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Pigments from the Saudi Eastern Province. Artistic proposal using local pigments

**Pigmentos de la provincia oriental saudita. Propuesta artística empleando
pigmentos locales**

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RESUMEN:

Ante la imposibilidad para adquirir pigmentos para Bellas Artes en Arabia Saudí y viendo que los artistas deben importar todos sus materiales desde otros países, surgieron cuestiones en torno a la sostenibilidad de los materiales que emplean los artistas de este país.

En esta investigación se obtuvieron pigmentos de plantas, tierras y minerales de la provincia del Este de Arabia Saudí para realizar obras enteramente realizadas con pigmentos locales y se empleó la técnica encáustica básica aplicada en caliente para aplicarlos.

Hubo una primera investigación a nivel de todo el país y no se obtuvieron grandes resultados. Se decidió por tanto centrarse en la provincia del Este por cercanía y facilidad para contactar con la gente local. Los resultados obtenidos fueron muy parecidos a los obtenidos anteriormente, pero se consiguió más variedad de colores.

Hay menos artistas en esta zona del país, pero se ha conseguido despertar su interés en la creación de obras con materiales sostenibles.

Esta investigación contribuye al conocimiento de los recursos naturales de la zona Este de Arabia Saudí logrando que los artistas locales puedan realizar sus propios pigmentos sostenibles ampliando a la vez sus posibilidades expresivas.

PALABRAS CLAVE: Pigmentos Arabia Saudí, recursos naturales Eastern Province Arabia Saudí, materiales artísticos sostenibles, arte en Arabia Saudí, encáustica.

ABSTRACT:

Given the impossibility of acquiring pigments for Fine Arts in Saudi Arabia and seeing that artists must import all their materials from other countries, questions arose about the sustainability of the materials used by artists in this country.

In this research, pigments were obtained from plants, soils, and minerals from the Eastern Province of Saudi Arabia to produce works entirely made with local pigments. The basic hot-applied encaustic technique was used to apply them.

There was a first investigation at the level of the entire country, and no significant results were obtained. It was therefore decided to focus on the Eastern province due to its proximity and ease of contact with local people. The results were similar to those obtained previously, but a greater variety of colours was achieved. There are fewer artists in this country, but their interest in creating works with sustainable materials has been aroused.

This research contributes to the knowledge of the natural resources of the eastern part of Saudi Arabia, enabling local artists to make their sustainable pigments while expanding their expressive possibilities.

KEYWORDS: Pigments Saudi Arabia, natural resources Eastern Province Saudi Arabia, sustainable artistic materials, art in Saudi Arabia, encaustic.

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Introduction

This research arose from a need to find local pigments and thus avoid having to import them. They wanted to work with the encaustic technique and manufacture paintings with personalised characteristics. Therefore, dyes were needed. All the pigments had to be imported from Europe and the United States as nowhere could be found to sell them in all Saudi Arabia.

After COVID19, the acquisition of materials was even more complex and was the trigger to start this search for materials in the country itself. A first investigation was carried out looking for materials throughout the country, but now the research has focused on the Eastern Province. It is in this region where it is easier to interact with local people and obtain information.

Throughout this investigation, local artists were motivated to show their concern for the environment in their works and to go further and use sustainable materials to make them, contributing to reducing the carbon footprint.

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Saudi Arabia is an emerging country with little production and has not yet exploited its raw materials except oil. Currently, there is a project called "Vision 2030" to revitalise the government that tries to recover its culture, modernise its society and move away from dependence on oil as its primary source of income. This has motivated the community to start worrying about the environment and some artists, in particular, to consider this issue as one of the themes in their works.

In this country, they are neither familiar with nor aware of safety at work, recycling, waste treatment, etc. For this reason, the search for artists concerned about the environment and investigating new sustainable materials began. No artist had heard of the encaustic technique and didn't know how to make their paintings, but they showed much interest in learning and collaborating.

The main objectives of this study were, on the one hand, to demonstrate that work with encaustic painting can be carried out in Saudi Arabia using materials obtained in the area of the Eastern Province and, on the other hand, to spread the knowledge acquired not only to teach this little-known technique but also to encourage local artists to be part of a necessary change in Saudi society regarding sustainability.

Materials and methods

Information about local pigments was collected in databases, books, articles and the Internet to expand the information about the natural resources of the Eastern province.

Thanks to social networks, local artists who helped search for materials from the area were found.

Raw material companies were contacted for information on their use and composition, but no response was received. Therefore, relying on the scant information offered on their web pages and their workers was necessary.

Another great source of information was the book “Impressions of Arabia” by Thierry Mauger. This is a French anthropologist, writer, traveller and photographer who lived in Saudi Arabia for over a decade, working on ethnographic photography, especially of the Asir region. He has written interesting books about Arab culture, architecture, art and customs in Saudi Arabia. They were handy for the first study that was carried out looking for materials in all of Saudi Arabia and served as an inspiration to look for the same materials in the Eastern area.

The search focused only on obtaining pigments. The colours that were obtained to be able to carry out the encaustic work for the practical part of the investigation were:

- Zinc white obtained in the Thoqba market, Dammam.
- Charcoal black with crushed charcoal after burning Samar wood found in Dammam.
- Brown Henna purchased at Al Mubarak, Al Hofuf.
- Green spinach from a farm in Al Qatif.
- Reddish green-red spinach from a farm in Al Qatif.
- Bordeaux beet from a farm in Al Shara Al Junubi.
- And Purple Red Cabbage from a farm in Al Qatif.
- Arabic coffee ochre is much paler in colour than Western coffee. It was bought in Al Khobar.
- Carrot orange from Al Hofuf farms.
- Chrome orange yellow from a market in Dammam.
- Chrome green from a market in Dammam.
- Shadow brown with manganese from a store in Al Khobar.
- Red iron oxide from a shop in Al Qatif.
- Indigo blue from a store in Al Hofuf.
- Violet red cabbage from a farm in Al Qatif.

Some of the pigments used did not require processing, such as white, henna, manganese brown, oxide red, chrome green and yellow, and indigo blue.

Other elements, like coal and coffee, were already dry but had to be ground.

The vegetables were dried first, testing the drying system both in the oven and in the sun, and then they were ground. This way, spinach green, red spinach green (without much

change in the shade of green), beet burgundy, red cabbage purple, and carrot orange were made.

The processing of the mineral pigments obtained was by chromatography:

- It was tested with paper chromatography with alcohol as a solvent. Still, unfortunately, the alcohol that can be purchased in Arabia is isopropyl alcohol, and the result was not what was expected. This is due to the restrictions regarding the sale of alcohol, as it is a rigorous Muslim country.
- Paper chromatography was then tried with water as a solvent, and the results were acceptable. The minerals were diluted in water, and as the water evaporated on the hot paddle, it mixed well with the encaustic medium.

The technique that was used for the practical development was the basic encaustic applied in hot. The advantage of this technique is that of being able to manufacture encaustic paint tailored to the needs of each artist; this was ideal for testing the various pigments.

This technique consists of mixing Damar resin, beeswax and pigment. These are melted with heat and applied to a surface, usually wood.

The amounts used were: Damar resin (5.5%), beeswax (44.5%) and pigments (50%). The heat source to keep the paint warm was a hot grill paddle, and the colours were blown into the wood board using a hot air blower.

The colours were excellent, and the visual and tactile quality was excellent. They melted on the hot palette relatively quickly and applied comfortably.

The expressive possibilities of this technique are extensive. It is pretty challenging to control the paint and get it to do what you want, but this is part of the charm of this technique: it is a game between chance and the artist's will.

Another positive feature of this technique is that it is not necessary to use solvents, and it is possible to work in the studio with particular safety and prevent possible poisoning.

Tests were carried out by adding texture with desert sand. With the charcoal from Samar, apart from making black pigment, drawings were made on the board before pulverising it.

As a theme, it was decided to make Arabic-style doors that were the most appropriate at that time.

The following illustration shows a test with the pigments used in earth tones.



Illustration 1. First try. Title of the work: *You are welcome.* Al Khobar, Saudi Arabia. 2022. F. Blanco, S.

The following illustration shows an improvement in the colour gamut concerning the previous Illustration. This is because the pigments chromium, iron, indigo and manganese were added.



Illustration 2. Second try. Title of the work: You are welcome II. Al Khobar, Saudi Arabia. 2022. F. Blanco, S.

In the latter, mineral pigments make the evolution towards more vibrant colours more noticeable.



Illustration 3. Third try. Title of the work: You are welcome III. Al Khobar, Saudi Arabia. 2022. F. Blanco, S.

Results and Discussion

Three Arabic-style works have been made with pigments exclusively from Saudi Arabia.

The results of this research have surpassed those of the previous one. It is expected to achieve even better results in the future, thanks to the growing participation of local artists.

The dissemination during the research process has aroused much interest among Saudi artists in two aspects:

Since many of them, ecology had never considered the importance of obtaining local, sustainable materials, the importance of safety at work, etc.

They have discovered the encaustic technique and have been fascinated.

A group of artists has been created to make a research team together with chemists and experts in other areas outside of the fine arts to collaborate on more technical issues.

Conclusions

There is a growing interest in Saudi Arabia to achieve a more sustainable habitat in various environments, not only among artists but also among people of the new generations. This interest is also motivated by the actions carried out by the Saudi government within the Saudi Green Initiative programme.

Saudi Arabia has a wide variety of minerals from which pigments can be extracted for artistic use, but no company is dedicated to this specifically. Inventories of the flora, fauna and natural resources of Arabia are being carried out, and it is hoped that the country's government will put more emphasis on creating companies to manage and treat its natural resources.

There are only two Fine Arts universities in Saudi Arabia, making it challenging to spread knowledge about artistic techniques and procedures.

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