

The Beauty of the Raku technique in the Works of Potters Shenyar Abdullah and Yaqoub Al-Atoum

Manar Munir Mohamed, Dr. Rula Abdul-Ilah Alwan Al-Nuaimi

University of Basrah, College of Fine Arts, Iraq
Emails: pgs.manar24@uobasrah.edu.iq

Abstract

Art is an aesthetic message and a means of human communication with its surroundings, as it influences and is influenced by everything that surrounds it, as scientific and intellectual development has a great role in developing the means used in it with the multiplicity of options offered in terms of raw materials and techniques. Undoubtedly, the art of ceramics is one of the arts developed in terms of technology, indicating the development and sophistication of societies throughout history. It offers an aesthetic and utilitarian taste to the community. The color is one of the main elements in the process of adding an aesthetic touch to the surface of the ceramic piece, and this was evident in ceramics of all ages and times, and the implemented idea plays a role in showing an expressive and aesthetic vision in the ceramic surface and in order to keep pace with the rest of the plastic arts. Therefore, the potter always tries to innovate by experimenting with materials and techniques. Accordingly, the potter, especially the Arab potter, relied on coexistence with the modern intellectual dimensions of the era's culture, directing him to research, experimentation, modernization and acculturation from Western arts. This prompted research into Arab ceramics and the study of its ceramic products, especially the art of ceramics and the aesthetics of the raku technique, which is considered the Technique of most potters. The research is part of the methodological framework of the research, as it contains the research question, which concludes with the following question: What is the aesthetic of the raku technique in the works of potters Shunyar Abdullah and Yaqoub Al-Atoum, then the importance of the research, which lies in highlighting the aesthetic effects of the raku technique by identifying the features and characteristics of this Technique reflected in the formal structure of Arab ceramic work and identifying the different reduction processes in this Technique and its impact on the artistic works of potters Shunyar Abdullah and Yaqoub Al-Atoum, to benefit researchers and specialists and enrich scientific libraries and students in the field of ceramics. After that, the aim of the research was discussed: The objective of the research was to identify the raku technique in the works of potters Shinyar Abdullah and Yaqoub Al-Atoum, and then the limits of the research were reached in terms of the objective limits, which were determined by the aesthetic of the raku technique in the works of potters Shinyar Abdullah and Yaqoub Al-Atoum and the temporal limits, which were represented by the period between (2012-2021), the spatial limits (Iraq and Jordan) and the human limits of the potters Shinyar Abdullah and Yaqoub Atoum, and the chapter ends with the definition of the most important terms.

Keywords: Raku Technique, Arab Ceramics, Aesthetic Effects.

1. Introduction

Art is an aesthetic message and a means of human communication with its surroundings, as it influences and is influenced by everything that surrounds it, as scientific and intellectual development has a great role in developing the means used in it with the multiplicity of options offered in terms of raw materials and techniques. Undoubtedly, the art of ceramics is one of the arts developed in terms of technology, indicating the development and sophistication of societies throughout history. It offers an aesthetic and utilitarian taste to the community. The color is one of the main elements in the process of adding an aesthetic touch to the surface of the ceramic piece, and this was evident in ceramics of all ages and times, and the implemented idea plays a role in showing an expressive and aesthetic vision in the ceramic surface and in order to keep pace with the rest of the plastic arts. Therefore, the potter always tries to innovate by experimenting with materials and techniques. Accordingly, the potter, especially the Arab potter, relied on coexistence with the modern intellectual dimensions of the era's culture, directing him to research, experimentation, modernization and acculturation from Western arts. This prompted research into Arab ceramics and the study of its ceramic products, especially the art of ceramics and the aesthetics of the raku technique, which is considered the Technique of most potters. The research is part of the methodological framework of the research, as it contains the research question, which concludes with the following question: What is the aesthetic of the raku technique in the works of potters Shunyar Abdullah and Yaqoub Al-Atoum, then the importance of the research, which lies in highlighting the aesthetic effects of the raku technique by identifying the features and characteristics of this Technique reflected in the formal structure of Arab ceramic work and identifying the different reduction processes in this Technique and its impact on the artistic works of potters Shunyar Abdullah and Yaqoub Al-Atoum, to benefit researchers and specialists and enrich scientific libraries and students in the field of ceramics. After that, the aim of the research was discussed: The objective of the research was to identify the raku technique in the works of potters Shinyar Abdullah and Yaqoub Al-Atoum, and then the limits of the research were reached in terms of the objective limits, which were determined by the aesthetic of the raku technique in the works of potters Shinyar Abdullah and Yaqoub Al-Atoum and the temporal limits, which were represented by the period between (2012-2021), the spatial limits (Iraq and Jordan) and the human limits of the potters Shinyar Abdullah and Yaqoub Atoum, and the chapter ends with the definition of the most important terms.

The second part, which included the theoretical framework and previous studies, consisted of two types of research. The first is titled Raku Techniques and is discussed in general terms. The second section, entitled Intellectual Pressure in the Work of Potters Shinyar Abdullah and Jacob Al-Atoum, discussed the early beginnings of the potters and the most important factors that helped them to launch in this field. The third part was entitled Research Procedures, the Selection of the Research Method Used to Analyze the Sample, the Research Community, the Selection of the Sample, the Research Tool, and the analysis of the Sample Samples according to the Technique. This is followed by the results and conclusions reached by the research by analyzing the research sample, then recommendations and suggestions related to the research topic and the

continued use of the research. Then, the sources and appendices are identified. The most important findings of the research include:

1- Iraqi potter Shinyar Abdullah relied on adopting formal and aesthetic relationships in his ceramic work and emphasizing harmony, color contrast, and the mark between color and texture in this Technique. As for the Jordanian potter Yacoub Al-Atoum, he relied on formal relationships and their aesthetic manifestation through a technique that gives the forms an expressive and aesthetic dimension at the same time.

2- Shinyar Abdullah used the integrated form without gaps in his ceramic works to allow space for the raku technique to show its beauty in terms of surface contact and color and give a sense of solidity and stability. At the same time, Yacoub Al-Atoum adopted the same method: adopted the shape of solid wood with a single face in his works to create expressive aesthetic values with surface contact achieved by the raku technique and color.

3- The potter Shinyar Abdullah adopted the geometric system with abstract shapes as his own style by working on one flat block with three- or four-dimensional dimensions and employing lettering on it, moving away from the traditional aspect and complementing the aesthetic of the geometric shape with the raku technique, and the potter (Yacoub Al-Atoum) adopted this system but in a different way by taking the geometric dimension in general but introducing some parts that unusually produced the work and gave the performer an aesthetic value due to its appearance through the raku technique.

Research Problem: Art is an aesthetic message and a means of human communication with its surroundings, as it influences and is influenced by everything that surrounds it, as scientific and intellectual development has a great role in developing the means used in it with the multiplicity of options offered in terms of raw materials and techniques. Undoubtedly, the art of ceramics is one of the arts that has been developed in terms of technology, indicating the development and sophistication of societies throughout history. It offers an aesthetic and utilitarian taste to the community. Color is one of the main elements that add an aesthetic touch to the ceramic piece's surface, evident in ceramics of all ages and times. The implemented idea shows an expressive and aesthetic vision of the ceramic surface and keeps pace with the rest of the plastic arts. Therefore, the potter always tries to innovate by experimenting with materials and techniques. Accordingly, the potter, especially the Arab potter, relied on coexistence with the modern intellectual dimensions of the era's culture, directing him to research, experimentation, modernization and acculturation from Western arts. This prompted the research on Arab ceramics and the study of its ceramic products, especially the art of ceramics and the aesthetics of the raku technique, which is considered the Technique of most potters. Therefore, the research question can be formulated as follows: What is the aesthetics of the raku technique in the works of potters Shinyar Abdullah and Yacoub Al-Atoum?

The importance of the research and the need for it lies in highlighting the aesthetic effects of the raku technique by identifying the features and characteristics of this Technique that were reflected in the formal structure of the Arab ceramic work and identifying the different reduction processes in this Technique and its impact on the artistic works of the potters Shinyar Abdullah

and Jacob Al-Atoum, to benefit researchers and specialists and enrich scientific libraries and students in the field of ceramics.

Research objective: The current research aims to identify the aesthetics of the raku technique in the works of potters Shinyar Abdullah and Yaqoub Al-Atoum.

Limitations of the research

Objective limits: This research aims to study the aesthetics of the raku technique in the works of potters Shunyar Abdullah and Yaqoub Al-Atoum.

Time Limits: (2012 to 2021 AD).

Spatial boundaries: Iraq - Jordan.

Human borders: Shinyar Abdullah and Yaqoub Al-Atoom

Defining terms

1. **Technology (language):** Defined by Ahmed Mukhtar: "Taqn is a feminine noun attributed to (Taqn) is a method or technique in the direction of a scientific work or research."⁽¹⁾ Ibn Manzoor defines it as: 'Perfect something: Perfect it, and perfect its judgements. And perfection: The judgements of things. In the Qur'an, 'The work of God, who has perfected everything.'⁽²⁾

2-**Technology (terminology):** 'It is a set of principles or means that express the accomplishment of something or the achievement of a goal based on precise scientific foundations and differs from science in that its purpose is action and application... The foreign word for technology is of Greek origin and means art and industry, and the philosophers of Islam called it science as well.'⁽³⁾ The term fine arts techniques refers to three things, including:

1 - the set of methods used to use certain instruments, tools or materials, such as the techniques of playing a musical instrument or the techniques of engraving on plaster.

2 - the set of methods specific to a particular type of fine arts, such as the techniques of Gothic art or the techniques of mosaic art.

3 - the methods specific to a particular artist, writer or poet, such as the Isaac of Mosul, Al-Jahiz or Al-Bahtari style.'⁽⁴⁾

Technique (Procedurally): It can be defined as the scientific applications carried out by man in all fields in which he lives to meet his needs, satisfy his desires, overcome the difficulties of living and add beauty to everything that surrounds him by using various implementation methods.

Raku technique (procedurally): It is one of the techniques applied to pottery for glazing, creating an element of surprise with color; most potters adopt it because it relies on the use of broken pottery to support the clay and make it withstand thermal shocks, as this Technique requires speed in the process of firing and cooling.

First axis: Raku (Origins and Development): Raku is an important ceramic technique that originated in China and then moved to Japan, where it symbolized the unity between the soul and body in their religious rituals (tea ceremonies). Raku means 'the art of pleasure and enjoyment (enjoyment) and is one of Japan's innovative and sophisticated ceramic methods during the sixteenth century, and carries sacred religious characteristics and its ceramic models, according to this Technique, represent the pinnacle of beauty for this civilization ⁽⁵⁾ From this point of view, it is not possible to isolate the art of Raku from its connection to society through religious and ideological rituals, because it is linked to a specific philosophy, such as its connection to the philosophy of tea and Buddhism. The art of Raku cannot be isolated from its connection to society through religious and ideological rituals because it is linked to a specific philosophy, such as its association with the philosophy of tea and the Buddhist religion in Japan, which left an impact on the quality and material of tea vessels and their size Raku bowls differ in terms of the quality of the clay, formation and materials involved in them from other ceramic techniques, and determines privacy and distinctiveness as well as experience in discovering tea, rituals and the surrounding atmosphere⁽⁶⁾. The Raku technique relies on the reduction process and various materials used, such as sawdust and paper, some glass compositions, the firing and cooling mechanism, and the shortened time. The art of Raku ceramics was not limited to Shojiro, who invented this name, and the Raku family alone. However, there are many names of potters who are famous for making wonderful examples of Raku ceramics, in the sixteenth century and beyond to share and compete with the Raku family, such as these potters are:

1- (Honami Koetsu 1558-1637): Koetsu was a student of Nonko, the third generation in the Raku family, whose vessels began to take philosophical forms that extended to the philosophy of making Raku tea-drinking vessels and differed in the style of their formation and method of expression, as their vessels were for personal use ⁽⁷⁾.

2- (Ogata Kenzan 1663-1743): (Kenzan) appeared at a high level of artistic realization in ceramics not only in Japan but throughout the world, which represents one of his achievements, he was influenced by his contemporaries of the third and fourth generation artists, and was a great master in the art of raku ceramics. Many generations of his descendants followed the pattern followed by the first ones for the art of raku ceramics until the twentieth century ⁽⁸⁾.

3- (Shoji Hamada 1894-1978): He accompanied Bernard Legge to England in 1922, built a kiln with him, and worked together. In 1926, he returned to Japan, formed an association with several well-known potters, and built several kilns and ceramic workshops ⁽⁹⁾.

Raku technique: The process of achieving an expressive aesthetic value through the ceramic product as a result of the practice and aesthetic experience adopted by potters in designing the general form of the product therefore, the raku technique is a goal in achieving various aesthetics on the ceramic product in general, and obtaining the effects of this Technique through the element of surprise in color that occurs from the method of firing by reduction. It should be noted that the raku technique is not just a continuous copying of the achievements of ancient potters, 'because the modern potter did not accept being captive to the vessels that were a distinctive feature of ceramics in the past and by studying the methods of free and manual modelling and directing its forms without adhering to symmetry and communicating to the results Raku ceramics are part of the innovations that contemporary potters have derived from the ancients in

the process of glazing pottery, due to the sense of process and good knowledge of the composition of clay and other materials used in this Technique ⁽¹⁰⁾. The raku technique is 'a product of an experimental mechanism, as the artist adopts the act of experimentation from the materials and mechanisms implemented, and what the contemporary potter has always done is to activate the act of experimentation resulting from the repetition and observation of the experiment again and again as a binding need for the artist always in his dialogue with the Technique with all its rhythms and laws ⁽¹¹⁾.

It is worth noting that the Technique is an effective tool that has contributed to many transformations of the methods and methods used by potters to achieve an aesthetic value, in which much creativity and the element of surprise or shock to the recipient by watching the ceramic achievement, as 'potters in the twentieth century have come to enjoy raku, because of the expressive possibilities inherent in technical spontaneity, the ease of establishing the raku kiln, and the firing in this Technique is very exciting, in addition to the use of a reliable thermal shock tolerant clay with high porosity ⁽¹²⁾. It must be stressed that the raku technique has been admired by many through the surfaces and colors that are irregular an aesthetic value due to the clay used in it, and that the composition of the clay consists of 'a mixture of clays and natural materials, and often adopts fireclay or pottery powder as a factor to give porosity to the clay with which the plasticity decreases, and an earthy clay is added to plastic or some of the spherical clay, where raku clay is characterized by a low hardening temperature and determined (900 - 950 °C). It can be changed according to the composition of the clay ⁽¹³⁾, and the firing temperature has an important role in the glazing process, "The glass used in raku depends on lead (Lead) and alkaline (Alkaline) and on Flux and glass tends to crack due to the confrontation between temperatures and the color range that appears as a result of firing ⁽¹⁴⁾.

It is often caused by 'the reductive mechanism as a chemical act that achieves aesthetic creativity resulting from the iridescent effect of the metallic lustre (Lusterware) and its interferences that it reflects on the surface of the work' ⁽¹⁵⁾. through the effects of an unaccounted interference due to the complete or incomplete reduction. Based on the above, the raku technique differs from many other techniques and is through the clay used, which is mixed with special recipes to withstand high temperatures, as well as in terms of glass and oxide mixtures, furnaces that are of both electric and gas types, but thanks to the gas for firing ceramic pieces, and from the aesthetic aspect that this Technique shows to the ceramic product, we cannot fail to mention the most important techniques followed in this regard:

1- (Japanese Traditional Raku Techniques): This Technique is characterized by using the hand instead of the electric wheel to make vases with high porosity and low temperature using lead glaze. The ceramic piece is removed from the kiln while it is still glowing, and in the case of the glaze, it is placed in a container filled with flammable materials, and this method was applied by Paul Soldner (Paul Soldner) ⁽¹⁶⁾. Red raku, which is taken from ochre and based on natural aqueous ferric oxide, is applied to the base lead glass, and rapid firing in special furnaces produces a reddish color and high gloss. uses metal oxides such as iron, copper and manganese, which is categorized as high-temperature stoneware ⁽¹⁷⁾.

2-The Naked raku Technique: Jerry Caplan was the first person to identify and develop this Technique. He called this technique 'Raku reduction printing' and this happened through the

experiments he did with the rust flakes he applied to the surfaces before firing. He discovered that although the crusts did not fuse with the clay, and this Technique is implemented by placing liquid clay on top of a white glass coating previously burned in the oven, and it is of high density and placed in an oven (at a temperature of 1000 degrees Celsius), and then after that it is placed in a box filled with combustible materials, such as sawdust or paper. The box must be tightly closed until the reduction process takes place with intensive smoke around the vessel's body. After it is taken out of the pot and removed from the box, The box is placed in water to cool slightly. Then, the clay crusts are removed from the surface until we get lines or random smoke spots that fill the vessel's surface and thus give it an aesthetic value. It was noted that the goal of this Technique is for the black smoke to penetrate the clay in some places because naked raku allows black to affect white through an appropriate visual contrast ⁽¹⁸⁾, showing the stages of the naked raku technique process

3- Horse Hair Technique (Horse Hair Technique): The horse hair technique is one of the methods of decorating pottery by applying horse hair and other carbonaceous materials on hot pots, and burning these materials forms smoke patterns and paths, which have aesthetic value on the surface of the ceramic achievement when the pots cool, and the decoration is done at a temperature of (700 °C) or (1000 °C). Many materials, such as sprinkling sugar on the surfaces, can be used to obtain smoky black spots ⁽¹⁹⁾. It must be noted that the endeavour to find a new formula for a technique that is followed by potters in the use of unusual materials such as horse hair and threads that are used in the process of The horse hair is considered a favourite among potters because it is thick and contains a high amount of protein, sometimes horse hair does not leave a trace because the pots are very hot, and if the horse hair does not leave a trace, this is due to the hot pots.

4- Pit Fire Technique: Potters relied on the innovation of methods and techniques in burning their works in many traditional ways, which is a continuation of the development of the pit fire through various color and aesthetic effects that are rich in color and are far from the black color prevailing in use. It is a hole in the earth where the ceramic works are placed. The ceramic works to be burned, and some sawdust is at the bottom with some small cut wood to avoid breaking it by fire, which may affect the pottery to burn. Then, the sawdust and paper are placed on top of the pots and covered by hardwood, which is placed on top of them with some fuel such as petrol to accelerate them. The pots are left to cool in the oven. The pots are taken and cleaned with a cloth first and then with a brush to remove all the obstacles from the fire and remove the black color caused by carbon oxide ⁽²⁰⁾, in line with what has been mentioned that this Technique depends on the element of surprise caused by both the fire and the smoke rising during the reduction process. This is due to the materials that are used in this process, the chemical reaction resulting from the firing process, the interaction of materials and the absorption of vapour clay to form aesthetic effects on the surfaces of ceramic pieces, it is necessary to refer to some of the materials and materials that are used in the raku technique:

1- wounds (Groug): It is a burnt biscuit fire clay that has been ground into granules and can obtain different granular sizes, through the use of sieves with different openings, and Groug is added to raku clay to improve the clay's resistance to thermal shock and give the clay cohesion and rough texture to strengthen it during moulding operations.

2- Talc: It is a rock with a soft texture, consisting of hydrated magnesium silicate with white color, including silver white, grey or greenish white, and the mineral has a pearly luster with a very soft greasy texture that is easy to crumble and crush and is used in ceramics for its high resistance to thermal shocks.

3- Sawdust: Sawdust is one of the organic clay openers that are added to the clay to give it special advantages, and the main purpose of its use is to help uniform drying and reduce warping and shrinkage, and gives a moderate improvement in tensile strength before firing.

4- The Sand: It is a crushed natural silica and is one of the pure sand sources used in glass coatings, as shown ⁽²¹⁾.

Types of raku ovens:

1- Barbed kiln: This kiln is in different shapes according to the potter's need this type of kiln is usually not large in size, and any refractory bricks, whether light or heavy, can be used in the construction of such kilns, but light refractory bricks have better thermal insulation.

2- Brick kiln: The kiln body made of refractory bricks is built in any geometric shape (cylindrical, hexagonal, etc.) and inside the kiln body, refractory brick supports are placed on a refractory shelf away from the walls of the kiln with a suitable distance that allows heat movement, and ceramic pieces are placed on this shelf.

3- Electric kiln: The electric kilns used for firing raku are characterized by special designs from other electric kilns usually used in firing ceramics, as they have special qualities, the most important of which is allowing easy handling of the pieces, so the kiln door is usually at the top for easy handling of the work.

4-The Wood Kiln: is the traditional Japanese raku ceramic kiln and is characterized by its simplicity as it is easy to build there are two types: One type is built inside a hole in the ground and appears from it on the surface of the ground, and the other type is built above the surface of the ground, and the first type is characterized by the ease of extracting pieces from it and is characterized by saving energy due to its presence inside a hole from the ground ⁽²²⁾. based on the above, each of the furnaces is distinguished by something from the other for the first type, which is known as the grid or fibre furnace is easy to transport from one place to another, it is inexpensive and you can work it yourself after the materials that form it, and the lid can be easily removed while the ceramic piece comes out of the oven because it is lighter than bricks, preferably Most potters deal with this type of kiln and can be built on wheels so it is easy to move, as for the other type of brick kiln, it can be moved from one place to another and you can rebuild it again and change its size to suit the ceramic works that want to be burned, as for the electric kilns, they are easy to use and also control the temperatures and get the best degree and the energy used is clean, but the disadvantage is that it is high cost, while the last type depends on the area used by the potter because it consumes the most energy, but when reducing the distance the burning efficiency process decreases.

Paper II: Intellectual pressure in the work of potters Shinyar Abdullah and Yacoub Al-Atoom and their artistic experience

Intellectual pressure: The art of ceramics is considered one of the important arts practised by man throughout the ages, and like other arts, it has received several developments in concepts at the level of technology, form and function according to the various forms of intellectual pressure that greatly influenced the submission of art to the concepts and standards of cognitive thought, as the intellectual pressure 'expresses a set of factors that affect the artist from the philosophical, political, economic, social and general community culture that is considered the pressure affecting the artist, which makes him produce artwork in a way that suits reality'⁽²³⁾. There is no doubt that the establishment of any society depends on many mutual and dialectical relationships, and this, in turn, affects the human being. It is worth noting that contemporary art 'represents the era after the demise of Western hegemony, with its individualism, where non-Western cultures occupied their place in the world, and this trend increased towards pluralism and diverse global cultures'⁽²⁴⁾.

It is worth noting that the contemporary art movement is one of the most important intellectual movements that emerged worldwide. It clearly impacts civilizational achievement worldwide, and presents itself as a philosophy, movement, and reference that has drawn its roots from modernism and postmodernism. It is considered a fertile ground from which to launch new thoughts. As a result of many clear and important intellectual, political, economic and social changes and transformations that societies have undergone, art is no longer separate from directed consumption, which is one of the most important aspects of this era, and this is reflected in the clear relationship between art and public culture. Diversity in artistic styles due to the view that the movement of contemporary human thought is undergoing a historically progressive development through intellectual texts, from another angle, implies that the individual (the potter) was not isolated from society because he is a social human being living in a society without separation, influencing and being influenced by the pressures around him on all levels.

Based on the above, human knowledge puts great pressure on the artist's innovative and creative ability in the field of human achievement in general and artistic achievement in particular. Therefore, those who follow the movement of art history through the ages see the role of scientific knowledge, which has a great impact on the formation of human civilization, starting with the manufacture of tools and the discovery of fire, passing through the art of pottery and metals and ending with the great technological and digital progress we have today in this era. Hans Selye, the founder and director of the Institute of Experimental Medicine and Surgery and a pioneer in psychological stress studies, explained the pressures to which the individual (the artist) is exposed, and his theory is based on the view that 'pressure is a non-independent variable, a response to a pressing factor that characterizes the person and places him based on a response to the pressing environment'⁽²⁵⁾. Therefore, the environment is considered the pressure through which human thought develops and crystallizes 'Nature is the spiritual wellspring of the rules, and nature may be analogous to the human body, habits and instincts, as man is a natural phenomenon of this universe'⁽²⁶⁾.

It is noteworthy that 'the artist goes through deep emotions, and his desire to "express" them leads him to produce artistic subjects'⁽²⁷⁾. so, the process of reading and interpreting the artistic achievement by the recipient is done by describing what happens to the artist's mind while creating this achievement and referring to an intellectual, social or historical pressure. From this

point of view, the flow of ideas in the individual (the artist) was not fixed on one idea for a long time due to the pressure that followed it, because the susceptibility of his ideas is subject to the continuous change that surrounds him, and therefore 'when an idea is brought to the imagination, any other idea related to it, with these relationships, will naturally enter with it very easily' ⁽²⁸⁾. Thus, human nature is so volatile that it does not care about any system and change is a fundamental thing in it.

When looking at ceramics in general, we note the extent of the development that has occurred since its inception until today and its transition from manifestations of imitation to manifestations of contemporary construction and composition, through which potters seek to create a structural system for ceramic art that differs from what was previously due to the intellectual pressure surrounding them, which was evident in the works of potters, especially Shinyar Abdullah and Yacoub Al-Atoum, the research sample, as a result of the influence of many of the ideas and basics followed by the potters with the transition and openness to the other. 'Clay remains the most influential and influential material in the consciousness of the artist and the human being in all civilizations and all ages, and it remains the vital and malleable material in the pattern of public reflection and dealing with it by any artist' ⁽²⁹⁾.

Based on what has been mentioned, the artist is not free from many pressures that affect his personality. Thus, his artistic achievement, political pressure, and wars are the main influences on him, as he lived through their bitterness and moulded his personality. The ceramicist Shinyar Abdulla has endeavoured to do his works with a vision of reality and part of the human challenges, as (the splinter) was one of the ceramicist's works representing monitoring of an important historical stage of the wars to which Iraq was exposed, and therefore the splinter carries a trace in the Iraqi mind to express through it the remnants of death and the cultures of wars and the challenges that have passed through the human being of this country ⁽³⁰⁾. Accordingly, the social anxiety that afflicted humanity in the twentieth century due to wars and colonization has created an obsession with fear, terror, and pessimism in the artist when looking at the future. Based on this, his taste has produced an intellectual format and imagined vocabulary from reality in a more contemporary embodiment, stemming from the ideas and awareness that he has reached as a result of openness in the study of this art and this is shown through the geometric shapes that appeared in his works.

In his works with square, rectangular or circular geometric shapes, he studies the ceramic mass as a pure sculptural work, a reminder of ancient artistic pottery. The skill of the potter Shinyar Abdullah and the intellectual pressures have an important role in the ceramic formation, and this appears through the pressure of the environment and travel, which was evident in his ceramic achievement as a result of his frequent travel outside his country, as travel is considered one of the environmental pressures that affect the thought of every human being, especially art, as the square shape does not indicate freedom as much as it is an expression of internal movement and the concept of conflict existing in a dialectical relationship between regularity and irregularity of the forms taken by the potter ⁽³¹⁾. His blocks express artistic contents that do not reveal or appear through suggestion and work to create an artistic climate balanced with modernities in the renewal of forms and technical treatments, and in these treatments, the potter cuts out some parts to become the centre of the work where the Technique integrates the spaces

with the symbolism of the treated subjects. It is worth noting that the pride in the Arabic language is an important intellectual pressure for the potter, as he often tried to embody the letters on his ceramic works in a regular pattern in Quranic texts, poetry verses, etc. or in an irregular pattern of letters here and there.

This ceramic achievement appears in the form of a two-dimensional block that refers to the geometric dimension and the organic dimension and has included writings in a regular pattern on the front face, especially the color, which is the potter's desire to achieve a state of balance between form and intellectual content represented by the Islamic character by writing the verse in a line that added an aesthetic to his ceramic achievement. The artist man oeuvres with his forms, colors and symbols to give his art modernity as an extension of the environment, its forms, human beings and other symbols, in the context of the aesthetics of expression and the symbolic area. His art is modernity as an extension of the environment, its forms, people and other symbols, in the context of the aesthetics of expression and the symbolic area.' Based on the above, the potter Shinyar Abdullah has worked on research, work and experimentation to be the talk of the present and the future, which put contemporary Iraqi ceramics in a prominent intellectual and social position due to the creative works that formed a distinctive presence at the international level. The ceramicist has not stopped the process of renewal and innovation but is in a continuous state with everything that surrounds him and what affects him. We cannot fail to mention the most important Rakai stages that potter Shunyar Abdullah went through and the development that took place in these important stages of his career ⁽³²⁾, which has a lot of development and continuous work:

1- The first raku phase (1974-1980): It is considered the first phase after his return from America, where he was keen to spread the raku technique in Iraq as it is a new technique and different from the rest of the techniques and the trouble he fell into is obtaining the clay to withstand high temperatures, so he worked on a mixture of clay that was discovered in the area (Akashat) in the city of Al-Qaim, where this mixture was comparable to English and foreign clay with specifications that withstand high temperatures (1,000 degrees Celsius) without any damage. The mixture was comparable to English and foreign clay with specifications that withstand high temperatures (1300°C) without adding any other material; he took part of this clay to America and tried to conduct experiments on it and put some sand and wounds until he reached a mixture so that it is successful and withstands shocks when coming out of the kiln.

2- The Second Rakuya Phase (2000-2010): He travelled to Tunisia and was appointed at the University of Tunis; he was keen to transfer the raku technique to Tunisia even though it was present in the Arts Centre in Sidi Kacem, and put forward his idea to build a kiln for raku technique and produce very beautiful works, consisting of four parts with a length of one meter and a height of (70 cm).

3- The third raku stage Was represented in Jordan, and the Technique was disseminated by the Jordanian potter Yacoub Al-Atoum by building a small kiln, where he took Sumerian objects and worked on developing them with the raku technique, as in Figure (26), and in line with what has been mentioned, the stage of artistic maturity is the period that every artist goes through and is the most important in his life, so the potter Chenyar did not stop at this limit, but exceeded it. He has participated in many festivals and biennials in Morocco, Tunisia, Asia, etc.

The work he participated in at the Mino Biennale in Japan is a stage of artistic and intellectual maturity enjoyed by the potter, and is considered a rich experience for him. This work summarises his work throughout his artistic career, employing the philosophy of regularity and irregularity⁽³³⁾.

As for the Jordanian potter Jacob, he was one of the potters who reflected the intellectual pressures in their ceramic achievement, one of which was the science of human morphology and the secrets of nature. The idea of his ceramic works was based on focusing on abstract organic forms in a contemporary and simple style far from the complexity of color and form, where the potter looks for the forms of some insects and benefit from their composition and structural structure in his ceramic designs that are not devoid of aesthetics, by focusing on the expressive aspect of the secrets of this creature in nature by focusing on the expressive aspect of the secrets of this creature in nature and its distinctive form in terms of its beauty and strange movements, the potter tries to create an intellectual harmony between both the form and the idea to reach an expressive and aesthetic structural system for his ceramic work. Accordingly, the focus is on the nature of the life of these strange creatures in terms of their general appearance, their different ways of life, and their various sounds that are reflected in the artist's imagination through his constant travelling in nature and trying to uncover its secrets, as it was the most important intellectual pressure and influence on his achievements, as the potter wanted from this relationship to reach the most attractive through 'aesthetic morphology'. The potter wanted to translate the ceramic forms and symbolize the man imprinted with the color of the desert⁽³⁴⁾. In line with what has been mentioned, the potter Yacoub Al Atoum focuses on the cultural aspect through which he works to document symbols from his country's heritage and on Arabic calligraphy as a contemporary decorative aspect.

In summary, the potter Yacoub Al-Atoum has worked in a contemporary, simple and abstract style. Historical references are one of the most important intellectual pressures on the potter, and his ideas are based on his land and his country's civilization. Accordingly, his ceramic achievement addressed the desert and its relationship with man to create a harmonious intellectual product between form and idea, intending to reach aesthetic and philosophical thought. The ceramicist Yacoub Al-Atoum was greatly influenced by his teacher Shunyar Abdullah. However, he developed his own style as a result of the influences, ideas and developments in art that took place in the art of ceramics, so the aesthetics of their Technique is directly related to their artistic achievement from the idea to the end of the achievement, and the mechanisms of work and materials implemented between them. The modernity and contemporaneity witnessed by art in general and ceramics, in particular, are linked to a state of research and discovery of new and contemporary elements through the inspiration of the Arab cultural heritage and the forms are located between the ceiling of reflection and imagination, and this is due to openness to many works and acculturation from them to form a personal artistic style.

Indicators generated by the theoretical framework:

1. Raku technology has been associated with society since its first discovery through religious and ideological rituals.

2. Beauty is linked to formal and technical transformations in plastic and ceramic art.
3. Technology is an effective tool that has contributed to many transformations, methods, and techniques that are not devoid of creativity due to potters' experimentation to achieve aesthetic value. This is especially the case with the techniques used in pottery glazing.
4. Intellectual pressure greatly impacts the subordination of art to philosophical, political, social, cultural and other concepts and standards, and the artist and his innovative and creative ability is responsible for bringing them out in a way that is not devoid of expressive and aesthetic value.

Previous studies: After reviewing some studies investigating the aesthetics of Raku technology in the available books and scientific research, the researcher believes that the current study approaches two university studies (master's theses).

Firstly: (Aesthetics of ceramics in the light of raku and metallic lustre: a comparative study) Master's thesis submitted by the researcher Yaqoub Al-Atoum to the Faculty of Fine Arts / Yarmouk University - Jordan (2016). This study includes six chapters: The general framework of the study, the theoretical framework (moulding techniques in ceramics, ceramic aesthetics, raku ceramics and ceramics with metallic lustre.

Research procedures: The research method used to analyze the sample, the research population, the selection of the sample, the selection of the research tool that was used in the service of the research to achieve its objectives, and the analysis of the sample. Chapter Six: This chapter included the results reached by the researcher through analyzing and discussing the sample; it included several recommendations, and the chapter concluded by confirming the research sources. Among the most prominent findings of the researcher:

- 1- Raku ceramic technique is suitable for ancient and contemporary arts because it offers surprise and spontaneity, enhancing the potter's experience.
- 2- Raku ceramicists use gas or wood-fired kilns to produce beautiful works of different sizes and scales.
- 3- The aesthetics of ceramics are achieved by preparing clay that withstands thermal shock because it contains ground clay, sand and talc to create a highly porous clay.

Relationship of the current study to the previous study: The current study differs from the previous study in that it dealt with a comparative study on the aesthetics of the raku technique in the works of potters Shinyar Abdullah and Yaqoub Al-Atoum, and the impact of this Technique on their ceramic products aesthetically, as well as showing the techniques used in raku ceramics, and it benefited from the study in taking sources and some ideas regarding the current study, represented in the first section of the theoretical framework. Therefore, there is a slight convergence between the two studies.

Secondly, The study entitled (Raku Techniques and Aesthetics in Contemporary Arabic sculptural ceramics) is a master's thesis submitted by the researcher (Moaz Muhammad Awad) to the Faculty of Fine Arts / Yarmouk University - Jordan (2021). This study included the first chapter, the general framework of the study, which contained the problem, the research

objectives, limitations, terms and their definition, and previous studies. The second chapter dealt with ceramics, methods of forming ceramics, glazing techniques, forming elements in artwork, aesthetics, and contemporary sculptural ceramics. The third chapter dealt with the ancient Raku ceramics from an artistic and religious point of view, then the history of the spread of Raku techniques in the ancient and modern Arab world, the materials used, the types of Raku kilns, the aesthetic nature of internal and external reduction, the aesthetic nature of color and clay compositions. The fourth chapter includes the selection of the methodology used to analyze the sample, the research population and the selection of the sample, as well as the selection of the research tool that was used in the service of the research to achieve its objectives, and then the analysis of the sample. It included the results reached by the researcher through analyzing and discussing the sample, included several recommendations, and concluded the chapter with a bibliography of research sources. Among the most prominent findings of the researcher:

1- The marriage between sculpture and ceramics in contemporary sculptural ceramics is evident through the theoretical framework and the analysis of the samples. b) The raku technique has continued evolving technologically, reflected in the sculptural surfaces.

2- The aesthetic properties of the color glazes prepared by the potter before glazing the ceramic work.

Relationship of the current study to the previous study: The current study is similar to the previous study in terms of the theme of the title about the aesthetics of the raku technique and the impact of this Technique, and the difference is in the second part that concerns the research community through this study dealing with the works of potters Shinyar Abdullah and Jacob Al-Atoum, and the current study differed from the previous study in terms of the objective and research limits according to their difference in the title, and the current study benefited from the sources and some ideas, especially the first section of the theoretical framework. The researcher finds little convergence between the two studies.

2. Research procedures and sample analysis:

I: The method used: The researcher adopted the descriptive method and the content analysis method of the artwork as it achieves the research objective, so the researcher in the current study described and analyzed the ceramic works of the potters and identified the aesthetics of the raku technique in the ceramic works.

II: The research tool: To achieve the research objective and reveal the aesthetics of the raku technique adopted by the potters, the researcher relied on an indirect interview through social media, as well as the use of the (observation) tool and the indicators that ended with the theoretical framework.

III: The research community: The current research community was identified, and the researcher selected a group of potters' works that carried the aesthetics of the Raku technique, and the research community was selected, which numbered (31) ceramic works from the potters' works.

III: The research sample: The research sample was intentionally selected to serve the research objective by identifying the aesthetics of the raku technique in the works of potters Shanyar Abdullah and Jacob Al-Atoum, and the ceramic works were selected from the research community, the number of which amounted to (4) ceramic works.

Sample Analysis

Modle (1)

Ownership	Completion date	Dimensions	work name	artist name	modle No
Personal belongings	2012	/	Wall panel	Shenyar Abdullah	1



Visual description: The ceramic work is a square wall panel, all parts of which are equal except for the lower part, which is slightly zigzagging, and in the middle of the work there is a notch, defining a semi-square shape that looks like a colored stone piece or a cut part of a mountain due to the zigzags that cover the surface of the work, which gave it a texture that varies between prominent and sunken, and it included a chromatic diversity that refers a sense of beauty to the material due to the raku technique with a chromatic effect.

Analysis: The ceramic work is a one-piece wall panel with a square geometric shape that symbolizes stability and balance, so the line has played an important role in making the work take on many changes. The semi-square shape within the work carries within it an interpretation that symbolizes an event or chaos, as well as the external composition of the achievement was not devoid of color, line and texture harmony, that their awareness and imagination of potter led him to formulate his achievement with a contemporary vision, taking from the harmonious performance in form and content a pattern of parallel relationships between the components of his ceramic achievement. Accordingly, he emphasized the features of the personal style in terms of the innovative treatments that occupied the surface of the achievement and broke the traditional structure recognized by the potter, to present a ceramic achievement according to multiple aesthetic and objective criteria and methods, and that the lines and spaces were abstractions in achieving the idea of beauty as well, as for the texture As for the texture, the potter dealt with something different, sometimes the surface appears hard and other times it appears wrinkled and irregular, and with a color with a beautiful visual vision, he started from the combination of the scientific and experimental study of color through the raku technique and the spontaneity of the sense of color that results from the special effect of firing, in order to show the aesthetic values Through the distribution of colors in a parallel and equal manner on the surface of the work, as well as the Technique that the potter worked on is a contemporary art painting, as the colors have the ability to create movement in the spaces surrounding the form, whether internal or external, where the simplicity in the form according to aesthetic relationships between the formal system and the raku technique.

Model

(2)

ownership	complet date	dimentio n	work name	artist name	modle No.
personal collection s	2013	×40×40 10	formati on	Shenyar Abdullah	2



Visual description: The composition represents a geometric ceramic sculptural work executed using the raku technique, consisting of two parts connected. The first part represents the shape of an extended rectangle of irregular shape that adheres from the convex side and the concave side to the top and is based on the second part, which is square. Some lines appeared on the face of the square irregularly, working in a simple abstract style, and the work is characterized by simplicity and geometric formation in the construction.

Analysis: The general composition of the ceramic work is manifested in a geometric system that the potter seeks to achieve through the creation of abstract geometric shapes, so the potter has summoned his mental storage to form an abstract structural system through which he seeks to highlight the aesthetics of the raku technique, which is a technique that distinguishes the potter and this tendency in style is due to the cultural environment surrounding him as a distinct intellectual pressure, so the work is represented by two parts connected, between the regular and irregular shape and their relationship to each other to raise a dialectical dialogue with multiple interpretations. Two parts connected, between the regular and irregular shape and their relationship with each other to raise a dialectical dialogue with multiple interpretations, and this is what creativity, renewal and transformation sought in contemporary ceramics where it is used in a new, expressive and unconventional way that expresses the ideas represented by the potter, he dealt with the form by suggesting the movement of the composition, and this is due to the irregular shape at the top of the achievement, and it has In general, the work came out in a state of harmony and harmony to create aesthetic values. In terms of Technique, the potter used the Technique of clay plates in his construction, especially the lower part of the square. It is worth noting that the texture ranged between soft and glaze and between some of the finely grooved lines that gave the work an aesthetic appearance as well as the raku technique that produced color contrasts, as the potter In the use of colored oxides and some glazes, such as the white and black color that is in the lines that appeared on the surface of the square, which added a kind of spontaneity that is the result of the effect of the smoke reduction process through the raku technique, the Technique achieved the value of the ceramic work and showed the aesthetic value on the surface of the work, which is not without simplicity and away from the familiar in traditional ceramics.

Model (3)

ownership	complete date	dimention	work name	artist name	modle NO.
personal collection	2019	50×40	Golden Tanit	Yacoub Al-Atoum	3

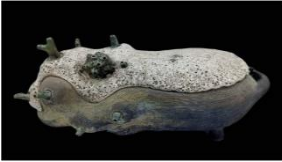


Visual description: A ceramic sculpture made in an abstract style consisting of three pieces of different shapes and sizes mounted one on top of the other, and there is a group of symbols distributed in an orderly pattern arranged in succession in the upper part of the large piece, there are two irregular blocks at the top, and the colour of the ceramic sculpture is black, off-white, gold and silver and executed using the raku technique.

Analysis: The general form of this piece is a structural system of pieces arranged consecutively from the smallest to the largest, some on top of each other, and the form appears at the bottom and has taken a somewhat oval shape that suggests several interpretations and appears on the surface of the piece some shapes and symbols expressing intellectual connotations distributed in a consecutive manner and in a pattern devoid of monotony because the symbols came different and distributed alternately, as the crescent appeared to symbolize femininity, and the triangle, which suggests balance and stability and is used as a symbol. The crescent moon appeared to symbolize femininity, while the triangle suggests balance and stability and is used in religious and folkloric symbols. Hence, the composition in the construction of the ceramic achievement gave a kind of aesthetic to the design. This is due to the addition of some abstract blocks in the structural system, which gave a kind of harmony and balance in the overall form through the harmony between the units of the achievement and its formative elements, which was achieved from the piece with a regular and irregular shape of the other pieces and this work is considered as the potter's influence on the surrounding civilizations This influence is due to the viewing of the symbols of this civilization in art museums, and therefore the potter named this achievement (Tanit) about the name of one of the goddesses who was moving between different civilizations and was known in the Sumerian civilization as the goddess Anana. But when it reached the Amazigh, they called it by this name, which represents the woman who gives life and existence. The potter used the raku technique to fire the ceramic work in this work. The appearance of glazes, such as the black color at the bottom of the work as well as the yellowish-white color at the top of the work, due to the effect of internal reduction by placing the ceramic piece in a container containing wood shavings or paper, and the surface of the work is affected by the fumes that rise as a result of the burning materials inside, as well as the golden color that appeared due to the presence of minerals in the glass composition, which gave a gradation in shadows on the surface of the work, giving it an aesthetic value.

Model (4)

ownership	complete date	dimention	work name	artist name	model NO.
personal collection	2021	×20×43 23	beetle	Yacoub Al-Atoum	4



Visual description: A ceramic sculptural composition executed in Raku technique and working in an abstract style; in the centre of the work, a wavy line has appeared that has divided the work into two parts; the upper section has a small block containing openings as well as tree branches, and the upper surface of the work has been filled with soft dripping and contains olive, white, brown and blue colors.

Analysis: A ceramic sculptural composition that took an irregular shape due to the potter's awareness and thought that led him to formulate his work in a contemporary and abstract style, he looked for forms characterized by some complexity to benefit from its shape and structural structure to give it an aesthetic form, through a harmonious performance between the form and content in which the potter works within a pattern of interconnected relationships between the elements of the ceramic achievement, the ceramic achievement took the form of an insect, the potter in that focus on the expressive aspect of the secrets of this creature in nature through its distinctive shape and its beautiful and strange movement, which is the beetle bug. From this point of view, the potter formed a structural system that is not devoid of harmony between the form and the idea to reach the aesthetic dimension of the general form. On the other hand, he tried to focus on the nature of the life of these creatures in terms of their general appearance and ways of life, which is reflected on his imagination and fertile thought and trying to get out of the familiar to show the ceramic achievement according to aesthetic and objective criteria based on the relationship between the elements, in highlighting the idea of the work. The potter adopted the raku technique, which contributed to achieving color manipulations with a very beautiful visual vision. The functional departure towards achieving the product's aesthetic value achieved a harmonious dialogue between the colors and the overall form, as well as balance and stability.

3. The results and discussion:

1 - Iraqi potter Shinyar Abdullah relied on adopting formal and aesthetic relationships in his ceramic work and emphasizing harmony and color contrast as well as the mark between color and texture in this Technique. As for the Jordanian potter Yacoub Al-Atoum, he relied on formal relationships and their aesthetic manifestation through a technique that gives the forms an expressive and aesthetic dimension at the same time, as in all models of the research sample.

2- The potter Shinyar Abdullah used the integrated form without voids in his ceramic works to allow space for the raku technique to show its beauty in terms of surface contact and color and give a sense of solidity and stability, while the potter Yacoub Al-Atoum adopted the same method, which is the adoption of the solid wood form with one face in his works to create

expressive aesthetic values with surface contact achieved by the raku technique and color. Example (1)

3-The potter Shinyar Abdullah adopted the geometric system with abstract shapes as his own style by working on one flat block with three or four dimensions and employing lettering on it, moving away from the traditional aspect and complementing the aesthetic of the geometric shape with the raku technique, and the potter (Yacoub Al Atoum) adopted this system but in a different way by taking the geometric dimension in general but introducing some parts that unusually produced the work and gave the performer an aesthetic value due to its appearance through the raku technique, as in (1,2).

4- The potter (Yacoub Al-Atoum) works within a pattern of interconnected relationships in a structural system that is not devoid of focus on the expressive aspect and harmony between form and content to reach the beauty of the overall form, as in models (3, 4), the potter (Shanyar Abdullah) is characterized in expressing the craftsmanship and skill of the work because the clay material and the raku technique have a great impact on his consciousness, as in models (1, 2).

5- The potters focused on using the philosophy of regularity and irregularity in producing their works. Regularity refers to regular shapes and patterns that follow specific rules and order to give a sense of regularity and balance. In contrast, irregularity refers to irregular shapes and patterns that do not follow any specific rules and order, as in (2, 3).

6- The potters benefited from the scientific and technical developments witnessed in history by using the raku technique in various ways in glazing their ceramic products, as in all models of the research sample.

7- The raku technique has given aesthetic diversity to the ceramic product, wide spaces in which freedom, innovation and creativity lie about experiences that have a kind of continuous varied development in finding new colors and bright surfaces, reflecting the beauty of the artistic elements of the ceramic pieces, as in all the models of the research sample.

4. Conclusions:

1- The study revealed some formal and aesthetic relationships in the formation of ceramics by emphasizing the color effects resulting from the raku technique.

2-Abstraction played a role in highlighting the aesthetics of the raku technique in the ceramic work.

3- The ceramicists addressed themes linked to the cultural, cultural and environmental heritage as intellectual pressures. They presented them with artistic achievement in a contemporary style that differs from the other despite using the same technique, namely the raku technique.

4- The two potters focused on the expressive and aesthetic aspects to liberate the ceramic text from traditional plastic systems to the world of expressive ceramics in beautiful, creative and innovative ways.

5. Recommendations:

- 1- Provide and translate sources related to international ceramics and follow-up techniques in this field for easy access and adoption in research studies.
- 2- Study the raku technique at the Faculty of Fine Arts and expand the concept of this advanced Technique in contemporary ceramics.

6. Suggestions:

- 1- Intellectual and aesthetic dimensions in contemporary Egyptian ceramics.
- 2- Intellectual and social pressures in contemporary Iraqi ceramics.

WORKS CITED

Dictionaries, encyclopaedias and dictionaries

Ibn Mansour, The Arabic Language, Tawfiqa Library, Cairo, Egypt, 630-711 AH.

Ahmed Mukhtar Omar, Lexicon of the Contemporary Arabic Language, Volume 1, Cairo, 2008.

Saliba. Jamil, The Philosophical Dictionary, G1, The Lebanese Book, Beirut, Lebanon, 1982.

The Arabic Language Academy, Philosophical Dictionary, General Authority for Amiriya Press Affairs, Cairo, 1983.

Albadri. Ali Haider Saleh, Scientific Techniques of Ceramic Art, Volume 1, Irbid, Al-Ruzna Press, Jordan, 2000.

Stolnitz, Jerome, Art Criticism: An Aesthetic Study, tr: Fouad Zakaria, Dar Al-Wafa Our Printing and Publishing, Volume 1, 2007.

Mohsen Mohamed Attia, Criticism of the Arts from Classical to Postmodernism, Manshaat al-Maarif, Alexandria, 2002.

Homi K. Baba, The Location of Culture, Tr: Thaerdeep, National Translation Project, 1st edition, 2004.

Hume, David, A Treatise on Human Nature, trans: Wael Ali Said, Syrian General Book Publications, Volume 2, Damascus, 2008.

Hussam Sabah Jarad, Munther Mohammed Suleiman, Aesthetics of Raku technique in British ceramics, Babylon University Journal, No. 2, Vol. 24, 2016.

Hohra Samir Dakhil, 'The Duality of Color and Texture and their Role in the Aesthetic Representation of Raku Ceramics', Nabu Research and Studies Journal, M10,9, Issue 28, December 2019.

Al-Obaidi. Mohammed, The impact of the social environment and cultural heritage on artistic style, Dialogue Al-Tamdan, Issue 2832, 17/11/2009, 19:42.

Al-Hindawi. Ahmed Hashim, Zainab Kazim al-Bayati, The technical mechanism of contemporary American raku ceramics, Academic Journal, Issue 57, Iraq, 2011.

Al-Watanat. Moaz Mohammed Awad, Raku techniques and aesthetics in contemporary Arab sculptural ceramics, Master's thesis, Jordan, unpublished, 2021.

Al-Atoum. Yacoub Hussein Ahmed, Aesthetics of Ceramics in the Light of Raku and Metallic Lustre Techniques, Master's Thesis, Jordan, unpublished, 2016.

Charleston, Robert. j, World Ceramics An Illustrated History, Hamlyn, London ,1968.

18-Nelson, Glenn.C., Ceramics A potter hand book second Edition, holt, Rinehart and Winston, New York, 1966.

Tyler, Chistopher and Richard Hirsch: Raku, waston, Guptill publications, new yourk ,1975.

http://en.wikipedia.org/wiki/Raku_ware

https://uomustansiriya.edu.iq/media/lectures/8/8_2020_03_23!_01_16_40_PM.docx

<https://almadapaper.net/view.php?cat=11685228/11/2014>

<https://www.sabahalanbari.com/photograph/shiniar.htm>

<https://www.academia.edu/33739966/ceramiaue.work>

<http://www.aic-iac.org/en/membre-yacoub-al-atom/>

<https://www.iraqhurr.org/a/24093517.html> 8/5/2011

<https://m.facebook.com/2018/9/12>

A TV interview on the contemporary Arabic ceramics website with potter Shinyar Abdullah, YouTube platform, on 15/6/2021.

An indirect interview with the artist (Shunyar Abdullah) via the international information network via the Messenger application on 30/1/2023.

An indirect interview with the artist (Yacoub Al-Atoum) via the international information network (WhatsApp application) on 30/1/2023 on Monday.