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On the Dialectical Becoming of the Medium of Exchange

Abstract

This study examines the historical evolution of the medium of exchange as a dialectical process governed by an objective law of contradiction. It seeks to uncover how the product, through the negation of its immediate and concrete form, transforms into a social and abstract reality—money. The inquiry begins with the product not inte for exchange, moves through the socially dominant commodity, and culminates in money, which embodies excha value in its purest and most abstract form. Through this movement, the study reveals that each stage negates yet preserves the essence of the preceding one, expressing the inner dialectic of value itself. Thus, the product negate material immediacy by becoming a commodity; the commodity negates its dual nature by becoming money; and money, in turn, carries within itself the contradiction that propels it toward ever higher forms—up to digital curr —where value finally appears as pure abstraction. The research concludes that the evolution of the medium of exchange is not a mere economic succession, but a dialectical becoming of value: a process in which the material transforms into the ideal, and necessity manifests as freedom within the social metabolism of labor.

Keywords

Dialectics – Medium of Exchange – Value – Commodity – Money.

Central Hypothesis

The central hypothesis of the study is that the evolution of the medium of exchange is governed by a dialectical law of contradiction whereby each histo form negates, preserves, and transcends the previous one. Money thus represents not merely an economic instrument, but the culmination of value's dialectical becoming—from material utility to pure abstraction.

Methodology

The study adopts a dialectical-materialist methodology grounded in historical analysis. It relies on the logic of contradiction to trace the objective law governing the transformation of the medium of exchange from its material and concrete forms to its abstract and symbolic manifestations. By integrati philosophical reasoning with historical-economic data, the research reconstructs the internal necessity of this evolution as a dialectical movement of negation that both preserves and transcends the previous form within the totality of social production.

Introduction

Throughout human history, the medium of exchange has undergone a profound transformation that mirrors the dialectical movement of social existen itself. What first appeared as a simple product, created for direct consumption gradually transcended its material immediacy to become an abstract bea value—money. This transformation, however, cannot be understood as a mere chronological succession of economic forms, but rather as a dialectical process governed by an objective law of contradiction.

At the core of this process lies the self-negation of the product: its transformation from a tangible object of need into a universal equivalent embodying social labor. The product ceases to exist merely as a concrete good for use; it negates itself to become a vessel of exchange-value. In each stage of this historical development, the preceding form is negated and yet preserved within a higher synthesis, expressing the living logic of contradiction that gove the evolution of economic and social relations.

From this perspective, the present study seeks to trace this dialectical movement from the incidentally surplus product to the socially-dominant comm and from the commodity to money in its successive historical forms, culminating in digital currency. It aims to reveal the objective law underlying this evolution, showing that the history of the medium of exchange is not a superficial progression within the economic system, but rather a dialectical manifestation of the social contradiction inherent in labor itself—that is, the process through which human productive energy is transformed into socia value, and then into a material form that conceals its essence while reproducing it at a higher level of abstraction.

(1) The Social and Historical Conditions

for the Emergence of the Medium of Exchange

Money, as a medium of exchange that has come to dominate, manifests its tangible form in a legal expression representing a (legally prescribed) quanti social labor. It enables its holder, through exchange, to obtain the products of others' labor in proportion to the nominal value it embodies.

To understand the objective law governing the development of the medium of exchange—from its simple form, which appears in a product not primaril intended for exchange, to the dominant commodity-product, and finally to the more complex form embodied in money **(1)**—we must first examine the objective conditions underlying the phenomenon of exchange itself. This phenomenon is the very process through which the medium of exchange acqu its essence and evolves throughout the course of history. Exchange presupposes three elements that, in their reality, constitute the conditions for the realization of the phenomenon in question. These elements appear as follows:

1.Exchange presupposes a certain degree of social organization, which entails a collective awareness that obtaining others' products through exchange, within a contractual relationship, is preferable and more beneficial than seizing them through looting and bloodshed. Consequently, our field of analysi confined to societies that have surpassed the stage of primitiveness. **(2)**

2.Exchange also presupposes the existence of surplus; for one would not relinquish a product of which one possesses no surplus merely to obtain anoth person's product, who likewise holds no surplus of its own. For the process of exchange to begin, both parties must possess a certain amount of surplus

3.To complete the process of exchange, it must also be assumed that members of society have previously agreed upon a socially shared, and generally-accepted, measure on the basis of which exchanges can take place. This measure can only be labor expended; for it is through assessing each product by socially necessary labor time spent in its production, according to the prevailing productive technique, **(4)** that price—whether expressed in products o money—fluctuates upward or downward around a specific social value, which, as we know, serves as a stable pillar over the long, or even very long, terr

Within the framework of these three conditions, two essential observations must be borne in mind:

1. It is not necessary for all societies to have experienced every historical form that the medium of exchange has assumed. A society may emerge and ad the product as its medium of exchange, then move directly to money without passing through the stage of the commodity-product. Conversely, another society may arise, adopt the commodity-product as its medium of exchange, and then proceed to money without ever knowing the product as a mediun exchange.

2. No pure medium of exchange exists at any stage of social organization. It is always possible to find the exchange of products for products coexisting v dominant commodity-product serving as the socially accepted medium of exchange, or to find this commodity-product alongside money. We may also observe money coexisting with the exchange of products for products, or even witness all three fundamental forms—the product, the commodity-produ and money—appearing in varying degrees, depending on what the dominant class in society determines to use as the prevailing medium of exchange. Consequently, there is no need to assume a predetermined chronological succession; relative leaps, as well as incidental and temporary regressions witl the course of social development, are historically possible. Nevertheless, the overall trajectory of development remains governed by an objective law tha regulates it at the social level.

(2) From Accident to System:

The Historical Genesis of the Product as a Medium of Exchange

We can now, after identifying the objective conditions of the phenomenon of exchange, move on to examine the historical development of the medium exchange, in order to discern the objective law governing this development at the social level. This history begins to manifest with the transition from tl incidentally surplus product to the commodity-product.

Let us begin with the simplest form assumed by the medium of exchange—the form of a product not originally intended for exchange. Consequently, an surplus of it is merely incidental. If we emphasize that this form manifests its embryonic, rudimentary features within the framework of a primitive soci that produces for direct consumption rather than for exchange, we are left with one plausible assumption: the existence of a group that, by nature, prod for the sake of direct satisfaction—say, a group that catches fish—and eventually finds itself with a surplus of fish. This surplus might be wasted until th group realizes the possibility of benefiting from it by exchanging it with another group that also possesses a surplus, say of dried meat. Here, incidentall exchange occurs: dried meat for fish. Fish thus becomes, as does dried meat, a medium of exchange—an exceptional medium and an exceptional exchai

The medium of exchange here, therefore, is embodied in a product not originally designed for exchange. The active capacity of this medium lies in its al to satisfy needs, while its other potential—the capacity for exchange—remains dormant. Within the same context, and quite plausibly, we may assume t an individual or an early community discovered something—perhaps a shell—by chance in shallow waters, and another individual desired it, whether fc food, for its bright color, or for use in a particular religious ritual, offering, in return, a turtle shell he had hunted. Here the exchange takes place as bartering: the discoverer of the shell takes the turtle shell, while the hunter receives the shell.

Gradually, the shell gains acceptance: first from a third person in exchange for pottery he made; then from a fourth person in exchange for the leather h dyed; from a fifth in exchange for the fish he caught; and from a sixth in exchange for the horns of an animal he hunted, and so on. The shell thus becor socially accepted—and even desired—medium of exchange, originating, however, from a primitive product-for-product exchange. The medium of excha cannot be conceived as becoming socially dominant without such a historical genesis, **(5)** in one form or another, to one degree or another—even if that medium later becomes a dominant commodity-product or ultimately transforms into money.

Since the development of the medium of exchange is determined by the evolution of social struggle within the spheres of production and distribution— not the other way around—the latent and dormant capacity of the product, namely its potential for exchange, becomes active through the possibility of exchange. This possibility enables individuals to obtain from others the products that meet their needs in return for their own products. Consequently, a possibility created opportunities for the more efficient utilization of labor power in generating increasingly diverse products, which in turn led to grea specialization **(6)** within an expanded social division of labor. This, in its turn, resulted in the spread of exchange itself and the acceleration of its pace.

Thus, individuals were no longer required to provide for all their own needs—food, clothing, shelter, and so forth—but could now obtain all these throu exchange. When societies reach this stage of expanding exchange, we can observe that all products come to perform the role of medium of exchange. Tl practice of exchanging products as quantities of embodied labor has been studied among the Australian tribes, the Siberian tribes, the Indians of Califo the Melanesians of New Guinea, and the Negro peoples of West Africa.**(7)**

In ancient Egypt, the exchange of products for products prevailed. **(8)** It is historically well-established that the Egyptians in ancient Egypt bartered po vessels for fish, and wooden boxes for containers of perfume and ointment. A person could sell a house in exchange for two pieces of fabric of different t and a bed. Likewise, a herdsman could exchange his two cows for the labor of a maidservant. **(9)** Income from certain high-ranking offices at the begin of the Eighteenth Dynasty was estimated in gold, silver, copper, clothing, perfumes, servants, grain, and land. **(10)**

In the medieval world, and for several centuries, the people of Silla, located on the banks of the Nile in the Sudan, exchanged maize, salt, copper rings, a rice. **(11)** Across the African desert, merchants from Sijilmasa transported salt by camel to Ghana, where they bartered it, weight for weight, with gold– sometimes sold it at the rate of one weight unit of salt for two or more of gold. **(12)** In the lands of Mali and Abyssinia as well, **(13)** trade was conducte using sheep, cattle, and grains. Among the Turks and also in the Sudan, sheep, dairy products, glass ornaments, and perfumes served as media of excha **(14)**

At the level of external exchange as well, **(15)** the medium of exchange was no longer merely a product intended for direct consumption, but had also become a commodity produced for the market and intended for exchange. In other words, it came to embody two contradictory properties simultaneou the capacity for consumption and the capacity for exchange.

For instance, the ancient Egyptians, around 2800 BCE, began to trade externally by exchanging salted fish for certain Phoenician products such as ceda wood, glass, and the purple dyes extracted from marine shells. **(16)** From Babylonia, we also have texts dating back to the beginning of the Third Dyna Ur, mentioning that a man received large quantities of textiles, wool, oil, and leather goods from the storerooms of the temple of the god Nanna to be transported by boat to Makan for the purchase of copper. **(17)**

It is also historically known that the Berber tribes, which migrated from North Africa to the region south of the Sahara, engaged in trade with African tr Exchange was conducted through what was known as silent trade **(18)**. The African tribesmen would leave raw gold at the edge of the Niger River and t withdraw. The Maghrebi traders would then arrive and pile heaps of salt beside the gold. The Africans would later return, take the salt, and leave the go they considered the exchange fair. If, however, they deemed the amount of salt offered by the Berbers insufficient for the gold they had provided, they v leave the salt in place, and the process would continue until both parties were satisfied with the transaction.

In this external exchange, both salt and gold functioned as media of exchange while retaining their capacity for direct consumption. The Africans could gold for adornment, for instance—a direct satisfaction of need—or exchange it to obtain Berber salt. Likewise, the Berbers could use salt for immediate consumption or exchange it for African gold. The same applies to all products that no longer possess solely the capacity for direct satisfaction but in wh the once dormant capacity for exchange has become active.

In this manner, the first and simplest form of the medium of exchange—the product—evolves from being merely a product originally intended for direc consumption, possessing only a latent or dormant capacity for exchange, into a product specifically produced for exchange while fully retaining its capa for direct consumption.

(3) The Rise of the Commodity-Product:

When Exchange Becomes the Purpose of Production

With the second form of the medium of exchange — the socially dominant commodity-product**(19)**—the importance of the capacity for direct consump declines relatively for the producer, while the capacity for exchange increases. A single product now acquires an unlimited power of exchange. Rice grai for instance, were widely used to settle small transactions in Southeast Asia, while Scandinavian tribes used cheese. In Eastern Siberia and also in West Africa, tobacco was employed; opium served as a medium of exchange in China's Hainan Province; and alcoholic beverages were used along the coasts Luango, in what is now the western part of the Republic of the Congo and southern Gabon.

In southern New Guinea, in the southwestern Pacific, broad-bladed axes (adzes) made of volcanic rock functioned as a medium of exchange. These wer used for purchasing pigs and boats, and even physicians received them as their fees. A similar situation existed in the Tabora region of East Africa, whe iron axes were used. In Borneo, within the Malay Archipelago, agate was commonly employed as a medium of exchange. **(20)** In Kordofan and Darfur, well as in India, pearls played this role. Along the coasts of Liberia in West Africa, beads were used, while in the Fiji Islands of the South Pacific, whale t served as a medium of exchange. On San Cristobal, in northern South America, dolphin teeth were used for the same purpose.

Just as various products functioned as media of exchange, so too did metals perform this role. Copper, iron, silver, and gold **(21)** each served as domin media of exchange. Ultimately, gold—owing to its rare and distinctive properties **(22)**—and silver succeeded in prevailing over all other products as soc accepted media of exchange. Gold was no longer produced for exchange with a single product, such as salt, but rather for exercising an expansive capac for exchange with all other products. **(23)**

With the socially-dominant product, therefore, the capacity for exchange advances at the expense of the capacity for direct consumption—though witho the dominant product losing that latter capacity. Rice, wheat, corn, pottery, cheese, tobacco, agate, pearls, gold, and silver can all be used in exchange, they can still serve for direct consumption as well.

The progress achieved with the socially-dominant product can thus be summarized as follows: whereas the product was originally produced primarily f direct consumption and its capacity for exchange appeared only incidentally, it has now become a product made for exchange, with the capacity for consumption appearing only incidentally. Production itself has come to be carried out for the sake of exchange, and it has therefore become necessary t establish a socially accepted medium of exchange—one that can be exchanged for all other products.

admittedly, when a product is produced for the market, it becomes a commodity. In this way, the medium of exchange itself is transformed into a commodity offered in the market, enabling its holder—by parting with it—to obtain the desired products of others' labor.

(4) From Matter to Symbol:

The Historical Formation of Money

With the third form of the means of exchange, the phenomenon of money begins to take shape. Over thousands of years, the means of exchange were embodied, in particular, in shells, stones, and metals.

1– If we consider shells **(24)**, which functioned as money among the tribes of West Africa, ancient China, India, Sudan, Mali, and the islands of the Pac especially in Micronesia and Melanesia—we find that in these regions, shells went beyond their limited role as objects of direct consumption. They beca once certain conditions were met, money endowed with exchangeability.

First, they were issued under the authority of the highest power within the community or tribe; only a specific group within the tribe was permitted to produce them, and that within the framework of particular rituals. Thus, shells ceased to be an incidental means of exchange used alongside other obje they became instead a socially dominant means through which one could obtain the products of others' labor.

Second, their production required a certain degree of effort, which gave them a measure of relative scarcity. Indeed, the inhabitants did not regard the s naturally available in their own waters as an acceptable means of exchange; rather, they circulated among tribes living far from the regions where such were found.

It is therefore important to note that the shell, as a product, although it had become money intended for exchange, did not entirely lose its capacity for satisfaction; at the very least, it retained the ability to satisfy the need for ornamentation.

As for the role played by shells as money in the course of everyday life, we know, for instance, that among the tribes of West Africa, the price of an axe w one hundred and fifty shells; a pottery vessel cost three hundred shells; and a piece of cloth, six hundred shells. The bride price amounted to fifteen thousand shells. Taxes, fines, and compensations were all paid in shells as well.

Among the Indians of California, the medium of exchange consisted of strings made of shells—each, sometimes, several meters long—which were used the payment of dowries, the completion of adoption and burial ceremonies, and the conclusion of peace treaties. The price of a pig ranged from ten to tw strings, while the bride price could reach one hundred and fifty strings of shells. **(25)**

2- Among the tribes of the island of Yap, in the western Pacific Ocean, there existed the rai money**(26)**, made from aragonite stones obtained from the island of Palau, north of Flores in Indonesia. These stones were not easily obtainable, for their extraction required great effort in breaking and carving t —without metal tools—followed by their transport to the island.

A single rai stone could reach up to five meters in diameter and was shaped into a circular disk with a hole in the center, probably to facilitate movemen value increased according to its size and thinness. Small rai stones served as a medium of exchange in low-value transactions, while the larger ones wer used in more significant deals, such as the purchase of a house or a large boat loaded with various kinds of fruit.

In these major transactions, the exchange took place without any physical movement of the rai itself; ownership simply changed hands through acknowledgment. Thus, we are faced here with nothing more than an adjustment in accounting records, akin to the operations of our modern banks, wl payments are made through ledger entries without any spatial transfer of the physical asset.

The rai stones, therefore, performed two functions: they acted as money in small-value transactions and as a means of transferring ownership of money itself in large-value exchanges.

3- Due to the unique and distinguished properties of metals—particularly gold and silver—they were adopted as socially accepted means of exchange fo thousands of years, even before coins were minted from them. In the historical evolution of the means of exchange, as we know from Babylonian codes the Holy Scriptures, metal functioned as a dominant product long before it became money. The Greeks and Romans used iron, bronze, copper, and elec in minting their circulating coins. Byzantium used gold, while silver was used in the Catholic West and in Sassanian lands.

Muslims, in the tenth century, adopted both metals in fixed proportions as currency circulated throughout the Caliphate **(27)**. This use of metals contir as money was minted from metallic ingots. Even with the appearance of paper money, the latter remained exchangeable for bullion at a fixed value.

In the early nineteenth century, the currencies of most countries were linked to silver, except for the United Kingdom and the United States **(28)**, whic adopted the gold standard. France, on the other hand, tied its currency to both gold and silver. The use of coined metal—whether gold, silver, or both— remained constant in the currencies of major colonial powers and their colonies **(29)**, until Europe's colonial legacy passed to the United States, which inherited global monetary hegemony. The U.S. then declared the replacement of the British pound sterling with the American dollar, designating paper dollars—rather than metal—as the means of exchange.

Regardless of the historical circumstances that led to the emergence and global dominance of the dollar, the fact remains that metal—whether gold, silv others such as bronze and copper—is by nature scarce **(30)**. Its material substance is perishable and subject to corrosion, while the number of people continues to rise, production expands, and the demand for metallic currency—especially those made of gold or silver—must, consequently, increase in proportion to the widening sphere of exchange.

Therefore, it was always necessary, under one historical condition or another, to devise means—regardless of their legitimacy—to prevent the halt of monetary circulation corresponding to the flow of goods within the economic field. This measure was always achieved by prohibiting the use of preciou metal, especially gold, and by treating either a portion of the metal or a colored piece of paper as its symbol.

This process unfolded through historical stages: beginning with the abolition of individuals' right to mint coins **(31)**, followed by restricting the use of g to foreign trade transactions only, and culminating in the legalization of the use of paper money with mandatory value.

Thus, metal declined to the status of subsidiary currency, while paper money **(32)** became the dominant form of money domestically. On the global lev the American paper dollar—the historical heir to the pound sterling's supremacy—became the master of currencies. Yet, the linking of the dollar to gold **(33)**—a connection reinforced by the United States through its economic, political, and even cultural domination of the entire world—led nearly half th nations on the planet to tie their currencies to the dollar.

With the gradual decline in the direct use of metal as a medium of exchange, the capacity for consumption likewise begins to fade away, step by step, gi way entirely to the capacity for exchange. The colored paper that has become a substitute for the precious metal—and that now represents only the valu assigned to it by authority rather than its intrinsic value—has lost all capacity for satisfaction: it can neither adorn, nor feed, nor serve any religious ritu and so on.

At best, by its very nature, it can still be used materially—as a mere piece of paper—to be burned for warmth, perhaps! That is, if we overlook the passio currency collectors, or the habits of the modern Shylock, whose heart finds comfort in counting his banknotes each evening!

In general, whether the medium of exchange is made of shells, metal, or colored paper produced from cotton and linen, it is no longer a product createc primarily for direct consumption and exchanged incidentally. Rather, it is now produced principally, under specific conditions, for the purpose of excha In other words, the capacity for exchange has become the dominant one—though the capacity for consumption has not entirely vanished, given, as we h mentioned, the material nature of the medium itself.

In our contemporary world, amid the ongoing social struggle over innovation in the field of technology—a struggle that, as we have seen, governs the evolution of the medium of exchange itself—the capacity for consumption has continued to fade, while the capacity for exchange has attained full dominance. This is evident in the early stages of formation of digital currency, which is rapidly expanding on a global scale and, as noted earlier, is prod through vast amounts of electrical energy and highly advanced computing systems **(34)**. Its circulation takes place through digital accounts. In this sen represents a form entirely distinct from that of a product originally intended for direct consumption.

(5) Toward the Objective Law of the Evolution of the Medium of Exchange

Thus, throughout human history, the medium of exchange has manifested itself—beginning with the product not originally intended for exchange, pass through the socially dominant product, and culminating in money in its various forms. The path now appears clear for deriving the objective law goverr the evolution of the medium of exchange.

Before doing so, however, let us pause to consider the two stages of value: objective value and presumed value, which, in their contradiction, represent t actual historical development of the medium of exchange.

The general principle is that all products created by labor enter exchange according to their true value — that is, according to equal quantities of Necess Calorie (N.C.) **(35)**, the socially necessary amount of energy required to produce each product (disregarding, for simplicity, differences in production ti

According to the socially dominant productive technique, the value of a coat produced in five hours, containing 100 units of living N.C. and 50 units of stored N.C., equals the value of a piece of fabric produced in the same five hours, containing 80 units of living N.C. and 70 units of stored N.C.

If the weaver does not desire my coat while I wish to obtain his fabric, I must give him the equivalent value of what he has produced in order to receive fabric. Likewise, if he desires my coat while I do not wish for his fabric, he must give me the equivalent value of what I have produced in order to receive coat.

If we live in a society that uses shells as a medium of exchange, I would receive from him a shell that required 150 units of N.C. to obtain. If wheat were medium of exchange, I would receive a quantity of wheat equal in value to what I expended in producing the coat. And if gold were the medium of exch I would receive, in return for my coat, a piece of gold that required 150 units of N.C. to produce over five hours. **(36)**

The general principle, therefore, is that all products created by labor perform their role in exchange according to their real value. However, this principl often been violated by rulers, **(37)** especially when the medium of exchange was made of metal — and particularly when it was made of gold.

(6) The Dialectical Law of the Becoming of the Medium of Exchange

Starting from an awareness of the various forms through which the medium of exchange has manifested itself throughout history, and based on the objective conditions and methodological observations we have highlighted, we can now deduce the law governing its development. Here, the dialectical of contradiction becomes evident: the medium of exchange evolves from one form into another, opposite form, while still retaining certain essential fea of the previous one—until a third, qualitatively distinct form emerges.

In the first form, products are exchanged directly for other products. In the second, one or more commodities come to dominate and perform the role o special commodity—a commodity produced explicitly for exchange—thus distinguishing this form from the first, even though both represent barter. Th first takes the shape of pure barter, while the second represents commodity barter. In the third form—money—the product ceases to play any role in di satisfaction, being produced solely as a means of exchange.

What distinguishes the second form from the third, then, is that the latter is completely stripped of any capacity for direct satisfaction, whereas the forn still combines two capacities: the capacity for direct satisfaction and the capacity to confront the world of commodities. Money, as this qualitatively diff form, cannot constitute the final stage in the historical evolution of the medium of exchange, for every "end" inherently contains within itself the germ new beginning—the next moment in the dialectical process of development.

Conclusion

This study has established that the evolution of the medium of exchange is not a mere chronological succession of economic forms, but a dialectical pro governed by the objective law of contradiction. The central premise confirmed by the research is that every historical form of the medium of exchange negates, preserves, and supersedes the form that preceded it. This process begins with the phenomenon of the product's self-negation, where the produ transcends its immediate material function to become an abstract bearer of social labor.

This evolution is manifested in three stages: the product, where the capacity for immediate gratification is dominant; the commodity, which combines t capacity with the capacity for exchange; and finally, money as a qualitatively distinct form. Money is the form produced solely for exchange, in which th capacity for immediate gratification almost completely vanishes in favor of the total dominance of exchange. Nevertheless, money cannot constitute the stage in this development, because every "end" carries within it "the seed of a new beginning." This continuous supersession is embodied in the develop towards digital currency, where abstraction reaches its culmination and value appears as pure abstraction.

In conclusion, the study affirms that this development is a dialectical manifestation of the objective law that governs the contradiction inherent in labo itself. This law is represented by the trajectory in which the material transforms into the ideal, confirming that the history of the medium of exchange is necessary movement that ensures the continuity of the social process of labor.

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Footnotes

(1) This progression—from the product not intended for exchange to money, via the products that were dominant due to their social importance and th imposed their hegemony as socially accepted media of exchange—can be clearly seen, prior to Smith, in the thought of: Aristotle, Davanzati, William Pe John Locke, and Richard Cantillon. We can also find its continuation after Smith in: Malthus, Ramsay, Mill, and Jevons. If we look into the history of A thought, we find the same progression, perhaps even more prominent. It is found, for example, in Qudamah ibn Ja'far (873-948) in Al-Kharaj. See: Al-Kharaj wa-Sinaat al-Kitabah (Baghdad: Dar al-Rashid, 1981), pp. 434-435. And in Al-Dimashqi, in the second half of the 12th century, who presented t progression masterfully. See: Al-Dimashqi, Al-Isharah ila Mahasin al-Tijarah (Beirut: Dar Sadir, 2009), pp. 15-17. It is also present in Al-Ihya by Al-Gh (1325-1404). See: Abu Hamid Al-Ghazali, Ihya Ulum al-Din (Beirut: Dar Ibn Hazm li-l-Tibaaah, 2005), pp. 1432-1433. It is also found in Abu al-Hasan Yusuf (14th century) in Al-Dawhah al-Mushtabikah. See: Abu al-Hasan al-Hakim, Al-Dawhah al-Mushtabikah fi Dawabit Dar al-Sikkah, edited by Hus Mu'nis (Madrid: Ma'had al-Dirasat al-Islamiyyah, 1958), p. 23. It extended all the way to Abd al-Qadir al-Jazairi (1808-1883) in Dhikra al-Aqil. See: Ab Qadir al-Jazairi, Dhikra al-Aqil wa-Tanbih al-Ghafil. Mentioned in: Samih Dughaym, Mawsuat Mustalahat al-Fikr al-Arabi wa-l-Islami al-Hadith wa-l-Muasir 1700-1890 (Beirut: Maktabat Lubnan - Nashirun, 2002), Vol. 1, p. 1188.

(2) By primitive societies here, I mean those societies that had not yet left the stage of hunting, gathering, and foraging for direct satisfaction. For rich discussions of the term, see the book edited by A. Montagu, ***Primitivism***, translated by Muhammad Asfour, Alam al-Ma'rifah; 53 (Kuwait: The Natio Council for Culture, Arts, and Letters, 1982), specifically: Chapter One: "The Fallacy of the Term "Primitive" by Ashley Montagu, Chapter Four: "Primit Peoples" by Sol Tax, and Chapter Six: "The Search for the Primitive" by Stanley Diamond. Consequently, our analysis covers the historical period spann 13,000 years, i.e., since the first historical evidence of human knowledge of agriculture in northern Syria (with evidence that other parts of the world al knew agriculture at least 10,000 years ago, such as the Americas, central Turkey, and China). This is when hunter-gatherers began cultivating crops in response to the decline in wild plants due to severe drought, cold, and sharp fluctuations in climate conditions on one hand, and steady population gro on the other. For the origins of agriculture, see, for example: William J. Burroughs, ***Climate Change in Prehistory***, translated by Ragab Saad (Cai The National Center for Translation, 2017), pp. 260-271. For details on the social, civilizational, and cultural problems that accompanied humanity's transition from hunting and gathering to agriculture, and thus the transition from a nomadic life to settlement along riverbanks, see: Yuval N. Harari, ***Sapiens: A Brief History of Humankind*** (New York: HarperCollins Publishers, 2015), pp. 86-132. Also see the engaging book by Richard Currier, which shares the same line of thought as Noah Harari's book; it reconsiders the benefits of the technologies uncovered and developed by huma especially in the field of agriculture, how those technologies shaped human behavior and created their societies, and the extent to which humans thems benefited from those technologies. See: Richard Currier, ***Unbound: How Eight Technologies Made Us Human and Brought Our World to Brink*** (New York: Arcade Publishing, 2015), pp. 139-167.

(3) "...And if any of them had a surplus of food or goods, he would carry it by boat to another village and offer it for sale." See: J. W. Page, ***Primitive Peoples Today***, translated by Mahmoud Mohamed Moussa, reviewed by Zaki Al-Rashidi (Cairo: Egyptian Renaissance Library, 1957), p. 273.Yes, it n have happened that we gave up, just as our first ancestor once gave up his product of which he had no surplus but rather a severe shortage, in order to obtain some surplus from the product of our other ancestor. This is because his need, at that moment, for the product of our other ancestor exceeded hi need for his own product. However, this is nothing but the isolated exception to the rule of exchange, which dictates that surplus is the condition for exchange, while want and need are, merely the reasons for exchange.

(4) Among the curious (compositions!) about pre-monetary societies is the assertion by some, with excessive confidence!, that exchange at that time occurred without any measure! Among these are: R. Firth, ***Human Types: An Introduction to Social Anthropology*** (New York: The New Amer Library, 1957), pp. 190-198.

(5) The role of political authority at that time, as observed by Carl Menger (1840–1921), is limited to its subsequent regulation—a role similar to the one authority plays in codifying prevailing customs. See: K. Menger, ***On the Origin of Money***, Translated by C. Foley, ***The Economic Journal***, Vol. 2, (Oxford: Oxford University Press, 1892), p. 255. When ethnologists, and some economists, rejected the idea of barter as proposed by economic history, claims were made that the history of money must be rewritten! This claim was explicitly evident, for example, in the article ***What is Money?*** by Alfre Mitchell Innes (1846–1950). See: A. M. Innes, ***What is Money?*** (New York: Banking Law Journal, 1913), p. 32. He believed he had demonstrated Sm error, based on the misunderstanding that the use of money does not necessarily require the physical existence of currency! Nor even the existence of a metallic standard of value! On this basis, he would build his entire conception denying barter! Similarly, see the book *The Gift* by Marcel Mauss (1872–1950). See: Marcel Mauss, ***The Gift: The Form and reason for exchange in archaic societies***, Translated by Ian Cunnison, With an Introducti E. E. Evans-Pritchard (London: Cohen & West Ltd, 1966), p. 31. He argued that exchange in primitive societies is based on the non-separation between object being exchanged and its owner. And that credit relations preceded barter relations! Also, see the book *Debt* by David Graeber (1961–2020), who his central idea from Innes, and from Mauss as well but without mentioning him! See: D. Graeber, ***Debt: The First 5,000 Years*** (New York: Melvill House, 2014), pp. 21-42. Also, the book by Burns (1902–1991), who asserted that barter did not exist in ancient societies! There is no evidence for it! Therefore, the talk of economists about this stage should not be taken seriously! Consequently, Burns, in his book, had to skip over ancient Egypt and o return to it in Chapter Six when money had become prevalent! See: A. R. Burns, ***Money and monetary policy in early times*** (New York: Alfred A Knopf, 1927), p. 1. What unites these thinkers is their use of some isolated societies, discovered during the European invasion, as models for analysis; a they were transparent and eternal models, and the claim that barter does not exist in these societies! What exists is credit or money. Thus, the historiography of the medium of exchange starting from barter was rejected! In reality, in short, the rejection of the idea of barter as a social act and as historical origin of every medium of exchange is, a fortiori, more robust than our rejection of the notion that tribe members assembled, as happens in Federal Reserve meetings, and decided to adopt iron or copper, for example, or the cowrie shell, as a medium of exchange within their society. In my estimation, the rejection of the barter idea here is due to two reasons: **First:** A severe inadequacy in the analytical method, and the incorrect assumptic that the societies under analysis represent pure, raw material. This coincided with a potentially racist perspective, especially in the earlier writings, whi turn led, consciously or unconsciously, to turning a blind eye to the potential connection between those societies discovered by Europeans and more advanced civilizations that had, in fact, left the stage of direct satisfaction thousands of years earlier. **Second:** The dominance of the European mind, saturated with a specific idea of money as the end of history since Smith, over the entire analysis. As usual, this "monetarist" mentality would seep into Arab mind, which was receptive to it due to the pre-existence of monetarism itself as a dominant idea; for Abu Bakr Al-Qurashi, in the 9th century, repo "The first to strike dinars and dirhams was Adam. He struck them and said: 'Livelihood cannot be proper except with them..." See: Ibn Abi Al-Dunya, ***I al-Mal***, edited by Muhammad Abd al-Qadir Ata (Cairo: Institution of Cultural Books, 1993), p. 42; and compare: Ibn Miskawayh, ***Tahdhib al-Akhla wa-Tathir al-A'raq***, edited by Ibn al-Khatib (Cairo: Library of Religious Culture, n.d.), pp. 126-127. Therefore, it was not strange for Jawad Ali, in ***Al Mufassal***, to state that: "The exchange of goods for goods through the process of barter is a form of natural money"! See: Jawad Ali, ***Al-Mufassal fi Tarikh al-'Arab qabl al-Islam*** (Baghdad: University of Baghdad, 1993), Vol. 7, p. 488.

(6) "... And the greater the specialization among the Negroes of West Africa, the greater the need for exchange, and some commodities like dried fish, sa and metal tools were sent to distant markets. Most trade was based on barter." See: J. Page, ***Primitive Peoples***, p. 273.

(7) See: A. Montagu, ***Man: His First Million Years*** (New York: The New American Library, 1957), pp. 153-187.

(8) Especially in the countryside. See: G. Posener, ***Dictionary of Ancient Egyptian Civilization***, translated by Amin Salama (Cairo: The Egyptian General Book Organization, 1996), p. 95. The product continued to function as a medium of exchange even with the widespread minting of coins during Ptolemaic era; as every village had the public bank where money flowed alongside the public granary where crops were collected. The ratio between wh and barley was 3:5, and between wheat and corn was 5:2, and wheat was equivalent to lentils. Payment in kind also persisted alongside monetary wages "And documents constantly speak of loans of grain or wine...". See: Ibrahim Nusuhi, ***History of Egypt in the Ptolemaic Era*** (Cairo: The Anglo-Egyptian Library, 1988), p. 426.

(9) See: James Breasted, ***A History of Egypt: From the Earliest Times to the Persian Conquest***, translated by Hassan Kamal (Cairo: The Roy Press, 1929), p. 64.

(10) See: François Daumas, ***The Civilization of Pharaonic Egypt***, translated by Maher Juwaijati (Cairo: The National Center for Translation, 1998 pp. 304-306. "The money we use today was unknown in those days in ancient Egypt, and therefore barter was the basis of commercial transactions... an discussions often became heated and voices rose if there was disagreement over the number of fish... that could be exchanged for a bed, or the number bags of onions to be offered for a magnificent chair." See: G. Baikie, ***Ancient Egypt***, translated by Naguib Mahfouz (Cairo: New Mahalla Press, n.d.), p "Commercial transactions were conducted primarily by barter." See: Taha Baqir, ***An Introduction to the History of Ancient Civilizations*** (Beir Al-Warraq Publishing, 2012), p. 199. "Almost all the trade that took place in the ancient world in the sixth or seventh century BC... was entirely barter trade." For more detail, see: H. G. Wells, **The Outline of History**, Translated by Abdel Aziz Gawad) Cairo: The Committee for Authorship, Translatio and Publication, 1967(. Vol. 1, p. 189.

(11) See: Abu 'Ubayd al-Bakri, ***Al-Masalik wa-l-Mamalik*** (Beirut: Dar al-Kutub al-Ilmiyya, 2003), Vol. 2, p. 360.

(12) See: Al-Gharnati, ***Tuhfat al-Albab wa-Nukhbat al-I'jab***, edited by Ismail al-Arabi (Rabat: Dar al-Afaq al-Jadida), pp. 38-39. For an in-depth of the gold and salt trade across the Sahara in West Africa, see: Jean Devisse, ***Trade and Trade Routes in West Africa*. In: *General History of Africa: Volume III: Africa from the Seventh to the Eleventh Century***, edited by M. El Fasi and I. Hrbek (Paris: UNESCO, 1985), pp. 403-481

(13) See: Al-'Umari, ***Masalik al-Absar fi Mamalik al-Amsar***, edited by Kamil al-Juburi (Beirut: Dar al-Kutub al-Ilmiyya, 2010), Vol. 4, p. 60.

(14) See: Abu Abdullah Ibn Battuta, ***Tuhfat al-Nuzzar fi Ghara'ib al-Amsar wa-'Aja'ib al-Asfar*** (Cairo: Hindawi Foundation, 2020), pp. 233, a 492. Also see: Stéphane Gsell, ***History of Ancient North Africa***, translated by Mohamed al-Tazi Saoud (Rabat: Academy of the Kingdom of Moroc 2007), pp. 170-171.

(15) "Trading by means of exchanging commodities was common among ancient peoples... Buying and selling was done through barter, one commodity another." See: James Henry Breasted, ***Ancient Times: A History of the Early World***, translated by Daoud Qurban (Beirut: American Press, 1930 23-24. We have many examples throughout history proving that products, at the level of external exchange, were not only capable of providing satisfact but also had their capacity for exchange activated within them. Benjamin of Tudela, in the 12th century, tells us about the island of Qais in the Gulf of B in southern Iran, saying: "Merchants resort to it for buying, selling, and exchanging various kinds of goods." See: Benjamin ben Jonah of Tudela, The Itinerary of Benjamin of Tudela (561-569 AH/1165-1173 CE), translated from the Hebrew text by Ezra Haddad (Abu Dhabi: The Cultural Center, 2002) 338. Furthermore, Jorge de Henín, in the 17th century, informed us that: "Mulay Zaydan bought from the Christian merchants all the types of fabric th had... and informed them that he would pay them in sugar... Meanwhile, one of the well-known pirates arrived from Saint-Malo, with four French ships his possession..., plus the equivalent of one thousand six hundred ducats... The pirate's goal in visiting Morocco was to conduct barter operations allowi him to exchange the silver he had for gold." See: Jorge de Henín, ***Description of the African Kingdoms*** (1603-1613 CE), translated by Abdelwahe Akkair (Rabat: Institute of African Studies, 1997), p. 112.

(16) See: Mark Kurlansky, *Salt:* ***A World History***, translated by Tania Nahiyeh (Beirut: Dar al-Saqi, 2005), p. 59. It is historically known that salt (Sa Sel) was paid as a salary (Salary, Salaire) to soldiers in the Roman Empire.

(17) See: Harry Saggs, ***The Greatness That Was Babylon: A sketch of the ancient civilization of the Tigris-Euphrates valley***, translated Amer Suleiman (n.p., n.d.), p. 318. We know from Harvey Porter (1844-1923) that Babylonian trade was extensive by land and sea... Caravans traveled carrying Babylonian manufactures, especially its precious textiles of linen, wool, and others, to barter them for the manufactures and products of variou peoples and then return to Babylon. See: Harvey Porter, ***Encyclopedia of Abridged Ancient History*** (Cairo: Maktabat Madbouli, 1991), p. 80.

(18) See: Donald Wiedner, ***A History of Africa South of the Sahara***, translated by Ali Ahmed and Shawqi Atta Allah (Cairo: Arab Record Instituti 1976), Vol. 1, p. 25. Over at least four centuries, Muslim writers transmitted descriptions of this form of exchange. Al-Mas'udi (896-957) mentioned this form of product-for-product exchange from the Kingdom of Ghana in the 10th century, when he wrote: "Its king is of great importance and his domain connects to the lands of gold mines. They have a boundary which those coming to them do not cross. When they reach that boundary, they place the go and bags there and withdraw. Then the black people come, bringing gold, which they leave beside the goods and then withdraw. The owners of the good then come; if they are satisfied [with the amount], well and good; otherwise, they leave and return. The black people then return and add more until the transaction is completed." See: Abu al-Hasan al-Mas'udi, ***Akhbar al-Zaman wa-man Abadahu al-Hidthan wa-'Aja'ib al-Buldan wa-l-Gha bi-l-Ma' wa-l-'Umran***, edited by Abdullah al-Sawi (Beirut: Dar al-Andalus for Printing and Publishing, 1996), p. 87. Al-Qazwini (1203-1283) describ the same scenario to us, nearly three centuries after Al-Mas'udi. See: Abu Abdullah ibn Muhammad al-Qazwini, ***Athar al-Bilad wa-Akhbar al-'Ibad*** (Beirut: Dar Sader, n.d.), Vol. 1, p. 19. Furthermore, Ibn Fadlallah al-'Umari (1301-1349) later recounted the same scenario, stating: "When they come, they place the salt and then withdraw. The black people then place gold opposite it. When the merchants take the gold, they [the black people] ta the salt." See: Ibn Fadlallah al-'**Umari, *Masalik al-Absar fi Mamalik al-Amsar***, same source, Vol. 4, p. 60.

(19) Such as wheat, rice, barley, salt, etc. These are the products that orthodox theory will label "Commodity Money." This is a term used in economic science, under the influence of a Eurocentrism saturated with a specific theory of money as the end of history. Economic science, of European origin, do not mean by "money" anything other than metallic and paper money. Therefore, it adds the word "commodity" to anything other than the two metals a paper. Perhaps to distinguish them from metallic and paper money, but the truth is that they are not money fundamentally, nor can they be considered such merely because they perform some functions of money; cigarettes, as we mentioned, perform the functions of money in prisons, but they are not money. As usual, the term was transferred to the Arab mind without critical review, like other terms such as Liberalism, Nationalism, Secularism, etc. I term whose epistemological foundations the Arabic language did not contribute to forming, nor to its development. Instead, it was received with all the connotations crafted for it by the mind that created the term and intended for it – the mind of Eurocentrism. Consequently, we have often been mere repeaters of what the Western mind produced, mostly without a critical awareness of the historical formation of the term itself and the social context accompanying its birth and development, and perhaps congruent with the change in its very meanings. Our role stopped at the limits of passive recepti and hollow repetition!

(20) See: Julius Lips, ***The Origin of Things: The Beginnings of Human Culture***. Translated by Kamel Ismail) Damascus: Al-Mada Publishing a Culture, 2006(. p. 171. Smith mentioned that: "Salt is said to be the common instrument of commerce and exchanges in Abyssinia; dried cod at Newfoundland; tobacco in Virginia; sugar in some of our West India colonies..." See: Adam Smith, ***The Wealth of Nations*** (New York: Barnes & Nol 2004), p. 47. As Al-Shafi'i (767-820) mentioned in the book ***Al-Umm***: "Wheat is accepted [as currency] in the Hejaz like dinars and dirhams... Dhurra (millet/sorghum) is a price [medium] in Yemen. The people of... Suwayqah in some countries accepted pottery (*khazaf*) in place of fulus." See: Al-Shafi'i, ***Al-Umm***, edited by Rif'at Fawzi (Al-Mansurah: Dar al-Wafa for Printing and Publishing, 2001), Vol. 4, p. 196.

(21) "The prevailing currency in the Kingdom of Guinea was uncoined gold, as well as pieces of iron for purchasing trivial things like milk, bread, and honey." See: Al-Hassan ibn Muhammad Al-Wazzan, ***Description of Africa***, translated by: Muhammad Hajji and Muhammad Al-Akhdar (Beirut: Da Gharb Al-Islami, 1983), Vol 2, p. 163. "Merchants travel from Sijilmasa to Ghana... carrying figs, salt, copper, and cowrie shells, and they bring nothing from it except fine gold." See: Isma'il ibn Ali Abu Al-Fida, ***Al-Mukhtasar fi Akhbar Al-Bashar*** (Cairo: Dar Al-Ma'arif, n.d.), Vol 1, p. 123. "In China they trade with large gold and silver ingots. And they have copper coins for small transactions." See: Ibn Sa'id Al-Maghribi, ***Bast Al-Ard fi Al-Tul wa Ard***, edited by: Juan Vernet Ginés (Tétouan: Moulay Al-Hassan Institute, 1958), p. 56. We know from Al-Idrisi (1100-1165) the method of extracting go dust (Tibr): "When the Nile begins to recede and ebb, everyone in the land of Sudan who had gathered on that island returns as diggers, searching throughout the days of the Nile's recession, and each person finds in their search there what God Almighty has bestowed upon them, be it much or little the gold dust, and no one of them is disappointed. When the Nile returns to its limit, the people sell what they have obtained of the gold dust, and some trade with others, and most of it is purchased by the people of Awraglan and the people of the Maghrib Al-Aqsa, who take it to the mints in their countr strike it into dinars and use them in trades and merchandise, and this is the greatest yield for the Sudan... The famous Nubian mine is situated in the m of their land... what they collect from it, they trade amongst themselves and some buy from others, then the merchants carry it to all other regions..." Se Muhammad ibn Muhammad Al-Idrisi, ***Nuzhat Al-Mushtaq fi Ikhtiraq Al-Afaq*** (Cairo: Maktabat Al-Thaqafa, 2002), Vol 1, p. 25, and 46.

(22) Al-Qazwini told us about these characteristics, saying: "Gold: its nature is hot, gentle... Fire cannot disintegrate its parts, nor does it perish in the d nor does it rust over the passage of time. It is soft, yellow, brilliant, sweet to the taste, good-smelling, and very heavy and weighty... It is the noblest of G blessings upon His servants, as it sustains the affairs of the world and regulates the conditions of creation. For people's needs are many, and all are fulfi

by currency, as the two precious metals (gold and silver) can buy and sell everything due to their wide acceptance, unlike other forms of wealth... Amon properties... it strengthens the heart and wards off epilepsy if hung on a person, and prevents fear. If a probe (Mil) is made of gold and used continuous kohl and inserting into the eye, it clears the eye, improves vision, and strengthens it. If the ear is pierced with a gold needle, the hole will not close up. If cauterized with gold, the spot will not blister and will heal quickly; and Al-Shaykh Al-Ra'is (Avicenna) said: Holding gold in the mouth removes bad bre and gold strengthens the eye as kohl, and benefits from heart pains, palpitations, and self-talk (inner distress)." See: Al-Qazwini, ***Aja'ib Al-Makhluq wa Ghara'ib Al-Mawjudat*** (Beirut: Mu'assasat Al-A'lami, 2000), p. 175. This was cited by Al-Abshihi (1388-1448) and others. See: Al-Abshihi, ***Al-Mustatraf*** (Cairo: Al-Maktabah Al-Tawfiqiyya, n.d.), p. 433.

(23) "Gold does not confront the other commodities as money unless it has previously confronted them as a commodity... Gradually it takes on the role the universal equivalent in spheres of exchange that are more or less extensive. Not until it has achieved a monopolistic position as the exponent of valu the world of commodities, is it money-commodity." See: Karl Marx. ***Capital: A Critique of Political Economy*** (New York: The Modern Library, 19 p. 105-104

(24) See, for example: Y. Lips, The same source, pp. 160-164. ***Money from Cowrie Shells to Credit Cards***, Edited by: Joe Cribb (British Museum Ltd, 1986), pp. 16-18. ***The Oxford Encyclopedia of Economic History***, Edited by: Joel Mokyr (Oxford: Oxford University press, 2003), vol 3, p. 5 Burns, ***Money and monetary policy in early times***, op, cit, pp. 4-5. Al-Mas'udi mentioned: "In India there are islands populated with people, an their trade is with cowrie shells." See: Al-Mas'udi, ***Akhbar Al-Zaman***, p. 87. He also mentioned that: "The islands belonging to the Kingdom of the Za which is adjacent to the Kingdom of Abyssinia, produce the cowrie shells with which they adorn themselves and which they sell." See: Al-Mas'udi, p. 90 Sirafi (10th century), who travelled to India, China, and Indonesia, described what he saw in the sea between the lands of India and Sindh, saying: "The distance between one island and another is two, three, or four parasangs, and all of them are populated with people and coconut palms, and their wealt cowrie shells. This kingdom stores cowrie shells in its treasuries...". See: Abu Zayd ibn Yazid Al-Sirafi, ***Rihlat Al-Sirafi*** (The Travels of Al-Sirafi), edit by: Abdullah Al-Habashi (Abu Dhabi: Cultural Foundation, 1999), p.18. Al-Sirafi also mentioned the method used to obtain the shells that were adopted currency, saying: "The treasuries of this kingdom are cowrie shells, because the cowrie shell contains a type of animal. So, when its wealth diminishes, i commands the people of these islands to cut fronds from the leaves of the coconut palm and cast them on the surface of the water, upon which that anin aggregates. It is then collected and cast onto the coastal sand where the sun burns the animal inside, leaving the cowrie shell empty of what was in it, an thus the treasuries are filled." See: Al-Sirafi, ***Al-Rihla***, p. 121. This method was still followed and was described by the colonizer when his foot trod the isolated islands in the Pacific Ocean. See: Lips, ***The Origin of Things***, p. 160. As for Al-Bakri, he said: "In the Sea of China there are countless islands innumerable nations, and their wealth is cowrie shells." See: Al-Bakri, ***Al-Masalik wa Al-Mamalik***, p. 192. He also mentioned: "Following this king the Kingdom of Dahram, and this is a designation for their king, who is a possessor of a great kingdom... and his wealth is cowrie shells." See: Al-Bakri, 193. Furthermore, Al-Umari informed us that "Transactions in the lands of Takrur are conducted with cowrie shells, and merchants mostly import cow shells to them and gain a substantial profit from it." See: Al-Umari, ***Masalik Al-Absar***, Ibid, Vol 4, p. 122. Ibn Battuta also confirmed that the cowrie was the currency of Sudan; as he stated that he saw it being sold in Mali and Gao, in the lands of Sudan, at a rate of one thousand and fifty per gold dina See: Ibn Battuta, ***Tuhfat Al-Nuzzar***, Ibid, p. 492.

(25) See: Lips, The same source, p. 163.

(26) See: **Money from Cowrie Shells to Credit Cards**, op, cit, p. 6.

(27) For an important study on the transfer of the metal along with the shift of the center of civilization's gravity, and the role of Muslims in combining two standards of gold and silver. See: Maurice Lombard, ***L'Islam dans sa première grandeur: VIIIe-XIe siècle*** (Paris: Flammarion, 1971), pp. 4

(28) At that time, the dollar was valued at 1.7 grams of pure gold, as its issuance depended on the quantity of gold extracted from the mines.

(29) A sufficient summary of the monetary system in England at the end of the nineteenth century is available from Jevons. See: W. Stanley Jevons, ***Mo and the Mechanism of Exchange*** (New York: D. Appleton and Co. 1876), pp. 85-89.

(30) See: Peter Bernstein, ***The Power of Gold***, translated by: Maha Hassan Bahbouh (Riyadh: Obeikan Library, 2002), p. 21. "All the gold discovered far could fit in a cube measuring 23 meters on all sides... About 244,000 metric tons of gold have been found to date, 187,000 metric tons produced historically plus current underground reserves of 57,000 metric tons." See: https://www.usgs.gov/faqs/how-much-gold-has-been-found-world (https://www.usgs.gov/faqs/how-much-gold-has-been-found-world).

(31) Where individuals, or the ruler, bore the expenses of coining, as was the case in Ancient Rome, and in England and France until the middle of the eighteenth century. See: R. Cantillon, ***Essay on the Nature of Trade in General***, Translated, Edited, and with an Introduction by A. E. Murphy (Indiana: Liberty Fund. 2015), p. 47.

(32) Paper money was never European in origin. Marco Polo (1254-1324) travelled to China and was astonished to see the Chinese using paper currency instead of metal coins, and he wrote: "The inhabitants worship idols and use paper currency." See: ***The Travels of Marco Polo***, translated by: Abdul Jawid (Cairo: The Egyptian Book Organization, 1996), Vol 2, pp. 143, and 190.

(33) The United States of America hoards an estimated 8,133 tons of gold in Fort Knox, the largest hoarding in the world. The price of gold evolved from approximately $25 per ounce in 1800 to $700 per ounce in 2007 [In February 2024, the price per ounce reached $2025. A 24-karat ounce, which is a fi purity, is approximately 31 grams]. See: ***Gold: Science and Applications***, Edited by Christopher Corti and Richard Holliday (New York: Taylor and Francis group, 2010), pp. 11-12.

(34) On October 14, 2021, the Egyptian authorities announced that the security services arrested a person who was engaged in criminal activity by mini "Bitcoin" in the Al-Marj area. On May 24, 2023, the authorities also announced that they had managed to arrest a person in the Al-Nozha area for enga in illegal activity in the field of digital currency mining. On February 28, 2024, the arrest of a group of smugglers attempting to bring digital currency m machines into Egyptian territory, in violation of the law, was announced! The question is, to what extent will these man-made laws withstand objective laws? And will the day come when we read such news in history books and smile, just as we smile today when we read how consuming, and even posses the drink "coffee" was considered a religious sin! Only the future can tell the full story when it fades away and becomes history.

(35) By "Necessary Calorie" (N.C.), I propose a unit of value that seeks to overcome the epistemological limitation deeply rooted in classical political economy, which, from Smith to Marx, consistently reduced value to abstract labor time. Within this tradition, time was treated as a neutral, universal, a objective metric for labor, regardless of its type, intensity, or social cost. Yet, time in itself is not energy—it is merely an external container in which labo takes place, without expressing its actual substance. In contrast, the Necessary Calorie is a materialist and objective measure based on the concept of so necessary energy: the real effort expended to produce a commodity under historically and socially determined conditions. This energy is measurable an

comprises not only the direct labor performed during production, but also the stored labor embedded in tools, machines, and raw materials, as well as t surplus labor that remains uncompensated and constitutes surplus value. Consequently, value can be reformulated not merely as a function of time, bu the quantity of socially necessary energy expended in production, divided by the time required to complete the process. This relationship is expressed ir units of Necessary Calorie (N.C.), thereby transforming value into a quantifiable mass of energy rather than a mere temporal duration. Such a reformul enables a reconstruction of value theory on a physically grounded and measurable foundation—one that accounts for real disparities in productive conditions across different economies, beyond nominal prices and surface-level market phenomena. The core fallacy of classical value theories lies not in reducing value to labor time, but in the deeper illusion that time itself generates value. To claim that a commodity is worth five hours of labor merely states the duration of its production, not its value in terms of socially necessary energy expended. In this sense, time conceals rather than reveals the es of labor. Any valid theory of value must therefore return to the concrete energy embedded in the act of production, rather than rely on an external, indifferent, and ultimately abstract metric such as time. A comprehensive theoretical elaboration of this framework—including its formal equations and methodological foundations—can be found in my study: Zaki, Muhammad Adel. "***Value / Time: An Essay on the Principles of Political Econo*** African Journal of Economic Review, Vol. 13, No. 2 (June 2025).

(36) "Gold is about fifteen times dearer than silver, not because there is a greater demand for it, nor because the supply of silver is fifteen times greater that of gold, but solely because fifteen times the quantity of labour is necessary to procure a given quantity of it". Ricardo, David, ***On the Principles o Political Economy and Taxation*** (New York: Barnes & Noble, 2005(, p. 226.While this is the general principle, according to the Law of Value, a deviation from this law will occur at the hands of marginalists. For example, Thomas Carver (1865-1916) poses the question of value correctly, but prov an incorrect answer when he says: "The question must be, what determines the value of 25.8 grains of gold in a coin legally issued from the United Stat Mint?" After confirming that the monetary unit must always be equal to the value of the metal from which the monetary unit was made, he says: "The v of the monetary metal—gold—is determined by the marginal utility of the available supply." See: T. N. Carver, "The Value of the Money unit," ***Quarter Journal of Economics*** (Boston: George H. Ellis, 1897), vol xi, pp. 430-435. A. Marshall, ***Principles of Economics*** (London: Macmillan and Co., L 1920), p. 219.

(37) "Bronze coin pieces no longer had fixed or uniform weights, as kings were constantly reducing their weights and thereby seizing a portion of the we that the currency constituted...". Ibrahim Nusuhi, ***History of Egypt in the Ptolemaic Era***, The same source, p. 424. Thus, King Louis XI decided t the coin which represented 10 dirhams would now represent 11 dirhams. The authority is the beneficiary because it is the debtor, and when it repays the debt, it repays it at a value less than the value at which it was borrowed. There are numerous examples throughout history. See: Jean Denizet, ***Le Doll histoire du système monétaire international depuis 1945*** (Paris: Fayard, 1985), p. 26. "The evil intention and need of the rulers led to the clip of the metal while the name remained unchanged; for example, half the value of silver was clipped from a coin weighing a silver lira while it continued t considered a full lira." See: Montesquieu, ***De l'Esprit des Lois***. Text established with an introduction, notes and variants by Gonzague Truc. (Paris: Éditions Garnier Frères, 1956), p. 451. "Owing to the caprice and injustice of princes and rulers, and their abuse of the confidence of the people, the real quantity of metal contained in their coins gradually came to be less than it was originally." See: Adam Smith, ***The Wealth of Nations***, op, cit, p. 24. " English pound sterling represents less than a third of its original weight, the Scottish pound only 1/36 on the eve of the Union. The French livre 1/74, th maravedi less than 1/1000, and the Portuguese reis less than that." See: Marx, Capital, The same source, p. 146. Marx also wrote: "For centuries, usurpe and kings continuously debased the currency. This led to the coins having nothing left of their original weight but their names." See: Marx, ***Capital***, Th same source, p. 115. Regarding the strictness of Muslim rulers regarding the fineness of dirhams and the purity of gold, specifically: Yusuf ibn Umar, an Ahmad ibn Tulun. See: Al-Qalqashandi, ***Subh Al-A'sha fi Sina'at Al-Insha*** (Cairo: The Egyptian Organization for Authorship, Translation, Printing and Publishing, 1963), Vol 4, p. 23.

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