The Legal Status of Virtual Currencies: An Analytical Study

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Abstract
The emergence of virtual currencies has disrupted traditional financial systems and introduced new ways of transacting value, such as through peer-to-peer networks and decentralized platforms. They operate independently of central banks and governments and have gained popularity as an alternative to traditional fiat currencies. This absence of a central authority supporting virtual currencies raises concerns regarding their value and stability as a viable currency. Overall, the status of virtual currencies as money remains questionable and doubtful in the eyes of many experts. The main objective of this research article is to assess the legal status of virtual currencies. This article attempts to find a very clear answer to the question of whether virtual currencies meet the legal criteria to be considered as money. This question is addressed by conducting a comprehensive evaluation and discussion of the economic and legal principles related to the concept of money. In the end, the article concludes that virtual currencies cannot be regarded as money in a legal context. The full potential of virtual currencies will undoubtedly be realized only when the legal aspects of virtual currencies are fully developed and acknowledged. The regulation of virtual currencies by state institutions, or the issuance of virtual currencies by those same institutions are the possible ways to achieve this goal.
Keywords: Legal Tender; Virtual Currency; State Theory of Money; Fiat Currency; Medium of Exchange

1. Introduction and Historical Background
Man cannot live in isolation. He has to interact with other human beings socially and economically. From the era of cave to computer, human history has witnessed immeasurable stages of evolution. Economically speaking, humans had to interact with each other through the exchange of goods and

services. For example, a person with eggs can exchange the same in return of breads. This system of exchange of goods or services in return of some other person's goods or services was popularly known as barter system.[1]
Barter system was quite interactive mode of transaction but had a number of drawbacks. It was a very sluggish mode of economic interaction.[2] The system was quite slow and inefficient because it required a double coincidence of wants - two parties who each had something the other wants - in order for a trade to take place. Bartering also required a lot of negotiation and can be time-consuming. So, with the expansion in population and increase in the complexity of interaction among humans, the barter system faded away. Humans started using some precious commodity as a medium of exchange.[3] Then any person could obtain anything required in exchange of that precious commodity. The person earning the commodity could use the same to get anything whenever he wanted.
In earlier civilizations, salt, different grains and animal skins were also commonly used to serve the purpose of medium of exchange. Salt was considered a very precious commodity because it was used to preserve other food items. Historians also believe that in Roman Empire soldiers were paid in salt. The letters 'sal' in 'salary' are also believed to be taken from word 'salt. Later, gold and silver were very commonly treated as precious commodities to serve as mediums of exchange.[4]
Later, money replaced precious commodities to serve the purpose of medium of exchange. Money in shape of coins and currency notes made trade easier from one region/country to another. Almost all countries across the globe are now using coins and currency notes as money.[5] Now the concept of money has evolved to a next stage where money does not exist in shape of coins and currency notes. It exists electronically. Through a number of internet banking facilities, money has been reduced to a bunch of digits present electronically.[6] That digital currency is only a different appearance of currency notes and coins, and its status as money, therefore, is not questioned.
However, among all these changes in mediums of exchange, the evolution of virtual currencies is the latest one. It has completely changed the dynamics of the idea of money.[7] About twenty years back, there was no idea of global currency and it seemed impossible, and now only Bitcoin, the most famous decentralized virtual currency, has more than 80 million users worldwide.[8]
This article is divided into three main segments, each of which explores different aspects of the concept of money. In the first segment, the researchers delve into the economic perspective on money, examining its various functions and roles within a modern economy. Specifically, the ways are considered in which money serves as a medium of exchange, a unit of account, and a store of value, and how these functions are essential to facilitating economic activity.
Moving on to the second segment, the article shifts its focus to the legal concept of money, exploring the ways in which governments and legal

systems define and regulate currency. Here, the article tries to find answers to the questions such as what gives a particular form of money its legal status, and how the law affects the creation, circulation, and use of money. Finally, in the last segment, attention of the readers of this article is turned to the emerging field of virtual currencies, which have challenged traditional notions of what constitutes "money." Drawing on the principles of jurisprudence, this paper evaluates the status of virtual currencies and consider the legal and economic implications of their growing use in today's digital economy.

2. Virtual Currency and its Types

Virtual currencies are digital assets that use cryptographic techniques to secure and verify transactions and to control the creation of new units. Unlike traditional currencies, virtual currencies are not backed by a central government authority.[9] Virtual currencies are defined by the Financial Action Task Force, an international organization to keep an eye on countries regarding money laundering and terrorism financing, as:

> *"Virtual currency is a digital representation of value that can be digitally traded and functions as (1) a medium of exchange; and/or (2) a unit of account; and/or (3) a store of value, but does not have legal tender status (i.e., when tendered to a creditor, is a valid and legal offer of payment) in any jurisdiction."* [10]

Virtual currencies are primarily created to be circulated within a virtual world. However, they may be convertible or non-convertible. Convertible virtual currency means a virtual currency which can be purchased through a fiat currency[11] and later can be returned to get fiat currency back. For example, bitcoin can be purchased in exchange of US dollars and, later, Bitcoin can be returned to get US dollars back.[12] Non-convertible virtual currencies are those virtual currencies which cannot be exchanged for any fiat currency. Gold in a virtual world, namely 'World of Warcraft (WoW)' is an example of non-convertible virtual currency.[13]

As per their supervision and control, virtual currencies are divided into two categories- centralized and decentralized.[14] A centralized virtual currency is created and controlled by the developers of a virtual world in which the currency is to circulate. Decentralized virtual currencies, on the other hand, are neither created nor controlled by a single supervising authority. Bitcoin and other cryptocurrencies are the examples of decentralized virtual currencies. [15] The categorization of virtual currencies by the table below:

	Centralized VC	**Decentralized VC**
Convertible VC	Generated and controlled by a single central authority, and can be purchased by fiat money and returned back to get fiat currency back.	Neither generated nor supervised by a central administrating authority. Based on math-based peer-to-peer transfer of values.

	Example: Linden Dollar which is created and controlled by the developers of Second Life virtual World, and can be purchased by fiat money e.g. US dollars, and can be returned to get US dollar back.	**Example:** All cryptocurrencies, for example, Bitcoin, LiteCoin, are not regulated by a central authority and can any time be returned back to get almost all major fiat currencies.
Non-convertible VC	Generated and controlled by a single central authority. Earned within the virtual world or in exchange of fiat money but cannot be returned to get fiat money back. **Example:** Gold in a virtual world, namely World of Warcraft (WoW) is controlled by the world's developers, but it cannot be returned to get fiat back.	This category does not exist.

Through all the above discussion, it can be concluded that all types of virtual currencies are private in nature as they are created by individuals or private institutions. Even in the case of decentralized virtual currencies, there is not a single issuing authority, administrative and register-keeping authority. There is also no need to open an account to make transactions. No authority can retrieve decentralized virtual currencies from users. So, keeping these all aspects of virtual currencies, a very basic question arises whether virtual currencies are money in legal sense. To answer this question, the concept of money in the eyes of economists is very important to be discussed.

3. The Concept of Money in Economics

To answer the above-mentioned question, it is important to first understand the concept of money. As per views of economists, money is anything which serves the purposes of money.[16] Sir Dennis Holme Robertson, an English economist, defined money in the following words:

> *"Anything which is widely accepted in payment for goods, or in discharge of other kinds of obligations."*[17]

Another English economist, Professor Marshall, defined money as:

> *"Money constitutes all those things which are at any time and place, generally accepted without doubt or special enquiry as a means of purchasing commodities and services, and of defraying expense."*[18]

So, anything which renders the purposes of money can squarely be declared as money as per the definitions preferred by economists. According to economists, there are three basic functions of money. These are (1) medium of exchange, (2) s store of value, and (3) a unit of account.[19]

The first function of money is medium of exchange. As discussed earlier, the most basic function of money is its role as a medium of exchange.[20] Any person having money can purchase anything which he requires. The seller, on other hand, accepts money in exchange which he later uses to purchase the things of his own necessity. So, both individuals use money according to their own necessities at their own suitable time. This quality of medium of exchange of the money is generally and widely recognized within a reasonable area, or, in current nation state system, within a State. So, the seller would be confident that the obtained money would be accepted by other sellers when he would be in the capacity of a buyer.

The second function of money, a store of value, refers to the quality of money to store some kind of value in itself. If someone sells any commodity or renders some kind of services and earns money, he is not required to use that money today. Money would store the value of that particular commodity or services in it. The person, on the next day, month or year, would use that value to purchase any other commodity or to have services of any other person. However, this storage of value may be, with the passage of time, the subject of different outside factors, for example, inflation. Consequently, the value may increase or decrease.[21]

The unit of account is the third function of money which refers to the capacity of money to work as a yardstick to compare the value of different commodities and services.[22] For example, the price of: a chair is Rs. 500, a table is Rs. 1000, and a sofa is Rs. 1500. So, it is money which makes it possible to conclude that one sofa is equal to three chairs; one sofa can be exchanged for one table and one chair; and one table can be exchanged for two chairs. So, it is more convenient to set the value of a sofa in terms of money i.e. Rs. 1500 instead of in terms of three chairs.

To answer the question whether virtual currencies are money, it is prerequisite to answer whether virtual currencies perform all three functions of money. For this purpose, the researcher takes the example of Second Life, a leading virtual world since 2003. Second Life has virtual currency, namely Linden Dollar. On the virtual market of Second Life, there are a number of virtual items available for sale and purchase. Each item has been attached with a tag price in terms of Linden Dollar. For example, Oxford69 Shoes are available on marketplace for 99 Linden Dollars. The price of a Leather Jacket is also 99 Linden Dollars.[23]

So, in spite of searching for a person with abundance of one virtual item and in need of the other, a person can simply purchase any virtual item through Linden Dollars. So, Linden Dollars performs the function of

medium of exchange of money. Linden Dollars are accepted throughout the marketplace of Second Life as a medium of exchange.
Linden Dollars, like other virtual currencies, are created and controlled by the developers of the virtual world Second Life. So, the status of the Linden Dollar within the world is accepted, by the developers as well as other users, without any question of doubt. That is why, a person selling any virtual item in return of Linden Dollars, or directly purchasing Linden Dollars is absolutely confident about their later use as a valid tender within the world. So, Linden Dollars perform the function of store of value of money within the Second Life world. It is, however, important to mention here that developers of different virtual worlds may add some kind of restrictions on the use of virtual currencies. For example, different virtual worlds may have set an expiration period of their virtual currencies before which they must be used to purchase any virtual item or they would expire.[24]
On the marketplace of Second Life, different virtual items of different categories and prices are available. The price of: one PFC-Slayer is L$ 400, one Heavy Riot Shield is L$ 399, one Nexus Riot Pepper Spray is L$ 199, and one TFs Stun Gun is L$ 600.[25] So, one can say that the value of one PFC-Slayer is almost equal to one Heavy Riot Shield; the value of one Heavy Riot Shield is almost twice than that of one Nexus Riot Pepper Spray; and one TFs Stun Gun can be exchanged in return of three Nexus Riot Sprays, or one Heavy Riot Shield and one Nexus Riot Pepper Spray. It is Linden Dollars that becomes the criterion to measure the values of different virtual items within the virtual world. Hence, Linden Dollars has been playing the third function of money i.e. unit of account.
Linden Dollar is a centralized virtual currency as it is generated and controlled by a single centralized authority i.e. the developers of the virtual world Second Life. Decentralized virtual currencies, on the other hand, also perform all these functions of money. For example, Bitcoin, the first and the most leading decentralized virtual currency, is universally being used as a medium of exchange, a store of value and as a unit of account.[26] However, owing to their decentralized system, decentralized virtual currencies are vulnerable to higher risks and their users are less confident about their future.[27]
Finally, it can be concluded that virtual currencies play all three basic functions of money. Keeping in mind the economists' basic definition of money i.e. any commodity which performs the functions of money, it can be reckoned that virtual currencies thoroughly fall in the definition of money.

4. The Concept of Money in Law

Moving to a next step, the next relevant questions are whether the abovementioned definition and ingredients of money would be acceptable for a lawyer; and whether virtual currencies are money in legal sense. To answer these questions, it is important to first understand the concept of money in legal sense. Aristotle, a Greek philosopher, once said:

> *"Money exists not by nature but by law."*[28]

More than 2500 years ago, Aristotle considered money not in terms of its nature and functions but in terms of its legal nature.[29] Greek word for 'money' is 'nomisma' which is a derivative of a word 'nomos'. The word 'nomos' means a legal or binding custom.[30] So, the philosopher didn't consider money as a commodity like gold, silver, wheat and barley.

John Locke, English Philosopher described money in the following words:

> *"Observe well these rules: It is a very common mistake to say that money is a commodity… Bullion is valued by its weight …. money is valued by its stamp."*[31]

Likewise Benjamin Franklin, a founding father of the United States of America, distinguished money from its nature and functions to state its legal nature. His remarkable words on the point are:

> *"Silver and gold… (are) of no permanent value… We must distinguish between money as it is bullion, which is merchandise, and as by being coined it is made a currency, for its value as merchandise, and its value as a currency, are two different things…"*[32]

So, at a very initial stage it can be said that definition of money according to economists are purely based on practical and functional grounds, and lacks legal aspect of money. The aspect that is mandatory and indispensible, especially in the current era of nation-state system. To point out all ingredients of money, a comprehensive definition acceptable to jurists is referred to by Frederick Alexander Mann, a well-known British jurist, in his book 'The Legal Aspect of Money' as:

> *"It is suggested that, in law, the quality of being money is to be attributed to all chattels which, issued by the authority of the law and denominated with reference to a unit of account, are meant to serve as universal means of exchange."*[33]

So, as per the legal definition of money, anything to qualify the criterion of money must have the ingredients: (1) issuance by the authority of law / State, (2) denominated with reference to a unit of account, and (3) universal means of exchange.[34]

From the simple reading of the ingredients, it can be stated that the legal definition of money is an extension of the definition provided by economists. Although there is a difference in explanation of the other two ingredients of money as well, legal definition doesn't discredit the functions of money altogether in the definition of money.[35] However, legal definition provides an important and integral ingredient of money which makes it a binding, widely acceptable and legal tender.

For jurists, only those chattels can be accepted to be treated as money which are issued by a sovereign State or by an institution with the approval of State. This is now known as the State Theory of Money introduced by Georg Friedrich Knapp.[36] The theory laid the foundation of the chartalist school of monetary theory. According to the theory, money is purely the creation of law and it cannot be explained without its legal base. G.F Knapp's words deserve quotation:

> *"The soul of currency is not in the material of the pieces, but in the legal ordinances which regulate their use. All money, whether of metal or of paper, is only a special case of the means of payment in general. In legal history the concept of the means of payment is gradually evolved, beginning from simple forms and proceeding to the more complex."*[37]

It is important to mention here that some jurists opine that confidence and practice of people may have the power to make anything money and alter its value. Nussbaum, for example, states that legally speaking, the value of money / legal tender power of money can never exceed its nominal value. In some circumstances, he illustrates, some money tokens may not be considered acceptable according to their nominal value, and people would start transacting according to their intrinsic value instead of their nominal value.[38] So, in such cases, it is the people's practice, and not the State's power, which would be regulating money. However, such situation may occur only in extraordinary circumstances.

Practically, such situation arose during a war between France and German in 1870-71. Different French and German towns issued 'emergency money' / 'necessity notes' titled '*monnaie obsidionale*'. Due to shortage of state-issued currency, that money was very easily available and acceptable for all people. That type of currency issued without an authority at the time of political or economic crisis is known as *notgeld*. Authorities arrested the persons and charged them with the allegations of counterfeiting the state-issued currency.[39] Different courts also agreed with charges and punished the accused. Supreme Court of Germany, however, overturned the decisions and concluded in favor of the accused. The court held that acceptance by community validly converted a commodity into money in the time of extreme crisis. However, the court reaffirmed the basic principle that it is only State who has authority to issue money in all circumstances, and advanced reasons for his judgment that the State tolerated and later even ratified their actions.[40]

In another possible preposition, the problem may arise when, within a State, a rebellious group assumes power against a recognized government. The group then may impose a currency for their seized area. Although the currency would not have been lawfully issued by a recognized government, the currency must be recognized as money due to the circumstances.[41]

As per the legal definition of money, the second essential of money is its denomination with reference to a unit of account. Only those commodities can be considered money which are issued by the authority of State and are denominated with reference to a unit of account. The denomination with reference to unit of account can be described in the words of an English jurist William Blackstone as:

> *"Denomination is the value for which a coin is to pass current."*[42]

The reference of value attributed is a very basic and practical element of money. Whenever people speak of money, for example, dollars, rupees and pounds, they speak in terms of that value or fraction or multiplication thereof i.e. two dollars, one hundred rupees. This quality of denomination with reference to a unit of account is exclusively for money.[43] For instance, a person can speak of a currency-note issued by the State Bank of Pakistan with the approval of the government of Pakistan that it is one hundred rupees. The same description would be wrong regarding a cheque of one hundred rupees. So, this quality of denomination with a reference to a unit of account, its fraction and multiplication is an exclusive and indispensible feature of money.

When a State desires to change means of payment it must 1) describe the new recognizable means of payment, 2) provide the name for the new units of value and means, and 3) provide the value of new unit with regard to the previous one.[44] It is important to mention here that denomination of money is absolutely nothing to do with the actual value of the commodity of currency. This may be different in case of economists' definition of money. However, legally speaking, denomination of money is the value of discharge and exchange power attached to the currency is the exclusive prerogative of a State.[45]

The third basic element of the legal definition of money is its function to serve as medium of exchange. This is the most important and basic purpose of money and, therefore, it cannot be excluded from the definition of money irrespective of the type of definition. Actually, legal definition does not deny the purposes of money provided by the economists while defining money. However, legal definition adds an important essential of a commodity to be qualified in the definition of money, and adds some further modifications in the other functions of money according to the principles of jurisprudence.

Likewise, legally speaking, money serves the medium of exchange does not make it only an object of exchange, or, in other words, only a commodity. Any object or commodity, therefore, cannot be treated or declared as money even it serves the purpose of medium of exchange within a community. Bills of exchange, cheques, promissory notes, postal orders, gold and silver bars etc. cannot be treated as money even they are treated as media of exchange within a society or a group of persons. These things, in the times of extraordinary circumstances, had been declared as money by sovereign authorities. At the start of the World War 1, postal orders were declared as a valid legal tender amending the Currency and Bank Notes Act, 1914.[46] Further, it is worth mentioning here that in a number of penal enactments the phrase 'goods', 'goods and chattels', 'goods and merchandise' explicitly exclude money from their definitions.[47]

Therefore, in legal terms, it is not a quality of an object to be served as a medium of exchange to qualify the definition of money. Rather, it is mere one of reasons of declaration of an object by sovereign as money that the same serves as a medium of exchange. History supports this principle with a number of instances where money, especially coins, were suppressed by people to be circulated, or lost the purchasing power it previously had. These events, however, didn't absolutely stop the use of coins as money or they couldn't be restricted to be declared as money.[48]

On the other hand, in a number of cases, money is transacted in an absolutely different purpose than that of a medium of exchange. For example, money in a bag sold in terms of its weight, or a coin or a note being purchased due to honor or curiosity. So, in spite of such transactions, money would not lose its nominal value in other circumstances and transactions.[49]

5. Legal Status of Virtual Currencies

This is an opportune moment to reassess the standing of virtual currencies. This time, the fundamental criterion is the legal definition of money. The researchers are attempting to determine whether virtual currencies meet the legal requirements for being classified as money. By evaluating these legal criteria, the aim is to ascertain whether virtual currencies can be considered a legitimate form of money.

As per the legal definition of money, the first and the most important ingredient is its issuance by the sovereign or by an institution with the approval of the sovereign. As it has been discussed earlier, in case of the centralized virtual currencies, they are created and supervised by a centralized administrative authority i.e. the developers of the concerned virtual world.[50]

On the other hand, decentralized virtual currencies are neither created nor regulated by any such central authority. So, in both types of virtual currencies, the basic essential of the sovereign's authority is absolutely missing.

Regarding other two ingredients of legal definition of money, it is worth mentioning here that the first essential is so important that the same impacts the other two essentials as well.

The power to determine the denomination of money in relation to a unit of account rests solely with the government or sovereign, and is not dependent on the intrinsic value of the object or commodity used to produce the currency. Likewise, it had been also legally and historically settled earlier that it is not the practice of considering any commodity as a medium of exchange by a community or a group of people which makes any commodity money.

Therefore, in spite of the facts that centralized virtual currencies are issued and regulated by a single private central authority; virtual currencies are denominated with a unit of account; virtual currencies are widely accepted by a huge number of people as media of exchange; and convertible virtual currencies can be purchased through fiat currency, and returned to get fiat currencies back, virtual currencies cannot be considered as money in legal sense.

6. Major Difference between Virtual Currency and Fiat Currency

In addition to theoretical distinctions, there exist practical variations between virtual currencies and fiat currencies as well. Several relevant contrasts are outlined below:

6.1.1. Issuing Authority

The first and the most basic difference between virtual currencies and fiat currencies, as discussed earlier at length, is their issuer. Fiat currencies are issued and controlled by governments or central banks of the concerned state. Virtual currencies are issued and controlled by the developers of the virtual world (centralized virtual currencies); or created and collectively operated by all users (decentralized virtual currencies).[51]

6.2. Degree of Risk

Another difference between virtual currencies and fiat currencies is the degree of risk involved. In case of fiat currencies, a State and its authorized institutions are involved which are equipped with much better risk resistance capacity.[52] On the other hand, virtual currencies, especially decentralized virtual currencies, are prone to more risks. A State has a formal banking and financial system. State and its authorized institutions have a better control over the demand and supply of their money.

Virtual currencies, on the other hand, don't have such formal institutions and mechanism. Especially decentralized virtual currencies are highly volatile and quickly react to outside factors as they don't have any single central administrative authority.[53] For example, the value of one Bitcoin was around US $67000 in November, 2021, and currently, on January 20, 2023, the value of one Bitcoin is US $21089. So, in almost one year, Bitcoin has lost more than its two-third value.[54]

6.3. Regulations

State-issued currencies are regulated through different laws of their respective countries. Their issuance, denomination, supervision, change in value etc. are managed by different regulations. In the United States, The Coinage Act, 1792 and The Coinage Act, 1965; in Pakistan, The Coinage Act, 1906 and The Foreign Exchange Regulation, 1947; and in the United Kingdom, Currency and Bank Notes Act, 1954 are all relevant examples on the point.[55]

As virtual currencies, on the other hand, are issued and controlled by private companies, so, they are regulated by the companies' internal policies. At state level, virtual currencies are still unregulated in most of the countries. Different countries are now debating to legislate to regulate virtual currencies. Regulating virtual currencies by a country would affirm the currencies' position as a valid legal tender (money) within the jurisdiction.[56]

6.4. Circulation

Fiat currencies are issued to be circulated primarily within the State of their issuance. Centralized virtual currencies are issued for the users of a particular virtual world, and to be used within the world. The virtual world, however, no such boundaries like states. Decentralized virtual currencies, on the other hand, are issued to be circulated across the globe via internet.

6.5.Exchange Rate

Although a state does not have a complete control over exchange rates between its currency and currencies of other states, it has very strong tools to regulate and maneuver the exchange rate.[57] Developers issuing centralized virtual currencies don't have any kind of such tools and mechanism to control exchange rates between their own virtual currency and other virtual currencies. There is absolutely no such mechanism in case of decentralized virtual currencies as they absolutely lack control of a single centralized authority.

7. Conclusion & Recommendations

Virtual currencies have been hailed as a groundbreaking innovation in the world of finance, offering a fast, efficient, and decentralized way of conducting transactions. Unlike traditional fiat currencies, virtual currencies are not backed by any government or physical commodity, but rather rely on complex algorithms and blockchain technology to maintain their value and secure their transactions.

From an economic perspective, virtual currencies have all the hallmarks of "money," serving as a medium of exchange, a unit of account, and a store of value. They are also highly divisible and fungible, allowing for seamless transactions across borders and markets. However, despite their potential advantages, virtual currencies have struggled to gain widespread legal recognition and support.

One of the main challenges facing virtual currencies is their lack of legal status and protection. Unlike traditional currencies, virtual currencies are not issued or regulated by central banks or government authorities, and their value is highly volatile and subject to speculative trading. This flaw in virtual currencies may lead to a number of issues like higher volatility, money laundering, tax evasion and other financial scams.[58]

Despite the fact that virtual currencies are not legally designated as money, government entities are empowered to promulgate necessary regulations for the oversight of virtual currencies. Furthermore, virtual currencies may also be issued by a sovereign state or group of states to make them official and legal tender. Through necessary regulations, or issuance of a virtual currency by sovereign state(s) would increase people's confidence, and consequently maximize its utility and minimize its shortcomings.

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