The Phenicien Carthaginian Purple Industry and Contemporary Design: An Intersection between Cultural Heritage, Sustainability and Creativity

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Abstract. Fashion and cultural heritage play an essential role in preserving traditional skills and indigenous knowledge. In a context of globalisation, these aspects become vectors of transcultural creativity, particularly in interdisciplinary design projects. This summary examines how industry and the purple colour of the Carthaginians influence contemporary designers in various creative fields, while exploring the impact of sustainability and art on these practices. The methodological approach of this study is based on a qualitative analysis of the creative and craft practices of the Carthaginians, in particular their purple colour industry. An exploration of historical and cultural references was used to identify elements of traditional know-how. Next, an analysis of the work of designers in the fields of fashion, graphic design and product design will be interpreted to understand how the crimson industry influences their creations. The results show that the Carthaginian purple industry, a symbol of power and prestige, is a major inspiration for contemporary designers. This rare pigment, extracted from molluscs, was once used to dye the clothes of the elite. Today, it is being reinterpreted in design projects, underlining the importance of sustainability and respect for natural resources. The designers interviewed highlighted the influence of the colour's cultural symbolism, as well as its aesthetic appeal in sectors such as fashion, interior design and graphics.This research reveals that the intersection of art, sustainability and design can act as a catalyst to revive craft traditions, while offering endless creative possibilities. Designers are drawing on Carthaginian heritage to develop innovative creations, adoping practices that are more respectful of the environment. In this way, traditional craftsmanship becomes a source of inspiration for contemporary creation, linking past and present.

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Introduction

The origins of Carthaginian purple can be traced back to the Phoenicians, who dominated Mediterranean trade in the first millennium BC (Melo, 2009). The Phoenicians were renowned for their mastery of the purple dye industry, which was a major source of economic prosperity for their city-states. Ancient seafarers and skilled traders, the Phoenicians had a profound impact on the culture and economy of the Mediterranean. Their flagship product? Tyrian purple, a brilliant dye extracted from the murex shell. Carthage was the beating heart of this thriving industry, a testament to Phoenician genius and know-how.

The Carthaginian-Phoenician purple industry and contemporary design highlights the intersection between cultural heritage, sustainability and creativity. This article asks how modern design can draw on ancient history to create sustainable and aesthetically pleasing products. By exploring the traditional use of Carthaginian purple in the textile industry and its potential in contemporary design, this study aims to enlighten practitioners, researchers and design enthusiasts about the possibilities offered by the fusion of cultural heritage, sustainability and creativity. Fashion and cultural heritage play an essential role in preserving traditional skills and indigenous knowledge.

In the context of globalisation, these aspects become vectors of transcultural creativity, especially in interdisciplinary design projects. This article examines how Carthaginian Phoenician industry and purple influence contemporary designers in different creative fields, while exploring the impact of sustainability and art on these practices.

The methodological approach of this study is based on a qualitative analysis of the creative and craft practices of the Carthaginians, in particular their purple dye industry. A study of historical and cultural references has enabled us to identify the elements of traditional know-how. The Carthaginian heritage has been used to develop innovative creations, adopting practices that are more respectful of the environment. Traditional craftsmanship thus becomes a source of inspiration for contemporary creation, linking past and present.

1. Methodology

This research is part of a qualitative approach aimed at exploring the craft and creative practices of the Carthaginians, with a particular focus on the purple industry. The Carthaginians, heirs to a rich Phoenician tradition, excelled in various crafts such as pottery, sculpture and jewellery. Qualitative analysis will enable us to grasp the meanings and values attributed to these practices by the craftsmen themselves, while taking into account the historical and cultural context of Carthage. Historical exploration is a fundamental means of identifying elements of traditional know-how. This involves documentary research based on historical and archaeological sources to trace

the development of craft techniques. Carthaginian craftsmen not only incorporated external influences, notably from Greece and Egypt, but also developed unique techniques, such as the production of purple from the murex shell. This exploration will establish a link between the past and the present, analysing how these traditions continue to influence contemporary practices. Contemporary designers in various creative fields (fashion, graphics, etc.) will be studied to understand how these historical influences are manifested today.

2. The purple industry: the technical and artistic ingenuity of the Phoenicians and Carthaginians:

'The reputation of this dye was based on the brilliance of its shimmering tones and, above all, its stability: the ancients knew little else than vegetable colours, which fade and disappear over time under the influence of light; purple, on the other hand, lasted indefinitely without altering, even becoming brighter over time and taking on new reflections as it aged'. (Dictionary of Greek and Roman Antiquities, IV, 1, 1873). Purple, a colour of great symbolic and material value, was widely used from Antiquity through to the Renaissance. Traces of it can be found in ancient frescoes, particularly those on Santorini, where it accentuates the elegance of the decorations (Dupont, 2008). In medieval manuscripts, purple adorned the illuminations and decorations on precious parchments and vellums, while fabrics and papers dyed purple were reserved for the ruling classes, both civil and religious (Martinez, 2013).

Etymology of the word purple

The word 'purple' has a fascinating origin, linked to a precious and rare dye in ancient times. It comes from the Latin purpura, which in turn comes from the ancient Greek porphyra (πορφύρα). This purple dye, made from a mollusc called murex, was extremely expensive and symbolised wealth and power. In ancient civilisations such as the Phoenicians, Greeks and Romans, it was used to dye the clothes of nobles and emperors, hence its association with royalty and nobility (Aristotle, 2008).

Fig. 1: Theodoor van Thulden (1606-1669),
The discovery of purple, Madrid, Prado. P1845

History of the purple industry

Purple, a bright and prestigious colour, has been prized throughout history, particularly in Antiquity, to symbolise power and to magnify its attributes, functions and places, whether temporary or lasting. It has marked both the public and private spheres in their most diverse expressions. However, in prehistoric times, long before the use of purple, the bright red colour of ochre was often seen in everyday life, in funerary rites, in prehistoric ornaments and in the tattoos depicted on Saharan cave paintings.

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Origins and earliest traces (2nd millennium BC)

The abundant murex deposits on the outskirts of Tyre enabled the Phoenicians to create a flourishing industry. This Phoenician know-how in dyeing was passed on and lasted for almost three millennia, until the conquest of the region by the Byzantines, and later the fall of the Byzantine Empire in 1453, put an end to this legendary production (Leriche, 2012). This exclusive colour, which became a symbol of wealth and power, adorned the clothes of rulers and elites, creating a real prestige around Tyrian purple.

The first traces of the Phoenician purple industry date back to the 2nd millennium BC, as shown by archaeological discoveries at Ugarit, an important coastal site north of present-day Lebanon. Terracotta tablets written in cuneiform and dating from the 15th-14th centuries BC mention the dyeing of around sixty kilos of wool in purple. These documents attest to the already established use of this precious dye in Ugarit, suggesting an organised and structured industrial activity (Khalil, R 2000). The author points out that these tablets prove that the production of purple was an integral part of the local economy, with technical know-how designed for large-scale production. In addition to these inscriptions, deposits of broken murex shells from the same period have also been found at the site, particularly near the port and industrial areas of Ugarit. This type of discovery suggests the systematic collection and exploitation of shellfish for the production of purple. According to Briand-Ponsart and Demetriou (Briand-Ponsart, C., & Demetriou, D. 2008), the piles of broken shells observed in the excavations reveal an extraction technique in which only the murex gland, which produced the precious secretion, was preserved and processed.

The Phoenician Apogee (1st millennium BC)

In the first millennium BC, the purple industry underwent considerable expansion under the impetus of the Phoenicians, particularly in the cities of Tyre, Sidon and Byblos. Renowned for their maritime and commercial skills, the Phoenicians exploited and exported purple throughout the Mediterranean, consolidating their reputation and wealth. This dye, obtained from murex shells, was particularly prized for its intensity and its ability to withstand washing and light. In Les Phéniciens et l'empire de la pourpre, (Briand-Ponsart, C., & Demetriou, D. 2008) explain how purple became a true symbol of social status and power in Mediterranean civilisations.

Classical mythology also links purple to the Phoenician city of Tyre, reinforcing its symbolic and cultural role in the region. (Tchernia, A. 2016) in Le vin et la pourpre dans l'Antiquité romaine) adds the importance of purple in the royal and religious symbolism of the region. By exploiting this resource, the Phoenicians and Carthaginians not only established a flourishing trade but also created a product charged with meaning and prestige.

Expansion under the Carthaginians

The expansion of the purple industry under the Carthaginian Empire was a major phenomenon in the western Mediterranean. Following in the footsteps of the Phoenicians, the Carthaginians perfected and expanded the know-how needed to produce this precious dye. Strategically located on the shores of present-day Tunisia, Carthage became not only a flourishing trading centre but also a specialised production centre, dominating both sea and land trade routes.

The Carthaginians took advantage of their ideal geographical location to exploit the rich Mediterranean coastline. The production of purple dye required the massive collection of shellfish, mainly Murex brandaris and Murex trunculus. These marine molluscs, whose secreted mucus was used to produce the dye, were found in abundance in shallow coastal waters (Horsley, 1998). The Carthaginians set up specialised facilities, often called 'purple', where the mussels were crushed, processed and boiled in vats to extract the valuable dye (Gillian, 2004).

Thanks to its extensive trade networks, Carthage became a key player in the spread of purple. The city supplied prestigious civilisations such as the Etruscans, Greeks and Romans, who used the dye as a symbol of power, prestige and social status. Purple was particularly prized for dyeing ceremonial robes, royal and religious ornaments, and for decorating luxury textiles (Smith, 2005). The elites of these civilisations sought to distinguish themselves by acquiring this expensive and difficult to produce colour.

The purple industry strengthened Carthage's economic power and helped to consolidate its commercial hegemony in the western Mediterranean. This economic supremacy was based not only on the exploitation of natural resources, but also on the mastery of craft techniques and the establishment of efficient trade networks. What's more, this industry illustrated the cultural continuity between the Phoenicians and the Carthaginians, with both peoples sharing a deep attachment to this colour, which symbolised opulence and royalty (Rolland, 2010).

The Carthaginian legacy in the production of purple had a lasting impact. After the destruction of Carthage in 146 BC during the Punic Wars, the Romans took over the purple industry and made it a pillar of their own imperial culture. However, the Carthaginian stamp remained in the organisation and production techniques, continuing a tradition that had made this civilisation famous throughout the ancient world (Horsley, 1998). In this way, the Carthaginian Empire played a central role in the spread and affirmation of purple as a symbol of prestige, while at the

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2.1 The technical and complex processes involved in extracting purple dye in antiquity: the role of know-how and the genius of craftsmen

The extraction of dye was a complex art requiring skilled labour and a profound knowledge of nature and chemistry. The famous purple dye, the result of an ancient dyeing process, comes from three main species of marine snails belonging to the Muricidae family: Hexaplex trunculus, Bolinus brandaris and Thaïs haemastoma. This dye was highly prized in ancient times and required a high level of technical expertise and complex manipulation to obtain the precious pigment. The manufacturing process, already mentioned by Aristotle in his History of Animals (Aristotle, 2008) and by Vitruvius in De Architectura (Vitruvius, 1st century BC), was described in greater detail by Pliny the Elder in his Natural History (Pliny the Elder, 77 AD).

The detailed stages of production

This section describes the various stages of production: collection of the murex, extraction of the hypobranchial gland, maceration, heating, filtration and fixing of the dyes on the textiles. It illustrates the rigour and meticulousness required to obtain the purple dye.

Shellfish collection

Production began in early spring with the collection of murex. These snails were caught in nets filled with shells used as bait. This delicate and crucial stage was entrusted to specialised workers who were able to manoeuvre carefully to maximise the yield.

Extraction of the hypobranchial gland

Once the molluscs had been harvested, the shell was broken at the hypobranchial gland, the organ responsible for producing the colour secretion. In the case of smaller molluscs, the entire body was crushed with hammers. The contents of these glands were then exposed to oxygen from the air, a process necessary to reveal the colouring properties of the extracted liquid.

Fig.2. Natural purple production processes reconstituted by AI

Maceration and dye preparation

The materials obtained were then macerated in containers for several days, sometimes up to 10 days. At this stage, salt was added at the rate of one sextarius (about 0.546 litres) per 100 litres of juice. Other organic additives could be added to improve the dye.

Concentration and filtration of the colour

Tinctorial juice was concentrated by indirect heating in tin vats, not lead as one might expect, since white lead was commonly used at the time. The liquid was filtered to remove scum, flesh and shell fragments. To achieve optimum viscosity, human urine and honey were sometimes added to improve the texture of the preparation (Karmous, 1998).

Dye production and fixation on textiles

The dye obtained produced different shades depending on the species used:

- Hexaplex trunculus gave a colour ranging from blue to blue-violet.
- Bolinus brandaris and Thaïs haemastoma had to be mixed with

10% Hexaplex trunculus to show their colouring power.

The dye bath had to be exposed to the sun to encourage precipitation of the dye in the wool or silk fibres, which were the main materials to be dyed.

Fig.3. Shades of purple

The role of know-how and technical precautions

Skills and risks of extraction

It highlights the importance of skilled craftsmen in the process, their expertise in delicate handling and the dangers associated with extracting hypobranchial glands, which contain toxic substances such as cholinesterase.

These delicate steps required an experienced workforce as the glands had to be extracted with meticulous care. Modern studies have shown that the hypobranchial glands of the murex contain cholinesterase, a toxic substance that can cause allergies if it comes into frequent contact.

Versatile use of purple dye

Purple dye was not only used to colour textiles and hides. Pliny the Elder reports in his Natural History (Book XXXV) that the dye, called purpurissum, was also used as a paint to decorate walls, particularly in wealthy Roman villas (Cocaign, 1997). Later, purple was also used in women's make-up and as ink in official and religious documents, particularly in Constantinople during the Late Empire.

Described by Aristotle and Vitruvius, and in greater detail by Pliny the Elder, the processes involved in the manufacture of purple dye reveal the complexity and expertise required to produce this precious colour. A true

symbol of luxury and power, purple is a testament to the ingenuity of ancient civilisations and their mastery of natural resources.

Mediterranean North Africa was home to several major centres for the production of ancient purple dye. In Morocco, the Gétulie region was occupied by the Phoenicians as early as the seventh century BC (Alfaro & Costa, 2006). In Algeria, sites such as Chullu (Collo), Igilgili, Port-aux-Poules and the Andalusian islands bear witness to a flourishing production (Solinus, XXVI, 1; Gsell, 1920).

In Tunisia, the most important centres were Meninx (El Kantara), Rhizène and Guellala, where craftsmen improved mortars with marine materials (Pelle, 1992). Kerkouane, Utique and Carthage were also important centres. In Libya, sites such as Berenice (Benghazi), Leptis Magna and Sabratha produced purple, which was also used in construction (Wilson, 2002).

Purple as a symbol of wealth and luxury

In addition to its political and religious connotations, purple was a sign of wealth and luxury in the ancient world. Merchants and aristocrats who wore purple openly displayed their high economic status. Wealthy Roman citizens sometimes wore purple for ceremonies and special occasions, although they could not wear the same shade as the emperor without breaking the sumptuary laws. In Le Monde des teintures naturelles, (Cardon 2003) describes how purple, as a luxury product, played a role in the Mediterranean economy, enabling the Carthaginians and Phoenicians to establish prosperous and influential trade networks.

2.2The Importance of Cultural Heritage in Contemporary Design

The importance of cultural heritage in contemporary design lies in its ability to enrich design practice by providing materials, symbols and know-how that transcend the boundaries of time and space. Cultural heritage, whether tangible or intangible, is a central element for modern designers, both as a source of inspiration and as a means of preserving ancestral traditions and know-how.

In a world where globalisation and industrialisation tend to standardise practices, the integration of cultural heritage into design offers a valuable opportunity to strengthen the links between past and present, while cre-

ating products that resonate with a specific history and culture. In A Potter's Book, Bernard Leach (1979) argues that craft and design are vehicles for cultural values and ideologies, claiming that art objects are imbued with the traditions of the societies that create them. This idea is particularly relevant to contemporary design, where the appropriation of ancient techniques and motifs not only preserves know-how but also adds a cultural dimension to creations. This idea is particularly relevant to contemporary design, where the appropriation of ancient techniques and motifs not only preserves know-how but also adds a cultural dimension to creations.

In this context, design becomes a bridge between the heritage of the past and the challenges of the present. In this way, heritage becomes a vital resource for creating products that tell a story and embody a collective cultural identity. In this dynamic, heritage also plays a crucial role in the sustainability of design. Indeed, in a context where mass consumption and the exploitation of natural resources have become major issues, a return to traditional practices that are more respectful of the environment is a tangible solution.

Powell (2015), in Sustainable Design: A Critical Guide, highlights the intrinsic link between traditional craft techniques and sustainability, pointing out that these methods often favour local and natural materials while reducing environmental impact. This principle is illustrated by the example of the Carthaginian purple industry, which, by using a pigment extracted from molluscs, represents a production method that respects natural resources, in contrast to modern industrial production processes. This sustainable approach is also reflected in the fashion industry, where the use of natural dyes, such as Carthage purple, is becoming a way of responding to environmental concerns while at the same time reviving ancient know-how.

In Design for the Real World, Viktor Papanek (1971) argues for a more responsible design that draws on local cultural resources to meet contemporary needs while respecting the environment. For Papanek, innovation should not be at the expense of nature and history; on the contrary, it can come from integrating traditions into modern solutions. Today's designers reinterpret the skills of the past, creating objects that are both innovative and respectful of ecological principles. Far from being a mere decorative element, cultural heritage becomes a driving force for creativity. By reinterpreting traditional techniques and symbols, contemporary designers can create objects that not only meet modern needs but

also embody a deep connection with history. For example, fashion and graphic designers are incorporating ancestral motifs or craft techniques such as traditional weaving, breathing new life into ancient practices. Thompson (2018), in Designing Heritage: The Intersection of Tradition and Innovation, shows that this fusion of heritage and innovation allows heritage to be reinvented in a relevant and contemporary way, while maintaining a strong cultural identity.

3.Case Study: Integrating Phoenician - Punic Purple into Contemporary Creations

The integration of cultural heritage into contemporary design is exemplified by the Carthaginian purple industry. Historically prized by the elite for its rarity and association with power, the colour has become a powerful symbol in modern design. Today, many designers are reinterpreting the colour not only for its aesthetic qualities, but also for its ability to embody values of sustainability and respect for natural resources. This evolution is testament to the enduring influence of the purple industry, an ancient know-how that inspires contemporary creativity. Designers are reinventing traditional practices while incorporating modern values. Cultural heritage is proving to be a valuable resource for design today, allowing not only the preservation of ancient skills but also the enrichment of creativity through innovative and culturally significant solutions. The example of Phoenician purple is a perfect illustration of this dynamic, where the ancient dyeing industry becomes a vector of inspiration and innovation for contemporary designers. By incorporating cultural hermmitage into their work, designers are building a bridge between the past and the future, while responding to contemporary challenges related to sustainability and social responsibility.

3.1 Purple in design: fashion, interiors and graphics

Today, the legacy of Phoenician purple continues to fascinate. Creators and artists draw inspiration from it, combining tradition, sustainability and creativity in fashion, interior design and even product design. The Phoenicians were true pioneers, weaving a global trade network around purple.

The use of Carthaginian purple in traditional Tunisian costumes: Heritage and modernity

Traditional Tunisian costumes, such as the Djerbien hram and the Hammamet caftan, bear witness to a wealth of culture and craftsmanship dating back several centuries. These garments, particularly those associated with ceremonies and important events, play a key role in expressing Tunisia's social and cultural identity. The colour purple, especially Carthaginian purple, is still used in these costumes, along with other vibrant colours, to symbolise the nobility, prestige and historical heritage of the region. The hram Djerbien et mehdouien, a traditional garment worn on the islands of Djerba and Mehdia, is characterised by light fabrics decorated with intricate patterns and bright colours. This costume is characterised by its elegance and simplicity and often uses colours such as red, blue and, in some pieces, Carthaginian purple (Jensen, 1963). The purple embroidery of the costume reflects not only technical mastery, but also a deep connection to the ancient past of Tunisia and the Mediterranean region, especially the heritage of Carthage (Maroun, 2018). The Hammamet caftan, emblematic of the region, is a key piece of traditional Tunisian fashion, used mainly for special occasions such as weddings. It is characterised by elaborate embroidery and the use of bright colours such as white, gold and sometimes shades of red.

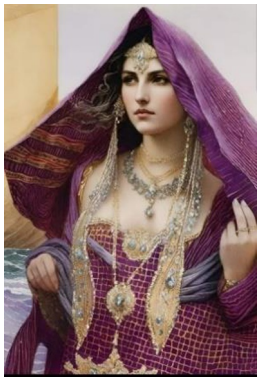

Fig.4. Hram Djerbien

Fig.5. Caftan Hammamet

Fig.6. Hram Mehdiouien

Traditional Tunisian costumes bear witness to Tunisia's cultural richness through the use of ancient colours and handicraft techniques, including Carthaginian purple. As a symbol of prestige and heritage, the colour purple remains a central element in the design of these costumes, marking both the nobility of ancient Tunisia and the continuity of these traditions in a modern context. The integration of purple into contemporary handicrafts thus maintains a link with the past while meeting a growing demand for products that are both aesthetically pleasing and environmentally friendly.

The Importance of Cultural Heritage in Costume Design: The Example of Joe Chalita and the Miss Universe 2024

In an interview with Marie Claire, Lebanese designer Joe Chalita highlights the importance of cultural heritage in costume design, especially for international pageants such as Miss Universe. For him, costume design is a complex art that goes far beyond simple design and requires a deep understanding of the history and cultural narratives that each piece conveys. He insists that all too often designers don't take enough time to do in-depth research, which compromises the authenticity of the costumes. For Miss Universe 2024, he chose to pay homage to Lebanese heritage, drawing inspiration from the Tyre purple and the Murex shell, two ancestral symbols of Lebanon. The costume he designed for Miss Lebanon, Nada Koussa, combines a velvet coat, silk organza trousers and a handmade tantour, reminiscent of the outfits worn by Lebanese princesses. For Chalita, it's important that national costumes convey a strong cultural identity, without the designer's personal touch overriding this message. This project is in line with his desire to preserve and enhance Lebanon's sartorial history, which he sees as an essential part of the country's Phoenician heritage. He is also working on the creation of an institute dedicated to the history of Lebanese fashion, with the aim of providing students, researchers and enthusiasts with the resources they need to make the most of the country's fashion heritage.

Fig.7. National Costume designed for Miss Lebanon, Nada Koussa. Source: Joe Challita's collection

3.2 Phoenician - Punic Purple in Graphic Design: A Fusion of Luxury, History and Cultural Identity

The use of Carthaginian purple in design, whether in fashion, interiors or graphics, is testament to its rich heritage and status as a symbol of luxury and power. Purple, and more specifically shades of purple, has long been associated with royalty and luxury, and was historically reserved for the elite due to the scarcity of the pigments needed to produce it, particularly the purple of the murex (Sullivan, 2018). In contemporary creative industries, the colour is often used in marketing, branding and graphic design, particularly by public relations agencies seeking to evoke specific emotions and connect with their target audience. The universal meanings attributed to the colour purple include mystery, sensuality, power, boldness and affection, making it a strategic choice for brands seeking to position themselves as luxurious or innovative (Keller & Leh-

mann, 2006). For example, Hallmark uses yellow lettering on a purple-background to evoke nostalgic feelings while conveying an image of luxury, while BenQ uses the colour in its logo to reinforce its message of quality and high-end user experience. Cadbury, known for its luxurious chocolates, uses purple as its main colour to reinforce the image of sensuality and opulence associated with its products.

Fig.8. Logos inspired by the colour of purple

In addition, purple is also used by different spiritual groups and is traditionally associated with religion and spirituality, reinforcing its significance in a variety of contexts (Faber & Mazur, 2019). Thus, the use of purple in graphic design illustrates how a colour can transcend mere aesthetic considerations to become a powerful means of communication. By incorporating historical and cultural meanings into their creations, designers can not only reinforce brand identity, but also establish lasting emotional connections with their audience, making the colour purple a key element in graphic design strategies.

By choosing this colour as its background, the poster establishes an immediate link with Carthage's glorious past, reinforcing its association with the cultural and historical heritage of this ancient civilisation. In particular, the dark shade of purple adds a festive dimension to the image and accentuates the visual depth of the design. It becomes a vector of identity, symbolically linking Carthage's past with its contemporary reinterpretation, notably through Flaubert's literary work Salammbô.

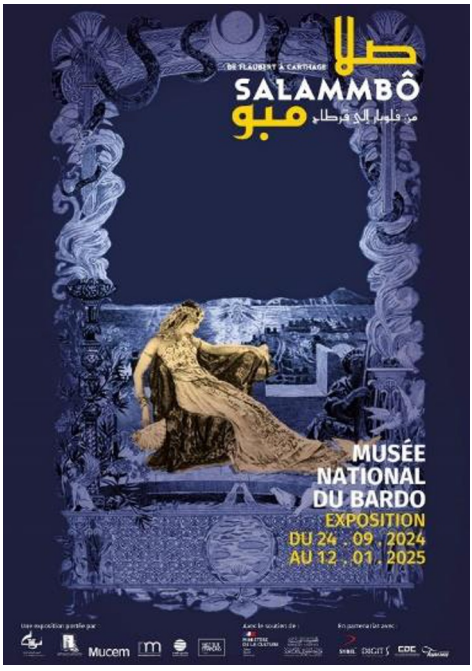

Fig.9. Poster advertising an exhibition at the Bardo National Museum

The visual contrast between the dark tones of the background and the light illuminating Salammbô draws attention to the character, emphasising the duality between the historical past and modern light. The use of purple, which resonates with the history of Carthage, becomes a powerful vector of cultural identity, symbolising the transition from Carthage's glorious past to its contemporary reinterpretation through art and literature (Jensen, 1963; Maroun, 2018). The viewer confronted with this image is thus invited into an immersive experience, where colour and visual

elements play a key role in evoking curiosity and emotion, thus enhancing the impact of the exhibition on the audience.

The advertising campaign for Versace's 'Dylan Purple' fragrance cleverly uses the symbolism of the colour purple, deeply rooted in Carthaginian culture, to convey a complex and sophisticated message. This colour, historically associated with royalty and prestige, is used as a vehicle to convey the core values of the Versace brand: luxury, exclusivity and sophistication (Siotto et al., 2014).

The choice of purple in this campaign creates a subtle link between the ancient heritage of the Mediterranean and the contemporary aesthetic of Versace. The bottle, decorated in purple and enhanced with gold, embodies the essence of luxury, while the incorporation of natural elements such as violet flowers and fresh fruit evokes a femininity that is both intense and vibrant. These elements echo the natural riches of the Mediterranean and recall the importance of Carthage as a thriving commercial centre, where the colour purple played a crucial role, both as a symbol of power and as a valuable commercial product (Rencontres Méditerranéennes - Couleurs et Mosaïques, 2015).

The mysterious, timeless atmosphere created by the campaign, combined with the evocative name 'Dylan Purple', creates a fascinating tension between historical heritage and modern vision. This juxtaposition allows Versace to appropriate the symbolic richness of the Carthaginian purple while adapting it to its image as a contemporary and glamorous brand. The colour purple in this advertising campaign acts as a powerful semiotic vector, combining connotations of luxury, history and assertive femininity. It allows Versace to reinforce its upmarket positioning while paying a subtle homage to the cultural heritage of Carthage.

Fig.10. Advertising campaign for ‘Dylan Purple’ perfume by Versace

4.The Phoenician-Punic Influence in Interior Decoration: A Bridge between Historical Heritage and Contemporary Design

The use of Carthaginian Purple in interior design represents a fascinating fusion of historical heritage and contemporary design. This colour adds visual depth and an aura of luxury to modern spaces (Jensen, 1963). Used judiciously on items such as cushions, throws or carpets, it can transform a room into a place where elegance meets history.

Research into the psychology of colour in interior design has shown that deep shades such as purple have the ability to create a sophisticated atmosphere while balancing other shades in the room and providing a harmonious visual contrast (Arnheim, 1974). The use of Carthaginian purple in wall treatments, whether in the form of paint or textiles, can create a striking focal point in a room, attracting the eye and lending a unique and refined character to the environment.In the field of decorative arts, the incorporation of this colour into craft and decorative objects enhances its appeal. Sculptures, vases and ceramics coloured with Carthaginian purple not only bear witness to technical and aesthetic mastery, but also serve as symbols of Mediterranean heritage. Recent research suggests that the use of historical colours in art objects creates a link between traditional craftsmanship and a contemporary perception of luxury and uniqueness (Rencontres Méditerranéennes - Couleurs et Mosaïques, 2015). Carthaginian purple, with its rich history and rarity, is an ideal colour to enhance modern interiors while adding a historical and narrative dimension. Its use in decorative elements and artistic objects not only enriches interior design, but also offers a visual testimony to the richness of Mediterranean culture, inviting reflection and dialogue on history and aesthetics.

Fig.11.: Carthaginian Purple in Interior Decoration

5. Phoenician - Punic Purple as an Ecological Alternative: A Unique Craft in Tunisia

A vibrant and captivating shade, Carthaginian Purple has long been a symbol of luxury, power and distinction, prized by the elite for centuries. However, the history of this colour goes far beyond its sumptuous associations, revealing a rich cultural heritage and a rare artisanal practice that stands out for its environmental sustainability. In Tunisia, a unique craftsman, Mohamed Ghassen Nouira, is the guardian of this ancient know-how, preserving the art of extracting Carthaginian purple. Unlike the Tyrian purple industry, which ceased production following the evolution of trade routes and social changes, Nouira's work has kept the practice alive (Jensen, 1963). Extracting the dye from the murex, a marine mollusc, is a complex and lengthy process, requiring dozens of kilos of molluscs to produce just one gram of pigment. This rarity and the difficulty of the process explain why purple has been reserved for the elite since ancient times. Today, the growing demand for ethical and sustainable products is making Carthaginian Purple an increasingly popular choice in the world of luxury fashion and crafts. Carthaginian Purple is not only a return to historical roots, but also a response to the search for environmentally friendly materials. The artisanal process of producing purple, using local resources and respecting the balance of nature, meets

the expectations of a public concerned with sustainability and the preservation of cultural traditions. Designers have the opportunity to explore new ways of incorporating this rare dye into their creations, pushing the boundaries of traditional applications.

At the same time, Mohamed Ghassen Nouira doesn't just produce an exceptional dye: through his Pourpre de Carthage brand, he offers educational kits to raise public awareness of this ancient technique. Containing powdered dyes, fabric samples and murex shells, these kits allow history and craft enthusiasts to discover and understand this ancient skill. By reviving this practice, Nouira contributes to the enhancement of Tunisia's cultural heritage, while exploring the possibilities of this technique in a contemporary context that combines heritage, innovation and economy.

Carthaginian purple, with its vibrant and captivating colour, is indeed an ancient symbol of luxury, power and distinction, long prized by the elite. However, as mentioned above, the process of extracting this pigment from the murex, a marine mollusc, involves the use of large quantities of these molluscs for a small amount of dye. This raises important environmental concerns, particularly the potential impact of increased demand on murex populations and marine ecosystems. As highlighted in the article, if the popularity of Carthaginian Purple were to increase significantly, it could indeed put pressure on the murex population and potentially harm marine ecology. This is a valid concern, as the extraction of the dye is a resource-intensive process. However, it is crucial to contextualise this in terms of the modern scale of production. Today, the production of Carthaginian purple is still extremely limited, with only one craftsman, Mohamed Ghassen Nouira, actively preserving the practice in Tunisia. The rarity and difficulty of the process today means that it is far from a mass-market

Fig.12. The Purple Mark of Carthage by Mohamed Ghassen Nouira- Unu exposition sur la pourpre de Murex

product, and the impact on murex populations is comparatively small. However, the point remains: if demand for Carthaginian purple were to increase beyond current levels, it could indeed pose a risk to marine ecosystems. To mitigate this, the practice would need to be carefully regulated, with sustainable harvesting practices in place to ensure that the murex population is not overexploited. In addition, ecological studies and data on the health of murex populations and the surrounding marine environment would be essential to assess the long-term sustainability of the practice. Mohamed Ghassen Nouira's commitment to preserving the art of Carthaginian purple while ensuring that it remains an environmentally conscious and sustainable practice is commendable. His efforts, along with public awareness initiatives, offer a promising model for balancing tradition, sustainability and the conservation of marine biodiversity. Going forward, it is vital that the growth of this industry, if it continues, is accompanied by research into best practices to protect the marine resources on which it depends.

Fig.13. The Purple Mark of Carthage by Mohamed Ghassen Nouira- Unu exposition sur la pourpre de Murex

6.The results

The ancient purple industry was more than just a craft; it embodied the power, prestige and immortality of the civilisations that cultivated it. This extraordinary product left its mark on history, contributing to the rise of empires, the fall of kings and the consolidation of power for generations of rulers. In ancient Egypt, Queen Cleopatra was fascinated by the splendour of purple and used it to enhance her image as a powerful and magnetic ruler. She had the sails of her ship dyed this royal colour to symbolise her grandeur and influence as she sailed to impress the world, most notably during her legendary meeting with Mark Antony. This pigment, harvested from the depths of the sea, has survived the ages as the undisputed symbol of the royal and religious elite. From the shores of Tyre and mighty Carthage to the palaces of Rome and Byzantium, purple dye has adorned the robes of emperors, princes and priests, cementing its status as an unrivalled luxury. But beyond its dazzling colour, purple told the story of ambitious societies, their beliefs and their struggles for supremacy. Through crushed murex shells and dyers' basins, a complex know-how was passed down through the centuries, before giving way to the shadow of modern industry. Yet its legacy is ever-present, as purple continues to symbolise a bygone era when colour was much more than a mere ornament: it was a language, a power, a transcendence. The shadow of the ancient workshops of Carthage and other Mediterranean cities still hangs invisibly over our understanding of luxury and status, and their colourful history reminds us of the depth of a knowledge lost but never forgotten. Today, this ancient colour is experiencing a fascinating renaissance in the world of design. Visionary designers like Joe Chalita are drawing on this rich heritage to infuse their modern creations with soul. Imagine a contemporary interior where a touch of Carthaginian purple instantly evokes centuries of Mediterranean history and sophistication. But it's not just about aesthetics. The rediscovery of Carthaginian purple is part of a wider movement towards responsible design. In Tunisia, an artisan is perpetuating ancient techniques to produce this dye in an ecological and sustainable way. It's a perfect example of how traditions can be reinvented to meet the challenges of our time. This revival of Carthaginian purple reminds us that design is not just about

shapes and colours, but also about stories and values. It invites us to rethink our relationship with luxury, authenticity and our cultural heritage. In a world searching for meaning, Carthaginian Purple offers a link between past and present, between tradition and innovation.

7.Discussion:

A symbol of luxury and exclusivity since ancient times, Carthaginian purple is now finding a new lease of life in design projects that combine tradition and sustainability. The growing popularity of eco-friendly products is encouraging a reinterpretation of this ancient dye, whose artisanal and ecological production methods make it a valuable alternative to synthetic dyes. The complex, eco-friendly process involves extracting the pigment from murex, a marine shellfish. Although costly to produce due to the number of shells needed to extract a small amount of pigment, this rarity contributes to the perception of purple as a premium product, historically reserved for the elite. The reintroduction of this dye into sustainable fashion and design projects makes it possible to combine aesthetics, ecology and ancestral know-how, responding to a growing demand for ethical alternatives in the luxury industry. A symbol of luxury and exclusivity since ancient times, Carthaginian purple is now finding a new lease of life in design projects that combine tradition and sustainability. The growing popularity of eco-friendly products is encouraging a reinterpretation of this ancient dye, whose artisanal and ecological production methods make it a valuable alternative to synthetic dyes. The complex, eco-friendly process involves extracting the pigment from murex, a marine shellfish. Although costly to produce due to the number of shells needed to extract a small amount of pigment, this rarity contributes to the perception of purple as a premium product, historically reserved for the elite. The reintroduction of this dye into sustainable fashion and design projects makes it possible to combine aesthetics, ecology and ancestral know-how, responding to a growing demand for ethical alternatives in the luxury industry.Interdisciplinary collaborations between archaeology, design and science could play a key role in the revival of Carthaginian purple. Archaeology, by studying the ancient uses of this dye, gives us a better understanding of its cultural importance in civilisations such as the Phoenicians and the Carthaginians. This historical knowledge, such as that discussed by Siotto et al. (2014), who took a multidisciplinary approach to the study of ancient polychromy, opens up

perspectives on the production techniques used in the past. By combining this information with scientific research on the chemical properties of purple and its modern applications, it is possible to adapt this ancient practice to contemporary needs.

Conclusion

The history of Carthaginian purple, once a symbol of luxury and power, is now asserting itself as a precious and sustainable resource for contemporary design. By reintegrating this ancient colour into their modern creations, designers are forging a link between cultural heritage and current issues, particularly those relating to sustainability and authenticity. The use of purple in fields as diverse as fashion, decorative arts and graphic design reflects a desire to combine historical heritage with modern aspirations, while respecting the environment. Thanks to craftsmanship that respects natural resources and a return to ancestral know-how, Carthaginian purple has become a veritable vector of innovation, enabling contemporary designers to embrace a living tradition and meet the expectations of a public concerned with luxury, culture and sustainability. Far from being a relic of the past, traditional craftsmanship is a living treasure that continues to inspire today's designers. By passing on ancestral techniques, designers breathe new life into the skills of yesteryear, adapting them to contemporary needs and tastes. Each object thus created becomes a bridge between yesterday and tomorrow, between tradition and innovation. The future of design, by preserving this craft and integrating it into a responsible approach, enables us to build a world where every creation tells a story, while contributing to a more sustainable future. By reinventing Carthaginian purple, today's designers are not just restoring an ancient colour; they are giving their creations a soul, a heritage and a role in building a future that respects our planet. This renewal symbolises the meeting between past and future, between the values of yesteryear and the challenges of tomorrow, and highlights the importance of a multidisciplinary approach to preserving a heritage while responding to contemporary needs. Far from being a mere reminder of the past, Carthaginian purple becomes a living symbol of this fusion between tradition and innovation, a perfect illustration of the sustainable luxury of the future.

Références

1. Alfaro, C. & Costa, M. (2006). La teinture pourpre antique au Maroc.
2. Arnheim, R. (1974). Art and visual perception: A psychology of the creative eye. University of California Press.
3. Aristote. (2008). Histoire des animaux. Traduit par J. Tricot. Paris : Les Belles Lettres.
4. Ben Salem, F. (2012). Le caftan tunisien : histoire, évolution et tendances contemporaines. Cahiers d'Études Méditerranéennes, 15(2), pp. 115–128.
5. Briand-Ponsart, C. & Demetriou, D. (2008). Les Phéniciens et l'empire de la pourpre.
6. Cardon, D. (2003). Le Monde des teintures naturelles. Paris : Belin.
7. Cocaign, M. (1997). Histoire et usages de la pourpre antique. Lyon : Presses universitaires.
8. Drine, A. (2020). La redécouverte de la pourpre de Carthage. Le Petit Journal.
9. Dupont, J. (2008). Les couleurs antiques : symbolisme et matériaux. Paris : Éditions du Patrimoine.
10. Faber, R. & Mazur, J. (2019). Color and spirituality: The psychological impact of color in religious contexts. Journal of Color Psychology, 12(3), pp. 45–60.
11. Gillian, R. (2004). The Trade of Dyes in Antiquity. Oxford University Press.
12. Hallmark. (2020). Creating emotional connections through color. Hallmark Insights. Disponible sur : [Hallmark website].
13. Horsley, R. (1998). The Sea People and Their Impact on Ancient Civilizations. London : Thames & Hudson.
14. Jensen, J. (1963). The history of purple dyeing in antiquity. Archaeological Review, 12(1), pp. 20–34.
15. Jensen, M. (1963). The history and production of purple dyes in antiquity. Journal of Historical Textiles, 12(3), pp. 45–61.
16. Karmous, H. (1998). La teinture pourpre dans l'Antiquité. Paris : Éditions Universitaires.
17. Keller, K.L. & Lehmann, D.R. (2006). Brands and branding: Research findings and future priorities. Marketing Science, 25(6), pp. 740–759.
18. Khalil, R. (2000). Les Phéniciens et la Teinture pourpre : Histoire et Mythologie. Beyrouth : Publications de l'Université libanaise.
19. Leach, B. (1979). A Potter's Book. Faber & Faber.
20. Leriche, D. (2012). Symbolisme et couleurs dans l'Antiquité. Paris : L'Harmattan.
21. Maroun, M. (2018). L'artisanat tunisien : Une tradition en transformation. Tunis : Presses Universitaires de Tunis.
22. Martinez, C. (2013). La pourpre à travers les âges : symbolique et usages. Paris : Éditions Gallimard.
23. Nouira, M.G. (2015). À la redécouverte de la pourpre de Carthage. Le Petit Journal.
24. Papanek, V. (1971). Design for the Real World: Human Ecology and Social Change. Pantheon Books.
25. Pline l'Ancien. (77 apr. J.-C.). Histoire naturelle. Traduit par J. André. Paris : Les Belles Lettres. (Publication originale en 77 apr. J.-C.)
26. Pollux, J. (1921). Onomasticon. Traduit par J.T.E. Tait. Leipzig : Teubner.
27. Powell, J. (2015). Sustainable Design: A Critical Guide. Princeton Architectural Press.
28. Rencontres Méditerranéennes – Couleurs et Mosaïques. (2015). Techniques et matériaux anciens : Une recherche interdisciplinaire. Journal of Mediterranean Archaeology, 25(2), pp. 33–49.
29. Rencontres Méditerranéennes – Couleurs et Mosaïques. (2015). La polychromie antique et son influence sur les arts décoratifs contemporains. Institut Méditerranéen de Recherche, 34(2), pp. 56–70.

30. Rolland, P. (2010). Les Phéniciens et la Civilisation Carthaginoise. Paris : Éditions du Patrimoine.
31. Siotto, M., De Matteo, L. & Giordano, S. (2014). Polymerisation and preservation of ancient dyes: The case of Tyrian purple. Journal of Archaeological Science, 41, pp. 342–348.
32. Siotto, M. et al. (2014). Approche multidisciplinaire pour l'étude de la polychromie antique. In Rencontres Méditerranéennes – Couleurs et Mosaïques, pp. 45–61. Éditions Méditerranée.
33. Smith, L. (2005). Luxury and Power: Dye Production in the Ancient World. Princeton University Press.
34. Sullivan, M. (2018). The history of purple dye: From antiquity to modernity. Textile History Journal, 49(2), pp. 123–135.
35. Tchernia, A. (2016). Le vin et la pourpre dans l'Antiquité romaine : essai de géographie historique. Rome : École française de Rome.
36. Thompson, G. (2018). Designing Heritage: The Intersection of Tradition and Innovation. Routledge.
37. Vitruve. (Ier siècle av. J.-C.). De Architectura. Traduit par P. Gros. Paris : Les Belles Lettres.