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A Model of a Scientific figure from Ancient Maghreb History (King Juba II 25 BC - 23 AD)

Mahfoudi Belabas 1
(Algeria)
abassalgeria@gmail.com

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Abstract

The ancient Ancient Maghreb countries knew a group of scientific figures who immortalized their history with a scientific cultural heritage, passed down through the generations throughout the ages. Among the most prominent of these figures is King Juba II (25 BC - 23 AD), who was taken prisoner to Rome after his father Juba I was defeated by Rome in the Battle of Thapsus.

Juba II was born and raised in the royal court of Emperor Octavian Augustus, and received a Roman upbringing that prepared him to be king on the Mauritanian throne in the future, and to personally take charge of calming this rebellious region. Juba II ruled for fifty years, during which he was known as a thinker, intellectual, and scholar, as well as a political ruler, through his many contributions in various cultural and intellectual fields, as he authored books and researches in various sciences.

Keywords. Juba II, scientific figures, Ancient Maghreb, Battle of Thapsus, Caesarea.

1. Introduction

The ancient Greek and Roman historians were interested in describing the various regions of the ancient world, including the North African region, and thanks to them, researchers were able to learn information of great scientific importance about the history of this region, although intellectual contributions cannot be limited to the research of foreign historians only, as the latter received the attention of kings and local educated classes of the Maghreb, who devoted all their intellectual capabilities to highlighting the history of the region and removing the ambiguity from it.

Perhaps the most prominent of these historical figures is the cultured king Juba II, who is considered one of the most important Numidian figures in terms of the breadth of his culture, multilingualism, and richness of scientific knowledge, and he was also considered the best result of cultural interaction in ancient Algeria, despite the Romans depriving him of his actual sovereignty over his kingdom, as in this regard, the Roman historian Pliny the Elder says: "Juba II's fame as a scholar is greater than his fame as a king".

Accordingly, the research paper will address the life of this king, whose fame exceeded the scientific field more than the political and military field, through the following elements in order: birth, upbringing and education, his rule over the Kingdom of Mauritania, and finally his scientific and intellectual achievements.

2. Birth and upbringing of King Juba II

Juba II was apparently born under the royal authority of Juba I, and it is not known whether his mother was Berber, Roman or Phoenician, as history neglected to mention this detail. He was born in the last years before the message of Jesus Christ (peace be upon him), and lived until the year 23 AD[1].

After the defeat of Juba I by the Roman forces, Julius Caesar captured his son Juba II, who was a young child between five and seven years old, and took him to Rome where he grew up in the royal palace, and lived under the care of Emperor Augustus, Caesar's successor, who taught him the arts, literature, sciences and royal affairs in the schools and institutes of Rome and Athens.

Given the cultural status of Juba II, and the sincerity of his loyalty and devotion to the Roman Emperor Caesar "Octavius", he appointed him to the throne of Mauritania, in

return for the great services he provided for the Roman people, and then granted him the right of Roman citizenship and his name became Caius Julius Juba[2].

Juba II married Queen Cleopatra Selene (the Crescent), as it is known that the Queen of Egypt, Cleopatra, formed an alliance after her marriage to "Marcus Antonius" against Julius Caesar, and they were defeated by him, and Egypt was subjected to the Roman Empire, and then "Cleopatra Selene", Cleopatra's daughter, was taken prisoner when she was nine years old, along with her brothers Alexander Helios and Ptolemy Philadelphus, and Octavia, Octavius' sister, raised her in Rome, and this Octavia was the wife of her father Antonius before his marriage to Cleopatra, and when she grew up, Octavia advised her brother to marry Juba II and Cleopatra Selene, as Hiplotchares mentioned, and after that, Cleopatra Selene married when she was sixteen years old.[3]

After the death of his first wife Cleopatra Selene, King Juba II traveled to the East, commissioned by Emperor Augustus to prepare for a campaign to occupy the Arab countries led by his grandson Caius Caesar in 1 BC, which continued until 3 AD. Juba II headed on his journey to Cappadocia[4] in Asia Minor, the kingdom of Archelaus[5], and there he met the latter's daughter, called "Glavira", and married her in 2 AD because the traditions of the "Moors" allowed for two wives, unlike Roman beliefs that did not allow for two wives, but their marriage did not last long, as they soon divorced and she returned to her father, and she died in the sixth year 6 AD, and Juba II lived after that for more than 16 years[6].

3. Juba II at the head of the Kingdom of Mauretania

After the death of Bocchus II, King of Mauretania in 33 BC and the absence of a successor to the throne, Emperor Octavian ruled Mauretania through two governors[7], and took advantage of the opportunity to establish colonies: in Ijijili (Jijel), in Saldai (Bejaia), in Rosazos (Azfoun), in Rosgonia (Borj el Bahri), in Kounogo (near Gouraya), and in Kartinia (Ténès), while within the kingdom there were three colonies: in Tobusopto (Tiklat, southwest of Bejaia, in the Soummam Valley, a place from which it was possible to monitor the large and small tribes), in Akakalida (Hammam Righa), where the mineral waters were famous in ancient times, and in Zoukshabar (Miliana).

In a few years Octavian had established numerous colonies to house his demobilized soldiers, choosing the places well, either in the middle of a fertile region where land could be easily obtained, or near the old Phoenician cities, or in a strategic position with the aim of keeping the Berbers in check, and nevertheless, instead of making Mauretania a province, Octavian made it a kingdom in favour of the Roman-educated Juba II[8].

There is no doubt that Augustus' choice of King Juba II was not a coincidence, as he was certain that the latter would work in their interest, given the loyalty and devotion that Juba had towards the Romans as a result of the upbringing he received from them

since his childhood, as he was prepared to serve their interests in the future[9]. Indeed, Juba II and his son after him worked to prepare the region for Roman settlement, as they succeeded in the mission assigned to them to a large extent, and Juba II suppressed the Getulian revolts who revolted against him and against the Roman presence, and with this policy he facilitated Augustus' mission in establishing many settlements[10].

When Juba II took over the throne of Mauritania, he made Iol the capital of his kingdom, and named it Caesarea[11], after Emperor Caesar or in loyalty to Emperor Octavius, who bore the honorary title of Augustus Caesar[12], as its borders during the reign of this king became limited between the Atlantic Ocean to the west and Salday to the east[13], and part of the lands of Getulia.

Juba II also made a radical change to it, as he gave it a Roman appearance through the construction movement, and built a palace and a library similar to the Library of Alexandria, and gave the city great architectural, economic, artistic and cultural dynamism, and his court became crowded with actors, artists and doctors for 50 years[14].

From a military standpoint, Juba II, and after him his son Ptolemaeus, were able to unify the Mauritanian tribes within the framework of a vast Mauritanian kingdom, Mauretania Caesarea with its capital Cherchell, and Mauretania Tingitana with its capital Volubilis, and all of them became subject to Roman guardianship at the hands of Juba II since 25 BC[15], and in addition to the military and administrative aspects, he achieved a diverse economic boom and great commercial prosperity, because he encouraged agriculture, industry and trade, and established major industrial projects in several cities[16].

In this regard, the period of Juba II's rule was not stable due to the rebellion of the Gaetulian tribes on the southern borders of Mauritania due to their complete dependence on the Roman Empire, which forced the Romans and Juba II to fight them, especially those who were seeking to liberate themselves from domination and expand their lands towards the south, as the resistance was fierce on the borders, and eliminating it was almost impossible, which made the Romans rely on the support of King Juba II with battalions and supplies, to extend control over the region and eradicate the remaining roots of resistance in the region, and the reason for this revolution was the Gaetulians' view of Juba II as a subordinate king and a means to prepare the region for Roman occupation[17].

4. The Scientific Legacy of King Juba II

Juba II was more famous for his scientific works than his rule as a king, as mentioned by Pliny the Elder, and was revered by other peoples, such as the Athenians erecting a statue to commemorate the king, scholar and author[18]. Juba II was not the first in this field, but was preceded by his grandfather Himpsal II, as it is mentioned that

he was no less knowledgeable than his grandson Juba II, and that he left a book in the Punic language that was an ancient source about the inhabitants of the region, which the historian Salestius used as an introduction to his book "The War of Jugurtha", just as the grandson Juba II wrote many books, which made Qazal regret the loss of this human heritage, which perhaps if it had remained, would have provided added value to humanity[19], as the king by nature does not write anything before investigating it, so he sent scientific missions to many distant regions[20].

Julius described King Juba II as an intellectual who took care in his writings to absorb and expand in various sciences, so that no science remained strange to him, and he was able to write on every subject thanks to his rich library and his tireless copyists[21]. The king also mastered the Greek, Latin and Punic languages due to the breadth of his knowledge and the breadth of his learning due to his wide knowledge of all kinds of knowledge and his endless curiosity, and he was passionate about philosophy and was fond of it, and he collected a very rich library of Punic, Latin and Greek writings, and he added to it what he obtained from the legacy of his grandfather Himpsal, and due to the importance of what he wrote, his writings were cited by contemporary and later researchers, such as Plutarchus or Plinius who mentioned him thirty-eight times[22].

Unfortunately, this scientific material heritage of the king was lost due to the situation that Mauritania experienced after the death of its king in 23 AD, especially after the death of Ptolemy, as Majdoubi says: “We believe that the main reason for the loss of the written historical legacy in the Maghreb during the reign of Juba II is mainly the wars that the region witnessed, especially the confrontations with the Romans following the Roman Emperor Caligula’s assassination of the Maghreb king Ptolemy, and the dissolution of the central government with all that this entailed in terms of the deterioration of the situation of the main cities, and the failure of these cities to enter into a stable life that provides the conditions for preserving the written legacy, including the legacy of Juba II[23].

4.1 The King's Works

- The Roman Antiquities entitled Roman History:

It consists of two books, the first of which includes the legendary beginnings of Rome until the Spanish War, while the second book is devoted to the most important events of the Spanish War in which he participated between 27-25 BC, as his upbringing and education in the imperial palace, close to the sources of decision, qualified him to practice the role of the king, as Dion Cassius tells us that Juba II participated in his military campaign against the interior of Spain, a campaign in which Augustus accompanied him in the years 26-25 BC, in which he fought the Isturis and Cantambres tribes, and upon his return from it, the king of Mauretania surrendered in the autumn of the last year, and his work on Roman history is considered his first

experience in the field of writing, as the historian Etienne Byzantine and Plutarch and Athenaeus conveyed to us the remaining fragments of this historical work[24].

- Arabica: It is an encyclopedia that deals with the history of the Arabs, as it is the book that he wrote to teach Julius Caesar the history of the Arabian Peninsula and its human and natural geography, and the most important customs, traditions and culture of the inhabitants of the Arabian Peninsula[25].

- Libyana: It is a huge historical encyclopedia of three volumes, in which he collected his observations and what he saw during his travels, and included his scientific and geographical discoveries, and accurate information about North Africa in general and Libyan society in particular, as he talked about their customs, traditions, norms and other aspects of their culture[26].

- The History of Drawing and Painters: It is considered one of the most important art books written by Juba II to introduce the art of drawing and painting on the level of subject, form and tools, with the writing of biographies of Greek, Roman and Libyan Punqino painters alike, as it includes at least eight parts, and the book mentioned some famous artists at the time such as: Polycnotobare Hassius and others[27].

- Medicinal plants: Juba II wrote a book on medicinal plants and herbs, in which he discussed their types and uses[28], as he was very interested in them, and collected many types of them with the participation of his doctor Oforb, and the latter had discovered a type of herb from the aloe vera variety that he called "Buba", which helps him strengthen his eyesight, and is used in treating snake bites and all types of poison[29].

- The Similars: This book highlights the extent of the king’s mastery and control over the grammar of the Greek and Latin languages and their linguistic lexicon, with a comprehensive study of the Roman origins and customs, extracting from them the Greek origins, and concluding that the origin of the Latin language is derived from the vocabulary of the Greek linguistic lexicon. This linguistic work is very precise, and is an in-depth study in fifteen books, in which the king studied the differences between Roman and Greek society[30].

- History of the Theater: Juba II paid great attention to purposeful and enjoyable theatrical choreography, as he wrote a book entitled "History of the Theater", of which he wrote eighteen volumes, in which he collected comprehensive studies on music, dance and acting, and the paragraphs of this book refer to the musical instruments that were invented in different countries, Greek and foreign dances, and the way in which roles should be distributed with the actors[31].

- A book about the Assyrians: It included information about the history of Babylon and Queen Semiramis, and mentioned Nebuchadnezzar's campaigns and wars against

the Egyptians and Jews[32]. It is a summary in two parts of the book of Babylonia by Pyrrhus, which he wrote at the beginning of the third century BC[33], and among those who relied on this book was Natian in the last third of the second century AD, and shortly after him Clement of Alexandria[34].

- A book about language: Juba II was interested in linguistic studies, the art of speech and the language of communication, and what the language knew of the entry of corrupt words into it, so he wrote at least two books on that, searching for the distortions that affected the meanings of words, as he was convinced that the Latin language was Greek, but it was gradually distorted due to its mixing with the Italian language, and he was also interested in collecting words from foreign languages from India, the Arab countries, Asia Minor and Ethiopia[35].

4.2. Sources of Juba II in Scientific Knowledge

Juba relied to confirm his information on a group of sources that were in his possession, starting from the rich inventory that formed his royal library, the library that included many copies, if not original copies, which he obtained during his work in the libraries of Rome, and what he received from the Carthaginian library of manuscripts that were saved from the fire of 146 BC, the manuscripts that reached Juba II through his grandfather Hamisal II, which included information and opinions on various controversial issues at that time, including the origin of the source of the Nile River, which is the point that Ammianus Marcellinus indicated that it was one of the issues that Juba relied on in his investigation of the sources of this river[36].

It is not unlikely that he obtained a copy of the manuscript of Hanno's travelogue, to which he added comments in Greek, without neglecting the role of his Ptolemaic wife, Cleopatra Selene, who played a major role in supplying Juba with many Ptolemaic documents that she obtained from the loyalists of her mother, Cleopatra VII, which were originally reports of the various military campaigns of her men towards Alexandria, the interior regions of Nubba and East Africa, as well as the upper Nile and the regions spread along the banks of the Erythraean Sea. The king also benefited from the contents of the Ptolemaic books, in particular, the books of Ptolemy VIII, which he devoted to studying the geography of the regions he visited in the ancient world[37]. He also relied on oral accounts, so that he did not neglect what was transmitted by merchants and local informants, as they contained facts about the region, and these informants were in different regions of Mauritania, whether from the time of Bocchus or before, and their knowledge of the region was field-based through observation and inspection, which gave his books an importance that cannot be overlooked[38].

4.3 Juba II's sayings about the sources of the Nile and the circumnavigation of Africa

Juba II relied in his research on the sources of the Nile on the Punic books, and he organized trips in the Maghreb to search for its sources, as he believed that it originated from the High Atlas of the Maghreb, and that the waters sank underground and headed east and then came out to form the Nile, which is unfortunately one of the king's errors, and there is a possibility that what he was talking about was the Niger River or the Senegal River, and he is based on what Herodotus said when he mentioned that crocodiles are always in the Nile, or the presence of crocodiles and some animals and plants that were present in the Nile Valley and took it as an argument, and the king also organized exploratory missions to the Canary Islands, which he said must be sailed to from the port of Essaouira, and the ships go west and then turn southeast, and this is what historians and geographers have proven[39].

As for circumnavigating Africa, he believed that it was possible by sea, based on the information attributed to Odyxalzicus, but he did not prove it practically, as was his custom, by organizing a trip to prove it, and he relied on the information that reached him from the book “Bilad al-Arab,” which says that the wreckage of some Spanish ships was found in the Red Sea, and he considered it evidence and proof for belief, and he also relied on what was mentioned in the journey of Hanno the Carthaginian, where he said that he advanced until he reached the southern horn, and among the fields in which Juba II delved, is what Pliny reported, quoting Justin, when he said that King Juba II wrote to Prince Caius Caesar, son of Emperor Augustus, that whales had been seen on the coasts of the Arabian Peninsula, and that Asian merchants used their fat to rub their camels, to protect them from fly bites, and if he had known that there was another advantage derived from the remains of these whales, he would not have failed to mention it[40].

4.4 Interest in libraries and scholars

Juba II's interest in literature and various sciences did not prevent his interest in the cultural and urban fields, as he strove to achieve cultural development in his kingdom, as evidenced by his great care for libraries and scholars:

-Building libraries

Juba II established a huge library that included various cultures, and provided it with the most important books and documents, including the books of his grandfather Hamsal, as he brought books for it from all over the world, and allocated huge sums of money for it, so he had huge numbers of manuscripts in various languages, most notably Greek, Latin and Punic manuscripts[41].

He also collected all the manuscripts of the libraries of Carthage, which were full of various valuable books and writings in various aspects of life, thought and science. as Stephan Axel says: “ To complete his research and writings, he needed a good library, a numbres copyists and summaries, and perhaps even assistants of a higher status, his royal wealth found a generous outlet for these expenses, and he was known to pay

generously, and there is no doubt that Greek works constituted the largest part of his library, and they were accompanied by a large number of Latin manuscripts[42]".

- Interest in scholars

Juba II attracted to his capital "Iol" Cherchell, which he called Caesarea, the great writers, artists, sculptors, scientists and doctors from Carthage, Greece and Italy, he was a contemporary of prominent figures such as Diodorus Siculus, Titus Silvius, Alexander the Great, Didymus of Alexandria, the latter of whom was one of Juba II's companions and great debaters, as well as Varro of Rome and other scholars of the era, in which Rome reached the peak of its development[43].

In this regard, Axel says: "After Carthage, Cherchell is the site that has produced the most Greek inscriptions in North Africa, most of which date back to the Roman era, and others cannot be dated, but at least two of them were inscribed before the empire took over... Juba preferred to surround himself with men of Hellenic origin, such as the physician Overbes, the actor Leontius, secretaries who helped him prepare his writings, and other engineers and artists who were called upon to work on the buildings with which he decorated his capital[44], which means that Juba II gathered around him scholars, artists, copyists, writers, creators, scientists and engineers, and he showered them with money, gifts and rewards to encourage, motivate, appreciate and honour them.

5- Conclusion

Despite the criticism directed at Juba II by some historians and scholars, regarding his upbringing, education and past, considering him a servant of the Romans and an embodiment of their colonial project, he truly represents thought, culture and creativity in a time when thought was absent, as he was able, despite the challenges, to formulate a modern project based on modern ideas.

Augustus, or Juba, or Juba II, is considered to this day one of the greatest scholars and intellectuals of the Maghreb, known to the Greeks, Romans, and Latin intellectuals for his vast knowledge and encyclopedic erudition. He was distinguished by his rich knowledge and extensive reading, his frequent travel, his prolific research and wandering, and his encyclopedic knowledge and arts. He wrote many books, research, and works on history, geography, travel, physics, arts, literature, medicine, and exploratory sciences, but these rare and valuable works have not reached us intact, but there are references to them in the books of historians here and there.

We believe that the main reason for the loss of the written historical legacy of King Juba II is basically the wars that the region witnessed, especially the confrontations with the Romans following the Roman Emperor Caligula's assassination of King Ptolemy, and the dissolution of the central government, with all that it entailed in terms of the deterioration of the situation of the main cities such as Volubilis, and the

Maghreb's entry into fragmentation that did not help in establishing a stable urban life, providing the conditions for preserving the written legacy, including the legacy of Juba II and others who may have existed but whose news did not reach us.

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[4]- **Cappadocia**: or Cappadocia, or Cappadocia, or Kapadokia, is a historical name for a region in Asia Minor (currently Turkey). The Cappadocians inhabited the region extending from the Taurus Mountains to the Euxine Sea (Black Sea), and from the historical region of Pontus to Likoania and Eastern Galatia. For more, see:

(Van Dam, R. *Kingdom of Snow: Roman rule and Greek culture in Cappadocia.* Philadelphia:University of PennsylvaniaPress, 2002, p.13).

[5]- **Archelaus:** Herod Archelaus, one of the local kings under the authority of the Roman Empire in the first century, and the son of Herod I, and before the death of Herod I, he divided his kingdom among his three sons, so Archelaus' share was the provinces of (Judea and Samaria), and his rule began in a brutal manner; as he killed more than three thousand influential men, and when his relationship with the Roman Empire became troubled, it deposed him and exiled him to Gaul in the year 6 AD. For more see:

(The friend Zadok; Coins of King Herod Archelaus, Treasures of the Forum, May 4, 2017).

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