



## Conceivable form to interpret the term “QITR” from a chemical perspective

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### Abstract

Verses "Ayat" of the Holy Qur'an are rich in meanings and words that need to be deeply managed and checked for understanding. The interpreters have begun to explain these meanings and words for thousands of years. However, as is well known, the Qur'an has lot of secrets that make it renewed and parallel to every age. In view of the modern scientific discoveries, many of the words of the Holy Qur'an have potential aspects of interpretation which are useful in understanding the purpose of these words. Therefore, most scholars have many scientific ideas and terms that explain the interpretation of the verses of the Qur'an and some of the Qur'anic terms from a scientific perspective that illustrates the scientific miracles in the Holy Qur'an.

In this study we have addressed the Qur'anic word "Qtir" which was interpreted by the exponents as the dissolved copper. However, in this article we will show that there is a possibility that the tar is one of the products of oil refining based on scientific research in the field of chemistry.

**Keywords:** Qtir, Qitran, Copper, Chemical



## Introduction

After Praise be to Allah who, only through His guidance and assistance, made the pen poised to write and the tongue run to speak, and after peace and blessings be upon Prophet ‘Muhammad’ Seal of the messengers and the Imam of the Prophets, who was the most eloquent, lucid and articulate among the Prophets. The scientific interpretation of the verses of the Qur’an and the meanings of words is a subject to be taken care of because of the its great impact in one’s life and the society at large. Therefore, we will address in this article the Qur’an term "Qitr" and we will show a possible form of scientific interpretation of it. As well as we will provide the meaning of the Qitr material that mentioned in the two Qur’anic verses:

- قال تعالى (أتوني زُبَرَ الْحَدِيدِ حَتَّىٰ إِذَا سَاوَىٰ بَيْنَ الصَّدَفَيْنِ قَالَ أَنْفُخُوا حَتَّىٰ إِذَا جَعَلَهُ نَارًا قَالَ آتُونِي أُفْرِغَ عَلَيْهِ قِطْرًا) سورة الكهف آية (٩٦)

*“Bring me blocks of iron. At length, when he had filled up the space between the two steep mountain-cliffs, he said “blow”, then when he had made it as fire, he said “bring me qitra (tar) to pour over it”.* (The English translation of the meaning of above Qur’an Aya)

- وقال تعالى (وَلِسُلَيْمَانَ الرِّيحَ غُدُوها شَهْرٌ وَرَوَاحُها شَهْرٌ وَأَسَلْنَا لَهُ عَيْنَ الْقِطْرِ وَمِنَ الْجِنِّ مَن يَعْمَلُ بَيْنَ يَدَيْهِ بِإِذْنِ رَبِّهِ وَمَن يَزِغْ مِنْهُمْ عَنْ أَمْرِنَا نُذِقْهُ مِنْ عَذَابِ السَّعِيرِ) سورة سبأ آية (١٢)

*“And to Solomon We subjected the wind: its dawn journey was that of a month and its dusk journey was that of a month, and We made a spring of qitr “tar” flow for him. And among the jinn were those who worked for him by the permission of his Lord. And whoever deviated among them from our command, We shall make them taste the punishment of the hell blaze”.* (The English translation of the meaning of above Qur’an Aya).

Tar is extracted from crude oil and is processed several times in a refinery to be purified and separated from different elements. Tar is mentioned in the Holy Qur’an several times in several instances ever since it was revealed. This reference proves the greatness of Allah the Almighty and His miracles in the Holy Qur’an. Tar has recently been discovered in industry after the Holy



Qur'an was revealed. As such, we can infer the greatness and ability of Allah as reflected in His creatures. This also indicates that the Holy Qur'an was revealed without alteration, distortion or modification.

Copper and iron are two metals that have been known for a long time. It is known that the use of both metals was available and facilitated to all people. Copper is a reddish metal and is one of the most important metals in terms of its multiple applications. The chemical and physical properties of copper are to some extent similar to those of iron.

The research aims at interpreting the term *tar* as mentioned in the Holy Qur'an in Surat al-Kahf (verse 69) and Saba' (verse 12) from a scientific and chemical perspective and to relate this interpretation with other verses of the Holy Qur'an.

*Tar* is extracted from crude oil and is processed several times in a refinery to be purified and separated from different elements. *Tar* is mentioned in the Holy Qur'an several times in several instances ever since it was revealed. This reference shows the greatness of Allah the Almighty and His miracles in the Holy Qur'an. *Tar* has recently been discovered in industry after the Holy Qur'an was revealed. As such, we can infer the greatness and ability of Allah as reflected in His creatures. This also indicates that the Holy Qur'an was revealed without alteration, distortion or modification.

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## Research Premise

### 1. Different Interpretations of *Tar* in the Two Verses of the Holy Quran:

#### - First: The Cave: Verse (96)

*“Bring me blocks of iron. At length, when he had filled up the space between the two steep mountain-cliffs, he said “blow”, then when he had made it as fire, he said “bring me qitr to pour over it”.*

#### 1. Interpretation of Jami’ Al—Bayaan fi Tafsir Al-Quran, Al-Tabari (Died 310 AH).

Allah the Almighty says that Dū Al-Qarnain told those who asked him “pour tar over it”. *Tar* here means copper. This explanation was adopted equally by the scholars of the Holy Quran. Some linguists in Basra, however, said that *tar* means ‘molten iron’ and the following verse of poetry is cited to support the use and meaning of the term:

*A sword as white as salt, whose iron is crystal clear; Very sharp, of molten and spotless iron made [1].*

#### Interpretation of Ma’alem Al-Tanzil by Al-Baghawy (Died 516 AH).

“ to pour Qitr over it” means ‘bring tar to pour over it’. As such, *Al-Ifragh* means ‘pouring’ and *Al-Qitr* mean ‘tar’, which means molten copper; fire was made to gut the wood while copper replacing the wood until iron diffused into copper [2].

#### 2. Interpretation of Al-Jamei’ Li Ahkam Al-Quran by Al-Qurtubi (Died 671 AH).

The interpretation of “bring me tar to pour over it” means come hither so that I pour copper over it. The word *tar* for most scholars of the Holy Quran means ‘molten copper’; originally, it was derived from distilling because when heated, it changes into a liquid state like water. Other scholars of the Holy Quran said that *Al-Qitr* means molten iron. Another group, including ibn al-Anbari, said it means molten lead, and is derived from distilling and distil [3].

#### 3. Interpretation of Tafsir Al-Quran Al-Kareem by ibn Kathir (Died 774 AH).



In “bring me tar to pour over it”, ibn Abbas, Mujahed, Ekremah, Al-Dhahhak, Qutadah and Al-Sady said it means copper and some of them added that it is molten copper, citing the following Quranic verse:

*“We made flow a spring of copper for him”* (Saba, 12). Therefore, it looks like colored garments. Ibn Jareer narrated that Beshar said that Yazeed said that Saeed said that Qutadah said: it was reported that a man said: Oh, Messenger of Allah I had seen the barrier of Gog and Magog. Then the Messenger said: “describe it to me”. Then, the man said: it is like colored garments – black stripes and red stripes. Then the Messenger said: “you really did see it”. Caliph Al-Watheq equipped one of his princes with an army and sent him to investigate and look closely into the barrier and provide him with a description of it upon return. On their way, the brigade went through different countries and met different kings until they reached the location. They saw it was built of iron and copper with a formidable door onto which huge locks were attached [4].

#### **4. Interpretation of Tafsir Al-Jalalain by Al-Mahally and Al-Sayouty (864 AH).**

“Bring me blocks of iron” indicates that these blocks were very much like stones used for building. He used such blocks to build and among which he put in wood and coal to “fill up between the two mountains cliffs” or mountain-sides then he lit a fire and said: “you all blow”. They blew until the iron melted and became like fire. Then he said “bring me Qetr, which is molten copper, to pour over it”. When he poured the molten copper over the heated iron, they were bonded and became one thing [5].

#### **5. Interpretation of Fateh Al-Qadeer by Al-Shawkany (1250 AH).**

The verse “bring me blocks of iron” means bring me and hand me over. *Zubar Al-Hadeed* ‘blocks of iron’ here means a plural form of *Zubra* ‘block’, which is a piece. Al-Khaleel said: *zubra of iron*” means a big piece of iron and the word mountain-cliffs here means ‘mountain-sides’.



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The meaning of the verse is that they gave him blocks of iron, so he built them between the two mountains until he levelled them, then he said to the workers ‘you all blow’. He told the workers to blow over these blocks of iron by the bellows until he made a fire; i.e. he turned the stuff they blew over, which is in this case the blocks of iron into fire.

It was said that whenever Dū Al-Qarnain finished building a layer of blocks of iron and stones, he ordered firewood and charcoal to be added and set fire to them with the bellows poking the fire, and when iron was heated, it became very much like fire. Then they would bring molten copper to pour over the layer of the heated iron and stones. Linguistics state that ‘Qitr’ in the holy verse means molten copper, and ‘pouring’ means decanting. This explanation is adopted by the majority of the scholars. Some scholars also state that ‘Qitr means molten iron; while others, including ibn Al-Anbari, said that ‘Qitr’ means molten lead [6].

Al-Wahedy said that the scholars said a spring of copper was made to flow for him for three full days and nights in a row as water does, and people still use today what Solomon was given. In other words, we made a spring of copper flow for him as we harnessed iron for David. Qutadah said that Allah made a spring (of copper) flow for him to be used for his own purposes the way he liked.

## **2. The Conceivable Interpretation of the Word *Tar* in the Two Quranic Verses from a Chemical Perspective**

### **First: The Cave (Verse (96)**

*“Bring me blocks of iron. At length, when he had filled up the space between the two steep mountain-cliffs, he said “blow”, then when he had made it as fire, he said “bring me gitr to pour over it”.*



- **Second: Saba (Verse 12)**

*“And to Solomon We subjected the wind: its dawn journey was that of a month and its dusk journey was that of a month, and We for him We made a spring of qitr flow. And among the jinn were those who worked for him by the permission of his Lord. And whoever deviated among them from Our command, We shall make them taste of the punishment of the hell blaze”.*

The literal meaning of the Arabic word *qitr* (*tar*) is copper. It was mentioned in the two Quranic verses and was interpreted as molten copper.

From a chemistry perspective, the meaning of *tar* in the two referential Quranic verses is ‘crude oil’ because ‘crude oil’ is termed tar, pitch or bitumen that bursts out of springs and wells. As for copper, it is like iron, a solid metal extracted from underneath the ground and from mountains. It is extracted from mines then treated through heating and smelting and is formed according to various purposes. It does not flow from springs and wells. Allah the Almighty endowed Prophet David with the ability to use iron: ‘We made iron malleable for him; Allah says in Saba: “We bestowed David Our favor; oh mountains and birds be with him and We made iron malleable for him” (Verse No. 10). Allah inspired him to discover that iron is made malleable by heating and forming as desired to make chains used in the industry of military armor.

In the Quranic verse “to pour tar over it”, the Arabic word ‘pour over’ means ‘to decant’ or ‘to empty’. This is an indication that ‘tar’ is a liquid of certain density and that can be poured over or decanted and is not solid. Likewise, the Quranic verse: “we made a spring of tar flow for him” is an indication that ‘tar’ is a liquid that has the property to flow; the evidence of the specific characteristic of this material being in a liquid state which enables it to flow is that Allah mentions the word ‘made it **flow**’, which is a word used to describe fluids or liquids not solid substances. In addition, the word ‘spring’ is indicative of the fact that ‘tar’ is a liquid that comes out of springs and wells like water; a spring of tar was made to flow for Prophet Solomon for three days. Copper, however, is a solid metal like other metals. If the word ‘tar’ (*Qitr*) had been intended to mean ‘molten copper’, Allah the Almighty would have said ‘We



softened tar for him’ as He said in ‘We made iron malleable for him’, yet still Allah is the All-Knowing and Omniscient.

Likewise, Allah the Almighty mentions the standard Arabic word ‘*nuhas*’ which means ‘copper’ explicitly in Surat Al-Rahman, verse 35, where he says: *“there will be sent against you both, smokeless flames of fire and molten copper, and you will not be able to defend yourselves”* (Al-Rahman, verse 35). As such, how ‘tar’ (Qitr) is interpreted to be ‘molten copper’ while ‘copper’ is explicitly mentioned in the Holy Quran as *nuhas*?

The interpretation of ‘The Cave’ verse: *“bring me blocks of iron. At length, when he had filled up the space between the two steep mountain-sides, he said “blow”, then when he had made it as fire, he said “bring me molten copper to pour over it. So Gog and Magog were made powerless to scale it or dig through it”* also helps in decoding the fact that Dū Al-Qarnain asked the people to bring him blocks of iron, when he had filled up the space between the two steep mountain-sides, he said “blow”, then when he had made it as fire, he said “bring me tar to pour over it; namely, the substance (bitumen and pitch) used now in building and paving roads, so that the molten iron along with the stones and rocks of the two mountains perfectly mixed with tar and all became an impregnable and invincible barrier: *So Gog and Magog were made powerless to scale it or dig through it.*

**Table (1): The Data of the Quranic Verses That Mention ‘Copper’ and ‘Tar’**

No.	Surah	Part	Verse	Verse Statement
1	Al-Kahf	18	69	<p>أَتُونِي زُبَرَ الْحَدِيدِ حَتَّىٰ إِذَا سَاوَىٰ بَيْنَ الصَّدَفَيْنِ قَالَ انْفُخُوا حَتَّىٰ إِذَا جَعَلَهُ نَارًا قَالَ أَتُونِي أُفْرِغْ عَلَيْهِ قِطْرًا</p> <p><i>“Bring me blocks of iron. At length, when he had filled up the space between the two steep mountain-sides, he said “blow”, then when he had made it as fire, he said “bring me qitr to pour over it”.</i></p>



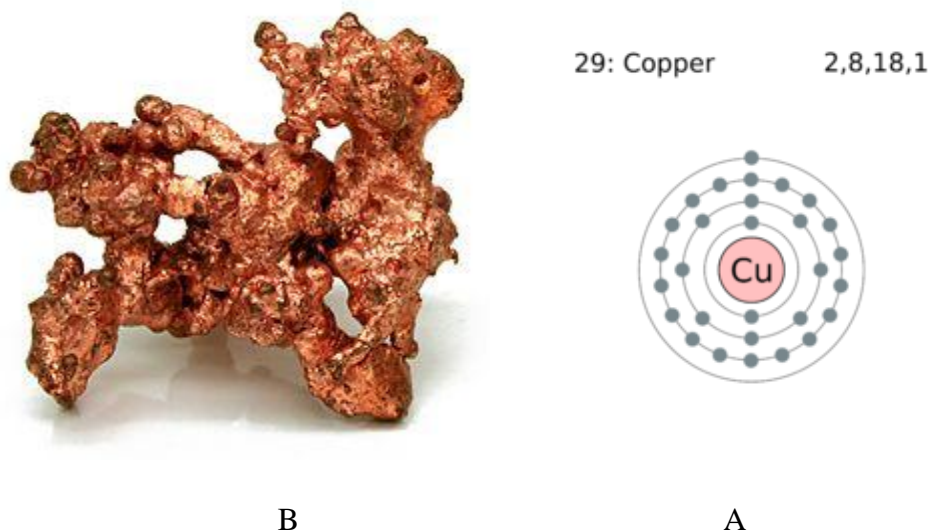


2	Saba	22	12	<p>وَلِسُلَيْمَانَ الرِّيحَ غَدُوها شَهْرٌ وَرَوَّاحُها شَهْرٌ وَأَسَلْنَا لَهُ عَيْنَ الْقِطْرِ وَمِنَ الْجِنَّ مَنْ يَعْمَلُ بَيْنَ يَدَيْهِ بِإِذْنِ رَبِّهِ وَمَنْ يَزْغُ مِنْهُمْ عَن أَمْرِنَا نُذِقْهُ مِنْ عَذَابِ السَّعِيرِ</p> <p><i>“And to Solomon We subjected the wind: its dawn journey was that of a month and its dusk journey was that of a month, and We for him We made a spring of gitr flow. And among the jinn were those who worked for him by the permission of his Lord. And whoever deviated among them from our command, we shall make them taste of the punishment of the hell blaze”.</i></p>	In iron and steel plan ts, iron ore is mix
3	Al-Rahman	27	35	<p>يُرْسَلُ عَلَيْكُمَا شَوَاظٌ مِّن نَّارٍ وَنَحَّاسٍ فَلَا تَنْتَصِرَانِ</p> <p><i>“there will be sent against you both, smokeless flames of fire and copper, and you will not be able to defend yourselves”</i></p>	ed with tar to incr

ease solidity and cohesion. Copper cannot be described as ‘liquefied’ instead of ‘molten’. Can copper be liquefied or dissolved in water to flow as springs, then termed as ‘tar’? Definitely not; this cannot sound logical at all. Let us now shed light on copper and some of its properties.

### Copper

Copper is one of the most important solid metals used by mankind like iron. It was discovered long time ago. Copper is reddish in color, its name is derived from the name of the Latin island of Cyprus and its chemical symbol is (Cu). Copper was used by the Arabs (Ancient Egyptians) to make pipes for the delivery of drinking water and wastewater, and many copper alloys are widely used as in Figures (1a) and (1b) below. [7,8].



**Figure (1, a & b): Electronic Structure & Distribution of Copper**

### Chemical Properties of Copper

Copper is in the eleventh group and in the fourth row of the periodic table of elements. Its chemical symbol (Cu) is derived from its Latin name ‘Cuprum’ and then from English ‘Copper’. It has a high capacity of being ductile and malleable with very high thermal and electrical conductivity. The chemical properties of copper are summarized in Table (2) [7-9]:

**Table (2): Chemical Properties of Copper**

No.	Property	Value
1	Structure	Metallic Solid
2	Atomic Number	29
3	Atomic Mass	63.5
4	Solidity	Ranges between 2.5 – 3
5	Density	89 g/cm <sup>2</sup>
6	Melting Point	1085 Celsius



7	Boiling Point	2567 Celsius
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## Applications of Copper

Copper is relatively a noble metal, widely used for decoration purposes and is also used in the composition of many electronic components. Copper is also one of the most important non-ferrous metals used in industry and in water distribution networks because of its chemical and physical properties. It is widely used in the industry of electrical wires, cables, chemical devices and heating systems in factories and homes. It is used by welders in welding activities, especially for jewelry makers and designers as it connects metals with each other. It is also used in the industry of many alloys by mixing it with other minerals, such as bronze alloys which was used in the industry of old swords and spears. Other alloys such as copper, zinc and nickel alloys are used to make knives, spoons, and bowls. Phosphorus, tin and bronze alloys are used to make springs and batteries while bronze and silicon alloys which are characteristically strong and resistant to friction, are used in chemical industry equipment [10-12].

Iron and copper are widely known metals from ancient times, and their application facilitated life for all people. Hence, there was no need for Prophet Solomon to request that Allah would endow him with a spring of molten copper while he had a plethora of people and jinn who would carry out the work for him.

Likewise, Dū Al-Qarnain did not need then to have liquefied and molten copper in his mission which was to fill up the space between the two mountain-sides to create a strong barrier. The filling was merely stones, iron and sand. Such materials were needed to fill up the space between the two mountain-sides then pour over this filling tar, which is bitumen or pitch so that the blocks of iron are held tightly to the two mountain-sides.

Tar, pitch or bitumen is a mixture of organic and highly viscous liquids, black in color, which is the substance that remains at the bottom of the distillation tower following the partial oil refining (petroleum). It is the heaviest oil product and highest in the boiling point. It was used in paving



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roads. Most tar contains sulfur and copper and contains many heavy metals such as nickel, vanadium, lead, chromium, mercury, selenium, and other toxic elements.

It was used in the past for road paving but was replaced later by asphalt. It can be used as a sealant to insulate and caulk roofs from water leakage. In the past, tar was also used as a sealant to insulate and caulk boats and was used with some additives to paint buildings. [7].

Recently, the dam built by Dū Al-Qarnain was discovered in the Republic of Georgia in the Caucasus Mountains bordering Chechnya, where many Muslims live. Muslim scientists and scholars should make sure whether this discovery is true or not and should visit the barrier to find out whether it contains molten copper or not; Allah is the Greatest, the All-Knowing.

Tar or bitumen is a mixture of high viscosity liquid, black, which remains at the bottom of the distillation tower following the retail refining of oil (oil), the heaviest oil products and the highest in the boiling point used in the paving process. Most of the tar contains sulfur, copper. There are many kinds of oil, the most famous: light oil, and contains about 97% of hydrocarbons. Then heavy oil, and bitumen, which contains only about 50% of hydrocarbons, as well as larger quantities of other elements. Due to the chemical components of the oil, it consists of: carbon by about 85%, hydrogen by about 13%, nitrogen, which is 0.5%, oxygen, and about 1%. It also contains minerals such as iron, nickel and copper by less than 0.1% [13].

Crude oil is usually black, or dark brown, and can be yellowish or green. These differences in color indicate the chemical structures characteristic of different sources of crude oil. For example, petroleum containing a small amount of minerals or sulfur is light colored. Geological conditions have played an important role in oil formation for millions of years. Usually the origin of the plants, algae, and plankton to the bottom of the oceans, and the shallow seas, which are buried and subjected to pressure and very high temperature between the earth scarf. In almost under no oxygen conditions, organic matter is transformed into a waxy substance called kerogen. As the heat increases, the pressure turns into different forms of hydrocarbons, chemicals that are made up of hydrogen and carbon. And the oil passes through several stages for refining, the first process is distillation, in which the heating of crude oil, and then enter the column distillation, and with the high temperature of crude oil in the column distillation, the components of crude oil



to different components of disintegration, 13]. Recently tar is used to pave roads, to save wood from decay, and to protect iron from rust [14]. It is likely to be used to protect the iron in the dam that was built by Dū Al-Qarnain with the guidance of God and referred to in the two precious verses studied in this article.

It has been scientifically proven that when two metals are sought in terms of electrochemical activity, such as iron and copper, corrosion results in one of the minerals. This type of corrosion is called 'Galvanic Corrosion' [15,16]. It happens a lot, such as the Statue of Liberty in New York. The Statue was built in 1886 of iron and copper metals. In 1980, a sever corrosion was observed in the Statue. Scientists distinguished it as a galvanic corrosion.

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