure 29: Armed escort, field trip, Dec 2011.



Figure 30: The field trip, Dec 2011



Figure 31: Armed escort, field trip, Dec 2011.



Figure 32: Armed escort, field trip, Dec 2011.



Figure 33: Armed escort, field trip, Dec 2011.



Figure 34: Armed escort, field trip, Dec 2011.



Figure 35 and 36: Holy Egyptian cow from *Ancient Egyptian Religion* by Jaroslav Cerny (1923) engraving at Wadi al Baqar with same circular reverence.





Figure 37: Cow engraving Wadi al Baqar. Scenes of cows from the place that carries their name. Some of the cows have very big horns.



Figure 38: Wadi al Baqar - Scenes of Human sexual interactions.



Figure 39: Human scenes - Wadi al Baqar scenes of masked men, some of them dancing some type of ritual.



Figure 40: These are important engravings an image of a child playing with a toy Wadi al Baqar.



Figure 41: Engraving of horse-drawn carriage Wadi al Baqar



Figure 42: Hunting dogs Wadi al Baqar



Figure 43: Wadi al Baqar a scene of a Thor-like being that looks like the famous one on the cave walls of Lascaux in France.



Figure 44: Engraving of giraffe Wadi al Baqar



Figure 45 above and 46 below: Wadi al Baqar scenes of birds, flowers and date palms.





Figure 47: Ostrich Wadi al Baqar



Figure 48: Engravings of cattle, ostrich and dogs Wadi al Baqar



Figure 49: Scenes of incomprehensible symbols Wadi al Baqar



Figure 50: Tuareg script - Wadi al Baqar



Figure 51: Caves with ancient art have been found deep in the jungles of Indonesia [Photo by L. H. Fage. (Clottes, 2002)]



Figure 52: Aboriginal artist Dick Murumuru at work-producing rock paintings at the first congress of AURA, the Australian Rock Art Research Association, at Darwin in 1988(Paul G. Bahn, Prehistoric Art).



Figure 53: Visitors from Italy wrote on rock art in Libya



Figure 54: Tuareg heavy vehicles crossing over on rock art area.



Figure 55: Photo from Tuareg of damage made by some visitors.



Figure 56: Tuareg rock art damage



Figure 57: Cave vandalism



Figure 58: Damage by rock crash in Wadi al Baqar.



Figure 59: Rock fall damage in Wadi al Baqar



Figure 60: Damage to rock art in Western Sahara (Soler & Brooks)

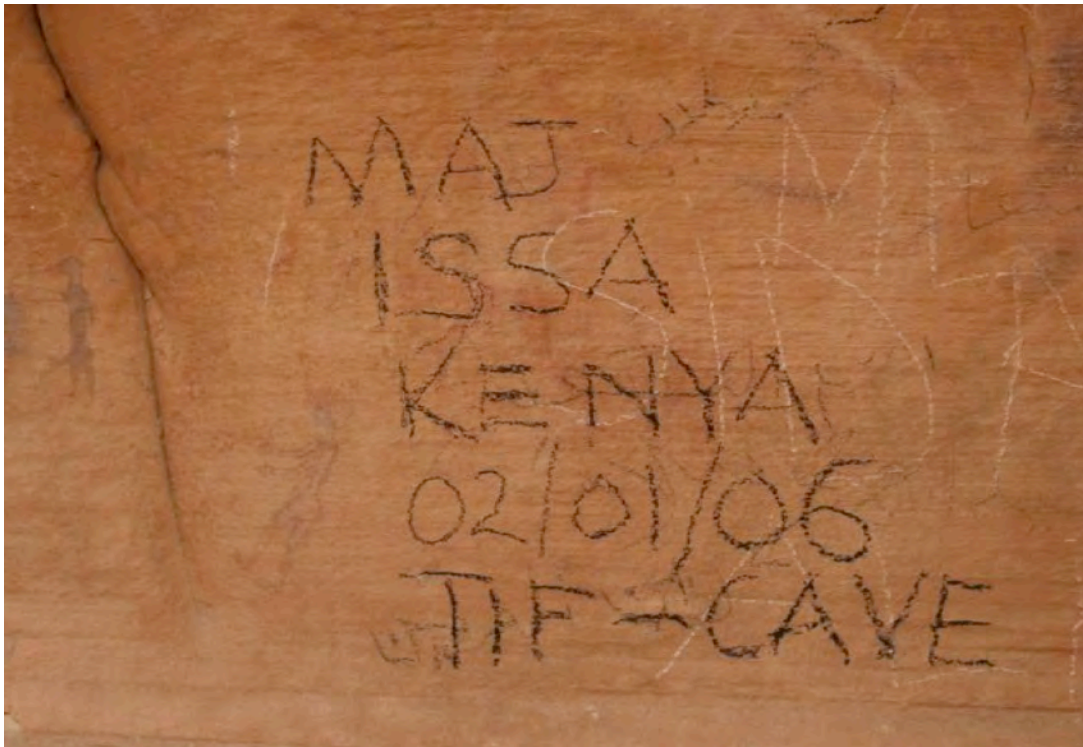


Figure 61: Damage to rock art in Western Sahara (Soler & Brooks, 2007)



Figure 62: A fire and graffiti-damaged rock art site in the Blue Mountains National Park, NSW, in 2012 from site of ABC News (Australian Broadcasting Corporation)



Figure 63: The aftermath a community meeting an update with the Tuareg community.



Figure 64: The aftermath a community meeting an update with the Tuareg community.



Figure 65: The aftermath a community meeting an update with the Tuareg community.

APPENDIX 2



17th April 2012

The University of Newcastle
NSW Australia

To Whom It May Concern

Libyan sponsorship student, Mr Louai Abdulhamid, bearer of Libyan Passport no. 691649 currently undertaking Doctor of Philosophy (Aboriginal Studies) from August 2010 at University of Newcastle has requested for our permission for the use of pictures and data collected of his meeting with Libyan indigenous when he was collecting information regarding the Rock Art in Libya.

We understand that these data are for the use of his PhD thesis purposes only.

We hereby grant permission to Mr Abdulhamid for the use of the above mentioned material.

Thank you.

Yours sincerely

Dr Omran Zwed
Counsellor
Head of Cultural Affairs