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RESEARCH ARTICLE

GEOPOLITICS OF MONETARY INNOVATION IN THE LONGUE DURÉE

Financialization, Digitalization and the Crisis of the Global Hegemony

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ABSTRACT:

Since the beginning of the new millennium, a great variety of experiences of monetary innovation has taken place worldwide. Actually, very assorted types of social agents, at very different levels of interaction and with very diverse purposes and results, are creating a plethora of global, macro-regional, local or de-territorialized currencies seriously defying both the hegemonic role of the US dollar, and the traditional agents, methods and criteria related to money's creation and circulation.

Given such a picture, the main aim of this essay is to characterize and valuate the principle features of the ongoing process of monetary innovation, in light of its modern and contemporary history. We adopt an interdisciplinary theoretical frame, based on the ground of the political sociology and the world system theory, and a genealogical method focused on the monetary history of the United States. The main result here presented is the centrality of the dialectic between innovation and regulation, and of their social and institutional forces. Actually, it can help the comprehension about where, when and why new forms of money appear, as well as the individuation of the main traits characterizing the current stage of global crisis and of its risky implications.

KEYWORDS: Digitalization, Financialization, Global Hegemony, Monetary Innovation, World system

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1. Introduction:

Since the beginning of the new millennium, and especially after the 2007-2008 financial crisis, a great variety of experiences of monetary innovation have taken place worldwide, promoted by very assorted types of social agents, at very different levels of social interaction and with very diverse purposes and results. The core relevance of those multiple experiences lies in the fact that all of them tend to determine the following situation. On the one hand, they create a plethora of either counterhegemonic macro-regional currencies, or distinctly local or even at all de-territorialized ones, which reinforce the dispute over the role played by the US dollar as hegemonic global money; on the other hand, and in more general terms, they call into question at a more general level the role and validity of the traditional agents, methods and criteria related to money's creation and circulation.

Such heterogeneous expressions of monetary innovation acquire even greater relevance as we adopt a larger historical perspective. At first sight, they seem to contrast the global tendency, consolidated during most part of the last five centuries, to the reduction, simplification and homogenization of monetary forms, relations and functions. Nevertheless, the interlacement and convergence of financialization and digitalization of social life seems, on the contrary, to be secretly unifying the essential structure of money, and even altering its very essence and socio-political function. In fact, money tends to become a mere algorithmic procedure and a pure digital entity, either automatically or willingly created. This implicates the radical transmutation of the relationship with the information that, at the same time, money *is*, *absorbs*, *entails* and *transmits* during its circulation, regardless of which particular form – among those currently possible – each specific currency takes.

Given such a picture, our study starts from the assumed evidence that monetary innovation today represents one of the main battlegrounds within which a crucial phase of the ongoing social struggle is played, affecting both the micro-physical level of power relations, and the macro-regional and geopolitical ones. In our view, that phenomenon is expressions of, immanent to, and conditioned by two different but closely intertwined dynamics, and one more general circumstance. The first one consists of the long-term process of monetization and financialization of ever increasing aspects of social and individual lives, which is functional to perpetrate and optimize capital accumulation. The second dynamic coincides with the most recent process of digitalization which – especially when it appears interconnected with the previous trend – basically expresses the systemic need to explore, fine-tune and provide to the global society the new relational means made possible, adequate and by now required by the new social

ambits and structures that ICTs create, also in terms of monetary relations. Finally, it is to be considered the circumstance that both processes are significantly immersed within the new disputed geopolitical equilibrium, potently shaken by the trend of exhaustion of the long Western hegemonic cycle, as well as by the attempt, headed by the US, to contrast decline also by using some instruments of monetary innovation (Arrighi and Silver 1999; Arrighi 1994). The combination of these three elements strongly contributes to define the very matrix of the present, which is profoundly revolutionizing so many ambits of our life. The decisive importance of the open and ambivalent process of monetary innovation consists of being situated at the very core of these three movements, either favoring or contrasting the by now factual “post-democratic” turn currently affecting the main socio-political structures (Crouch 2004). Actually, some experiences of monetary innovation represent the very direct counter-face of the process of capital valorization (that though tries to take advantage of them), being the result of the intense contradictions that accumulation generates and spreads out throughout the global society. From this angle, monetary innovation partially manifests the new capability, collectively acquired, to use technologies and financial tools in order to support the formation of better social structures of production and distribution of collective wealth. Nevertheless, the risk is that even its “best” practices and samples may unintentionally contribute to build, or be captured by, the structural conjunction between the darkest features of the platform economy (Kenney and Zysman 2016) and the degenerative logics of “datacracy” (de Kerckhove 2016; Gambetta ed. 2018), within a generalizable new model of “surveillance capitalism” (Zuboff 2018).

With the awareness of such perilous implications in the background, the main aim of this essay is to characterize and value the ongoing principle features of monetary innovation, in light of its modern and contemporary history. We adopt an interdisciplinary theoretical frame, based on the ground of the political sociology and the world system theory, articulated on the spatial-temporal dimension of the global scenario and the *longue durée*. This purpose requires, firstly, to resume and contextualize the principal traits, elements, and factors distinguishing past and current manifestations of the phenomenon, also by referring to some exemplary cases. Secondly, it entails the effort to emphasize the leading arguable tendency of that, in light of and in relation to the historical transformation of the overall structure of powers, markets and society.

Our arguments are oriented to give some not-exhaustive answers to the set of fundamental questions about where, when and why new forms of money appear. In particular, we will go through these interrogations by putting into action a genealogic approach, inspired by the work of Michel Foucault, aimed at challenging and complementing traditional practices of social sciences, by displacing the epistemological pri-

macy of the subject, and targeting instead the wider mechanisms hidden behind discourses, reasons, rationalities effectively in motion through history (Crowley 2009, 2). By adopting these particular focus and methods, the main result of the essay will consist of highlighting the centrality of the dialectic between social and institutional forces pushing respectively monetary innovation and regulation, in order to contribute to the comprehension of the current stage of global crisis. As we will show, such a perspective can be tracked down already in Aristotle's conception of money as *nomisma*, and clearly identified through the US economic history. Hence, throughout the following paragraphs, we will discuss and fix some crucial elements and dynamics characteristic of the principle historical and present manifestations of monetary innovation. In particular, after a definition of the ontological and political valence of money, we will genealogically analyze within which geopolitical context the crucial traits of modern monetary innovation arose and developed, especially focusing on the extraordinary laboratory of colonial and post-colonial North America. Then, we will explore some essential directions by and towards which the overall phenomenon is currently stimulated and leading up to. Some general conclusive considerations will be finally exposed.

2. Money and its essential political and ontological nature

The most decisive significance of "money" – we believe – is expressed by that ancient philosophical truth fixed by Aristotle in the IV century B.C., in the first book of *Politics* (*Pol.*), consisting of the recognition of the essential *social/political nature* of human beings¹. In a nutshell, it means that no one can be ever sufficient unto themselves, but also that society – the inescapable cooperative network that implicates one other – has a changing character, subjected to the stress and jolting determined by the exercise of human forces and interests, of which money has become one of the principle vectors of realization.

More specifically, it is in the fifth book of *Nicomachean Ethics* (*NE*) where the Greek thinker developed the anthropological conception highlighting money's crucial role in the effective constitution of any concrete "community", by providing the possibility of exchanging things among individuals and groups. In particular, in a paragraph dedicated to the issue of justice as a matter of reciprocity and proportions, Aristotle states that all goods must have a monetary price as a basis of a generalized commensurabil-

¹ According to Aristotle, «social instinct is implanted in all men by nature», and besides «it is evident that the state [intended as society] is a creation of nature, and that man is by nature a political animal» (*Pol.*, part II).

ity, which, in its turn, is the very precondition of society: «for then there will always be exchange, and if so, association of man with man. Money, then, acting as a measure, makes goods commensurate and equates them; for neither would there have been association if there were not exchange, nor exchange if there were not equality, nor equality if there were not commensurability» (NE, V, 5). It is for the end of creating universal interchangeability, proportions, and reciprocity among all items, «that money has been introduced, and it becomes in a sense an intermediate; for it measures all things, and therefore the excess and the defect» (NE, V, 5). It is so because money (*nomisma*), that «exists not by nature but by law (*nomos*)», is «by convention a sort of representative of demand» (NE, V, 5). Actually, it is the latter – which represents all sort of individual and social needs, wills, and desires – what «holds all things together (for if men did not need one another's goods at all, or did not need them equally, there would be either no exchange or not the same exchange)» (NE, V, 5).

Thus, money appears as one of the main extrinsic objects through which human beings' *social essence* realizes itself. Besides, precisely because money exists by virtue of *nomos* rather than by nature, it is also one of the main manifestations and tools of realization of human beings' political essence. It means that thought oriented to socio-political phenomena must look with much accuracy at this institution: *nomisma* instituted and regulated by the *nomos*, (so) that «it is in our power to change it and [even to] make it useless» (NE, V, 5). As such, in particular, money is quite inherent political sociology's constitutive interests, and worthy of its specific attention. Moreover, Aristotle above seems to suggest a further reason of crucial relevance of money, useful for understanding critical turning points of history. Actually, if it is undoubtedly logic and true that the existence of a concrete community is the chronological precondition of any political act founding and regulating money, it is also correct and sometime necessary to recognize that the latter is an operative vector concretely generating new forms and dimensions of society. Such an *ontological valence* of money (Amato 2010; Buscema and Lucarelli 2013), that goes far beyond its “simply” social and political nature, was already explicit for Aristotle: «there will be no exchange and no intercourse» (NE, V, 5) without money's capacity of determining a condition of almost universal measurability, commensurability, interchangeability. In summary, money is *not only* an economic element, but *first of all* a social and political entity; in addition, money is *not just* a means differently available to individuals for the expression of their needs, will, and desires, but also something here *especially relevant* as a principle of social reality.

Largely predating the advent of the capitalist mode of production and governing, such dimension of money has not been scratched by the historical development of the latter. On the contrary, money is an indispensable tool for the dynamics of which capi-

talism essentially consists: the socialization virtually of every human thing, act, or instance; the generalization of the relations of exploitation realizing an ever increasing concentration of power and richness. Moreover, we can say that capitalism, in its turn, has completely developed the double consistency of money, which is implicit in the two senses suggested by the Latin etymon of the word: on the one hand, it is *moneta*², meant as «place for coining money, mint; coined money, money, coinage»; while, on the other, it is the sign of a *monitor*, understood to be an «admonishing goddess», from the verb *monere* meaning «advise, warn, admonish» (*Online Etymological Dictionary*). Actually, capitalism continuously transfigures money in a double-faced entity: on the one hand, it manifests itself as *currency*, literally intended³ as a representation of value that flows deeply through almost all type of social relations and all sort of human interaction; while on the other it becomes *denarius*⁴, intended as *Money* that, once reached a certain degree of accumulation, realizes a qualitative jump, that transforms it for its owners in a potential instrument of command and influence of collective will and behavior. These two dimensions are hardly distinguishable from each other, being exactly – we would say – the two sides of a same coin that precisely works under the rule of such an ambiguous duplicity.

As Mark Bloch and Fernand Braudel suggested, money is an amazing indicator of the directions and qualities of the ongoing transformations (Perna 2014). In particular, emphasizing the political nature and the ontological dimension of money, is a way to recognize the importance of the monetary innovation phenomenon in its more general terms. Now, we have to refer to the specific historic and geopolitical frame within which the monetary innovation process has gotten its modern and contemporary traits. Actually, it will help us to recognize their concrete relevance in our contingency – characterized by a very severe crisis of the world system's hegemonic structure, and by an impasse of the cyclical dynamics regenerating new effective capacity of accumulation and order.

² Moneta was a title of the Roman goddess Juno. Actually, in Rome, coins were minted close to her temple, where it seems that, besides, precious metals were stored.

³ Based on its Latin etymon "curraunt", that means *in circulation*.

⁴ According to the *Online Etymological Dictionary*, «short for denarius *nummus* "the coin containing ten (aces)," from *deni-* "by tens," from *decem* "ten"», i.e. a coin of greater value being the summation of others.

3. Once Upon a Time in America

Experience of modern and contemporary history has thought us that the essential relationship already grasped by Aristotle, linking money and the political institutional activity that constitutes and regulates it, is very articulated and dynamic. In order to try to better define the specific terms of such a relation, here we choose to follow the reasoning proposed by Richard Sylla in his *Monetary innovation in America*, meaningfully published at the beginning of the 1980s – a crucial period for the matter in question. Consistently with the genealogical method here adopted, this essay helps us to individuate the complex landscape of social and institutional forces, mechanisms, motives, conditions and circumstances from, or against, which the specific elements of the current wave of monetary innovation emerge and act.

Characterized by an approach of economic history, the abovementioned article defines monetary innovation as the response that socioeconomic forces normally give to the challenges posed by those circumstances in which: «Adherence to regulation would increase instability and constrain growth and development to lower levels than would be possible under alternative arrangements» (Sylla 1982, 22). In those conditions, monetary innovation represents the «rational, purposive activity motivated by perceived economic opportunities and directed toward utility maximization», whose mainly beneficial effects consist in removing «what otherwise would have been most serious constraints» on development (Sylla 1982, 25). Nevertheless, the concrete unfolding of monetary innovation, in its turn, could create «instability and negative externality» by producing exactly the criticality opposite to those characterizing the starting conditions, «that would arise from too much money and price-level inflation» (Sylla 1982, 22). Hence, it means that although, on the one hand, monetary innovation usually is a phenomenon «carried out to overcome the constraints on economic development imposed by existing regulations», on the other, each concrete phase of innovation determines «a demand for new regulations in order to avoid» (Sylla 1982, 22) or manage the corresponding negative side effects.

Thus, emerging from that is the image of a pendulum, describing a dialectical relationship, in which monetary innovation «is accompanied or shortly followed by new regulations»; so that its story therefore consists of the interaction between the attempts to overcome the «constraints on real development implicit in an existing monetary system and the regulations society designs to avoid excessive money creation» (Sylla 1982, 22).

Against the tradition of study usually carried out by economy historians – disproportionately «more concerned with the [negative] effects of monetary innovation than

with its causes», and in particular with its inflationary side effects –, Sylla auspices the adoption of an epistemological perspective rather focused on the determinants of such a phenomenon, and able to answer the general question about «why new forms of money appear when and where they do» (Sylla 1982, 21). To this end, he applies the «demand-induced innovation thesis» (Sylla 1982, 24) to the analysis of the case of the British North American colonies, especially during the century and half before the American Revolution. More specifically, according to that thesis, the creation of new forms of money represents the recurrent solution, systematically emerged in that emblematic case, to the persistent relative deficiency of means of exchange due to restrictive political regulations: precisely, «Whatever English money the colonists brought with them or gained in other ways was returned to the mother country almost as quickly as it came in» (Sylla 1982, 23). In more general terms, Sylla identifies the problem with the structural condition that «traditional moneys, gold and silver, were either unavailable or available in insufficient amounts to sustain» growth in that peculiar context: «in all likelihood [...] the most rapidly growing economy in the world of the seventeenth and eighteenth century», but also pressured by «the growing financial requirements of colonial governments» (Sylla 1982, 23-24). Monetary innovation was the creative collective solution to the combination of these two elements, adopted for fulfilling demand for money.

Now, it is focal to stress the relevance of some analytical elements that Sylla's sober considerations consider, but somehow underestimating them. In reality, they are crucial insofar as they contribute to highlight that the dialectical interaction between money innovation and regulation is not politically neutral, being constantly driven and prompted by the interplay of the contingent power relations animated by the social groups involved in each concrete process. Thus, the first element to be stressed is the evidence that colonial propensity to monetary innovation has been fostered by the fact that restrictions to creative local practices mainly came from Britain. Actually, since the Seventeenth century, Great Britain exerted its control over the American colonies by limiting money supply and prohibiting to mint local coins; moreover, it forced them to use only mother country's money and to redeem it just for English goods. Emblematic example of the reactions to the innovating responses that people in colonies adopted in order to overcome the imposed restrictions, are the 1751 and 1764 Currency Acts emanated in London, which «applied stringent limitations on fiat paper issues in New England, [considered] the chief offending region» (Sylla 1982, 26). Definitively, the first monetary innovation in North America grew on such an international political ground characterized by relationships of subjection to the mother country, conferring to those experimental practices their “subversive” implications.

Besides, from Sylla's description, we can stress another crucial element which otherwise would remain tacit. Colonists seem to have «turned to an ingenious variety of experiments to provide local media of exchange» also because stimulated by the extraordinary complexity peculiar of that social environment, crossed by flows of resources linking many faraway parts of the world, and characterized by an uncommonly rich juxtaposition of different cultures. Among those experiments: «One was the adoption of the wampum, the token shell money of the native Indians. Commodity money—corn, rice, tobacco, and beaver pelts, for example—were also granted monetary status. Precious metallic moneys gained mostly from trade with Spanish America circulated in the colonies, and some attempts were made to provide local coinages from inflows of bullion. Extensive use of so-called book credit also has been documented. The most notable achievement, however, was the innovation of the first fiat paper moneys in the western world» (Sylla 1982, 23).

It is by virtue of such a variety of manifestations, that Sylla considers hard «to find a place and time in which there was more monetary innovation» (1982, 23) and this case as «a near perfect example» of its practice (1982, 25). Actually, the unique social and cultural complexity characterizing that dynamical context, seems to explain why «all of this monetary innovation [took] place on a periphery far removed from the heart of western civilization» (Sylla 1982, 23).

Economic historians generally called into question alternative analytical explanations in order to give reason of the exuberant tones that innovation of new varied forms of money had taken in that context. Namely, they are: «an unfavorable balance of trade [that] drained specie from the colonies and necessitated a search for money substitutes»; the development of a precursory diffused perception of monetary innovations' function as a provider of «measures to overcome depressions and stimulate trade»; the «aversion to taxes» imposed by the mother country that led local governments «to paper “currency finance”»; the need to use the latter in order «to finance [the] numerous wars [waged] against the French and the Indians» (Sylla 1982, 23). Nevertheless, for Sylla these factors – considered as secondary – became especially important in that context because of its determinants, already identified: the double pressure exerted by a «decidedly modern» economic rate of growth (1982, 24) and by growing financial requirements.

After the colonial era, American economy's demand for money grew even faster than before, but within a monetary regime characterized by limitations now endogenously imposed by the 'founding fathers'. In fact, the experience of the paper issues used to finance the War of Independence – so excessive that by 1781 they «had become essentially worthless» –, motivated the Constitutional declaration «that thence-

forth gold and silver were the only legal tenders and that no state was ever again to issue fiat paper money» (Sylla 1982, 26). This meant the reintroduction of a constriction on development that had been abundantly overcome by colonial Americans through the monetary innovation's practices. Interestingly, it was a financial innovation, consisting of the autonomous adoption of the European modern model of commercial banking, the way to overcome that restraint this once. In fact, «Although states could no longer create paper money, they could create banks that in turn created liabilities in the form of notes and deposits serving the same purposes»: *id est*, «to supply at relatively modest expense an unprecedented demand for money that was far beyond the capacity of existing stocks of gold and silver to meet» (Sylla 1982, 26).

The new monetary structure, based on the equilibrium between the gold standard and the banking system, had been *de facto* transfigured during the Civil War, when the need to finance impellent huge expenditures, determined the decision to diffuse abundant «paper moneys in the form of legal tender U.S. notes (the greenbacks) and national bank notes into the monetary base» (Sylla 1982, 27). This meant that «the gold standard became a relic earlier than most analysts assume»; it «became more a symbol than a reality [already] in the post-bellum United States» when it «ended in practice» not in force of an institutional decision, but of the public reaction after the Civil War. In fact, while understandably worried about the convertibility of its bank money into those new forms of paper, if we exclude «one or two brief exceptions», people «did not exhibit any strong desire even during financial panics to convert the new forms of paper currency into gold». Hence, it was just «an almost mythological attachment» simply to the idea of the gold standard that prevented its formal abolition – what the Civil War paper innovations, instead, positively realized in practice (Sylla 1982, 27).

Nevertheless, given such an «inflexible, if not exactly gold, standard» post-bellum regime, that saddled for a long period deeper monetary innovation, it was on the diffusion of further new banking activities, on the upper stratum of financial innovation, that relied the demand for money determined by development. In fact, Sylla notices that, in «this atmosphere of regulatory constraints, private, unincorporated banks flourished even more than they did before 1860. And when the states, toward the end of the century, relaxed some of their own regulatory constraints on banks, the state systems surpassed in a number of respects the national system that had been intended to replace them. The result was a system made up of thousands of independent units—national banks, state-chartered commercial and saving banks, trust companies, and private banks» (1982, 28).

A combination of restrictive banking regulation, inflexible monetary standard, along with a dynamic of rapid development, contributed to determine the secular deflation

of the late Nineteenth century. This, in its turn, fostered the need for searching a quick way to expand the monetary base, especially for facing the short-run problems typical of the financial panics. Sylla refers to the foundation and development of the Federal Reserve – a new institution devoted to issue currency and bank reserves in order to solve this problem – as a great manifestation of «American penchant for monetary innovation» deeply and diffusedly rooted into the above-considered colonial experience (1982, 29). We think that such an event represents a milestone for the comprehension of the most recent history of monetary innovation, given its long-run implications and further evolutions, and the criticalities since then posed. In fact, «Fed’s power to create new money with the stroke of a pen meant that in principle the old problem of economic development being constrained by inadequate provision for monetary growth within existing arrangements had been overcome» (Sylla 1982, 29). Actually, in the past century monetary restrictions had no longer been a serious obstacle for development, while «a lack of restraint on money creation has become a new problem». The search for new solutions to it represented important parts of the debate of the time to which Sylla refers – solutions which are to be considered, according to the dialectical movement identified between monetary innovation and regulation, as «lineal descendants of the Currency Act of 1750 and 1764 as well as of the old gold standard» (1982, 29).

Now, given the fact that Sylla objectively shared the US’ perspective, concretely situated within that historical geopolitical context, he can be considered as a witness of the starting phase of the new and unusual wave of monetary innovation mostly unleashed from the Seventies of the Twentieth century by the hegemonic global actor in response to that peculiar contingency. It is interesting that within that debate, he opposes monetarist historians’ attitude «of attributing the U.S. inflationary trends of this century to the Fed», by leveraging on his perspective of study focused on the agents and dynamics of monetary innovation. In particular, from this angle we can appreciate a very relevant structural novelty: «Some of the long-term real forces that historically generated a growing demand for money no longer are as strong as they were in the American past. Population and labor force growth, for example, are not what they once were. The impetus to money demand that came from increased specialization, intermediate transactions, and market exchange is less than before, largely because a developed economy has approached saturation levels on these fronts. Modern technology and business organization may even have reversed some of these trends; [...] more and more important economic activities that once were coordinated by markets and monetary transactions are now internalized within large corporations» (Sylla 1982, 29). (Such a “new” structural condition, some decades later, seems to have become

peculiar of the entire world. In fact, now: demographic growth is evolving under a controlled path; a naïve conception of development and consumption is destined to disappear also because of the environmental global concerns; many important forms of social cooperation and services' provision, due to the development of the world wide web, have become a huge sphere of unpaid work or demonetized exchange). So, this is the first altered factor that motivates Sylla to consider as anomalous, in relation to the past US history, that new incipient wave of monetary innovation. Actually, the latter, differently than it was, has been characterized by a structural quite moderate growth of the demand for money coming from the real economy's forces. If monetary innovation has nonetheless proceeded, in spite of the fact that «most of the real demand forces that historically induced [it,] may have tapered off in our era», it seems to have been the result of two relatively new features. Firstly, from then until today – despite the dominant narrative about the essence of neoliberalism –, monetary demand coming from the government increased – complementing or substituting traditional forces – for it seems now «unable to raise all of the revenue it needs through taxation and thus resorts to deficits financed by money creation». Although colonial experience demonstrated that «Such a practice need not be inflationary», in the circumstances of the twentieth-century «however, it has led to inflation» (Sylla 1982, 29), in particular of the US dollars circulating through the world. Indeed, far from being unique, such a dynamic is typical all those severe war contingencies along the intense US history. So, meaningfully, it has been the State again the first main actor of the new wave of monetary innovation which has accompanied the great part of the period of the Cold War, as well as the subsequent phase of aggressive expansion of neoliberalism throughout the world.

Secondly, the other force propelling *de facto* such a new wave has been the non-bank financial institutions. They have «gained competitive ground [...] by innovating new near moneys», taking advantage of the circumstance determined by the net impact of the '30s depression-engendered regulations, which had reduced «the ability of the banking system to innovate and compete in the money and capital markets» – although «banks, of course, have not entirely been left behind in the recent wave of monetary innovation» (Sylla 1982, 30), and lately have gained back great part of their competitiveness.

State, through regulation, «has always played a supporting role in inducing monetary innovation» (Sylla 1982, 29) and managing it. But this time, it has had a double crucial role, being: once a main demander of money, beside its main creator; and the other the regulator/deregulator of the banking and financial sectors' ability to issue new forms of near money.

According to the demand-induced innovation thesis, if «These more recent forms of monetary innovation have resulted from regulation rather than the demands of real economic development», it means that they are significantly wasteful «even when they improve an existing situation». In fact, whereas «the demand-induced monetary innovations of past history [...] augmented both resources and the efficiency of their use», on the contrary, modern regulation diverts precious forces from real development, given that «itself absorbs substantial resources and causes still more scarce resources to go into the innovative efforts that are made to get around the regulations» (Sylla 1982, 30).

Sylla concludes his reasoning noticing that «It is something of a paradox that Americans of this century, who have come so close to making monetary innovation unnecessary for purposes of sustaining their further economic development, should give the innovative process such great and unneeded incentives through regulation» (1982, 30). But such a paradox becomes illusory whether: a) we insert the dialectic between monetary innovation and regulation individuated along the US economic history, within the radical scheme of reasoning – elucidated above – elaborated by Aristotle; b) we reflect on the whole picture considering the wider geopolitical schema stemming from the world-system theory and analytical method. Actually, the first operation induces us to recognize that the last wave of monetary innovation, call into question more directly the very ontological role that political power plays on this matter: insofar as the State – instead of limiting itself, as usual, to the more ordinary regulative activities – confiscates to collectivity and exerts by itself the constitutive prerogative on money, by changing currencies' essential design, modes of emission and of circulation. Moreover, the second operation abovementioned calls into question the specific historical and international framework within which the last wave of monetary innovation matures and evolves, characterized – when Sylla reflects – by the orchestrated attempts to organize a strategy of reaction to the first robust signs of a possible coming exhaustion and decline of the US hegemonic power over the world.

4. Good-Buy America?

The thesis here adopted judges the “paradoxical” vicissitudes of the last process of monetary innovation, as the result of the US attempt to utilize the strongly rooted and highly improved aptitude towards monetary and financial engineering and design, cultivated along the modern American history, for two key purposes. Firstly, containing and managing the main manifestations of its diminishing international dominance;

secondly, trying to reinvigorate its supremacy on a new “elementary” sphere of action, transnational and virtually global, where to reconstitute new preeminent social and power relations. Actually, besides the military ambit, another principal factor of strength still sustaining the US international supremacy is precisely based on those specific strategic knowledge, competitive ability and effective tools of power originated exactly within the process of monetary innovation that, along the centuries, took place on such a “periphery”, far removed from where the heart of Western civilization was located in the middle of modernity. Once entered in a state of serious crisis, the US hegemony seemed to have reacted by concentrating its core strategies of survival and revitalization on their historically improved abilities to enforce and manage monetary innovation at a global level, on the one hand; while, on the other, on the constitution of a new utopian “periphery” of the world, which is the *info-sphere*⁵ (Floridi 2009) – constituted by the internet, all the social networks and those electronic and digital ambits and realities in which great part of our analogical and mental existence has been upload and transmigrated. In such a new ambit, new extreme experiments of reconfiguration of the social and political structure are underway, so continuing the innovation of those ancient arts of ‘banks games’ and carom that permitted Europe and the US to realize their half a millennium experience of supremacy over the world. Obviously, both of these strategies are guaranteed, accompanied and propelled by the fundamental residual core of dominance of the US, which is their undoubted military preeminence. Within this frame, the realm of the monetary innovation process, in interaction with the possibilities opened by the inflation of the new digitalized info-sphere, represents a preeminent and strategic battleground of the global competition and struggle, where macro-, meso-, and micro-physical social and power relations are being redefined in order to try to configure the pivotal terms for launching a new systemic cycle of accumulation.

The relevance here attributed to the economic history of North America is due to this: it can be usefully considered a sort of matrix of the multiple phenomena of monetary innovation characterizing the whole contemporary global scenario. Actually, starting from that, we can design the following assorted and articulated scheme of comprehension and interpretation of its current manifestations. From the excursus based on Sylla’s analysis and conclusion, we can extrapolate and deduce two main different types of monetary innovation.

⁵ Partially inspired to the concept of bio-sphere, Floridi’s conception of info-sphere can be synthesized as the semantic space made of all the existing documents (codified data or knowledge), their agents (humans, institutions or software interacting with the documents) and the operations of which their mutual relations consist (2009).

The first is the one induced by real economic forces, whose perceived opportunities and pursued interests determine a demand for money markedly exceeding its concrete availability according to the enforced regulation. It is a creative diffused phenomenon, fostered by very heterogeneous social and cultural impulses and instances. It has to do with the expedients of the collective intelligence matured within what Braudel named “material life”, and to its relation with the upper layer: the market. It also represents a way to resist to and elude the specific relations of power that each concrete existing monetary regime implicates, especially when the power exercising the regulative function on money is perceived as external and usurper. Within the above-realized excursus, such a type of innovation greatly corresponds to the colonial phase of the North American monetary history, the one preceding the Independence from the British mother country – the source of the power using monetary regulation primarily as a tool for performing its “extracting” prerogative on the colonial socioeconomic exceptional vitality. It is a bottom-up model, emerging at the margin of the political structure governing society and of its regulative instruments, imprinted by social creativity and the impulse to overcome rules perceived as restrictive, irrational, and detrimental. This first type is especially applicable to that great part of the current phenomenon of monetary innovation creating and diffusing the existing plethora of means of exchange conceived and designed to enable potential and otherwise frustrated economic forces, sited at the margin of the global social structure. Examples of these are complementary currencies, local and solidary moneys, banks of time, and all those tools used to mobilize and valorize resources in order either to overcome the lack or local unavailability of ordinary monetary instruments, either to elude the detrimental effects due to the use of ordinary monetary and financial tools. Referring to the dynamic started in Italy during the XIII century, Bloch coined the expression of «monetary revolution» (1981, 56-59). Giving account of the more than five thousand local currencies actually existing in the world, and of the other main phenomena characterizing the current process of monetary innovation, Perna recalls that formula to refer to the broader new monetary revolution (2014, 123). It proceeds through a pincer movement, from above and from below, and is animated by very heterogeneous subjects and agents, substantially intended to regain people’s control over money, or to re-equilibrate international monetary and power relations. Moreover, if the extraordinary process of modern monetary innovation took place in those geographical margins described by Sylla, and considered by Marx as still «real Colonies»⁶, great part of the most intense dynamics characterizing

⁶ Interestingly, in the chapter of the first book of *Das Kapital* focused on «The Modern Theory of Colonisation», Marx gives a ‘substantial’ definition of those peripheries of the world, including North America, typified by abundant «virgin soils, colonized by free immigrants» and more or less freely available to

such a matter today is occurring in the new peripheries in which the info-sphere is articulated or through the utilization of its instruments. In an earlier phase, they represented the *new real colonies* located at the margins of the dominant social structure, and hence very favorable ambits for the experimentation of emancipatory projects leveraged on different practices of monetary innovation, or of radical redesigning of money based on the novel block-chain technology. However, lately, the successful strategy of aggressive colonization of these new domains by the rigged forces of financialized and digitalized capitalism – like in the emblematic cases of the Big Four corporations of the platform economy (Facebook, Google, Apple, Amazon) –, is misappropriating or subsuming many of those alternative experimental types of monetary tools. By this way, the ongoing process conferring to money new unprecedented forms, capacities, and possible outlooks, is concurring to the arrangement of the new features of the coming dominating structure of power in a vary ambiguous manner.

Another type of monetary innovation distinctly emerging from the historic vicissitudes of North America, is the one – right opposite to the previous type – consisting of the acts of the political power which produces by itself and introduces to the monetary base additive significant quantities or completely new forms of means of exchange. Here the propelling source is a political central institution which considers opportune or necessary to buy, through fiat money, a certain considerable amount of goods and services, usually pressed by the urgency posed by a highly risky or dramatic situation, determined by circumstances of conflicts, economic crises or financial panic. Such a top-down schema usually has a net inflationary effect and deteriorates the quality of money, which tends to rely almost completely on the political responsibility undertaken by the State institutions and on their possibility of legitimately using violence, internally or externally, as a last resort able to suspend the ordinary economic principles. Within the above-realized excursus, such a type of innovation greatly corresponds to the monetary policies adopted by the colonial governments, the States or the Federal powers in occasions of the conflicts against the French troupes and the Indians, the Independence War, the Civil War. From this angle, the institution of the Federal Reserve is a threshold event: long-run effect of the causes of the late Nineteenth century's Great Depression; but also, first necessary step for determining the current status and features of fiat money. Therefore, such a type of monetary innovation is especially applicable to that crucial event occurred in 1971, when Nixon unilaterally determined the effective inoperability of the Bretton Woods system of international financial ex-

them. Because of this, there capitalism had to experiment for a long time new ways, methods and tools to succeed. From this perspective, almost one century after their political independence, «The United States are, speaking economically, still only a Colony of Europe» (Marx 1867, 545).

change, by suspending its key component: the convertibility of the US dollar to gold, supposedly until that system would have been reformed. After few attempts resulted unsuccessful, in 1973 the architrave of the Bretton Woods system could have been considered ultimately cancelled, and the whole post-bellum international financial exchange regime *de facto* replaced by the one currently in force, based on freely floating fiat currencies. Interestingly, such a decision was accompanied by a wider consistent series of political-economic resolutions intended to fight increasing inflation, especially by freezing wages and prices. Actually, what Sylla considers as a wasteful, abnormal, and paradoxical type of monetary innovation, because directly driven by the regulative power, in our view represents one of the main elements of a precise political strategy: the foundations of neoliberalism and of its global rush.

Moreover, here we can see the historical inversion of the usual relation between the two main factors of inflation. In particular, in order to concentrate resources on the geopolitical challenge against the Soviet contender and, at the same time, to repress the acute internal conflicts characteristic of that stage of western history, the US government decided to drastically reform the structural relationship of concurrence between the two bigger demander of money and sources of inflation: public institutions – especially those designed to manage the legitimate internal and international use of violence, much needy of resources because of the highly risky contingency –, and the real economic forces – whose interplay was then particularly conflictive. Hence, in order to grant the sustainability of the demand for money coming by the governmental decisions, and the overall phenomenon of the US dollar's inflation on the global scenario, it was considered necessary to orchestrate and articulate a general deflationary strategy consisting above all of the compression of social rights and welfare instances, and the externalization of the most negative side effects of capitalist development. Under this perspective, what Sylla considered a wasteful manifestation of monetary innovation appears not paradoxically at all, rather being the crucial axis of a more general strategy for maintaining or relaunching the US supremacy over the world.

The importance of this should not be underestimated: the principle international currency then became pure *fiat money* – essentially backed by the military power of the US –; which, furthermore, is the base of a hypertrophic layer of *squared fiat money*. The latter dangerously floats and oscillates over the world as a cumbersome excrescence produced by the hyper-connected semi-automatized global financial markets, inflated after the unprecedented financial innovation's wave stimulated by the (de)regulation process globally fostered by the US especially during the Nineties. From our perspective, such a phenomenon represents a type of supply-induced monetary innovation, ultimately designed with the aim of pursuing essentially political and geo-

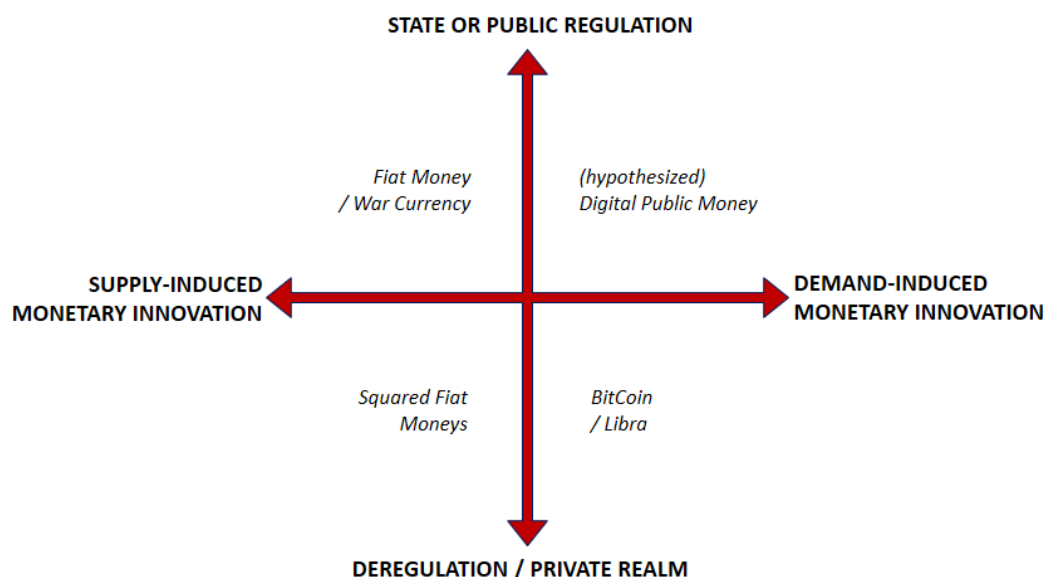
political objectives. It has not been unilateral and unquestioned process, since it has been partially compensated or contrasted by those experiences of monetary innovation consisting of the creation of new currencies or of monetary and financial alliances of continental or intercontinental scale – like in the cases of the institution of Euro, or some of the initiatives promoted by the so-called BRICS (Brazil, Russia, India, China, South Africa) (Perna 2014).

If the monetary-financial innovation strategy represents one of the two very matrixes of our time, the other grand source of very deep and generalized transformations – simultaneously proceeding, and greatly converging to the other one – is the digitalization process. Meaningfully, both the info- and financial-spheres actually share the same propulsive font and strategic base: the political primacy progressively acquired by the US military complex along the post-Second World War decades. Ultimate guarantee of the monetary/financial adventure began in the Seventieths, the US military complex has also been the brain propelling the exploration and the colonization of a new elementary fundament of power: the ether. It has become the strategic base for the constitution and development of a new dimension of social reality, internally structured in a new set of tools for performing new power relations, increasingly relevant or even preeminent in the effort to influence or determine social reality as a whole. Such a process of digitalization of the world, based on the ulterior development of the information and communication technology, is evolving into the obscure rumblings of the platform economy and of the surveillance society. That great and exuberant area of social cooperation and exploitation – that millions of millions of people all around the world are particularly enthusiastic to join, to animate and even to work for, almost completely for free (Formenti 2011) –, has grown within and through the digitalized cages erected into the internet. It is transforming huge proportions of old and new relations of cooperation into modalities of non-monetary interactions which, nonetheless, do produce exchange value. Undoubtedly such an evidence contributes to partially explain the condition of deflation affecting the old fashion currencies driven by the aggregated demand. However, it is the highly strategic relevance of the digitalization process the great motivation driving the efforts and investments that huge info-sphere's corporations are facing, looking for the creation of innovative forms of money and payments systems – that could seriously challenge central banks' regulative capacities. Actually, similarly to what happened in the case of the north American British colonies, today the info-sphere is «in all likelihood [...] the most rapidly growing economy in the world» (Sylla 1982, 23-24), where used and novel public financial requirements and regulations, tend to be perceived as illegitimate regulations exerted by external usurping powers. It is exactly within such a new “marginal” realm, growing beside the

analogical dimension of society, where we can find those dynamics and characteristics peculiar of the “colonial” phase of the monetary innovation excursus. Actually, the info-sphere has registered and is still performing the highest degrees of “demographic” growth and “real” development of the last decades. Besides, in it new effective tools of governing situations and flows are being successfully experimented; and new adequate forms of money just wait to be equipped, consistently with the specific requirements that power relations in that sphere entail. Hence, similarly to what happened in the colonial periphery of the modern world, in the digital periphery of today, called info-sphere, a novel wave of monetary innovation is accompanying a broader process constitutive of a new whole structure of power.

Actually, a new type of money seems to be needed, able to effectively be: a) a *medium* for the exchange of the new “goods” produced, appreciated and circulating into the new social networks – crossed by, and made of, the new types of emotive engagement and modes of relationship that the electronic impulses stimulate; b) *store of value* for the new forms that value itself acquires within those networks and in relation to those types of goods; c) *unit of account* able to catch the new elementary entities of the production and circulation of those goods and value. All forms money assumes nowadays tend to follow these paths, and they seem to be consistent with the dynamics of abstraction, simplification and dematerialization characterizing its long history. Moreover, money is being transformed in a new thing: not only and no longer just expression of the mere information concerning the purchasing power of its contingent bearer, and of the specific institutions guaranteeing the purchasing power, now it is rather able to absorb an incredible amount of collective and individual information. Thus money gets to be indistinguishable from the information that it counts, stores, mediates, entails, and ultimately is: bit and money tend to converge, and to become more and more the same indistinguishable entity (Buscema 2012).

Trying to schematize the analytical elements called into question along the previous pages, and to apply it for organizing the comprehension of the current phenomenology of monetary innovation, the result would be the following representation.



Source: Author's own elaboration

In a complex scenario in which the most recent «Sociotechnical innovations [...] have concretely opened the possibility of deeply rethinking money», and still remaining aware about «the limits and contradictions» (Fama, Fumagalli, and Lucarelli 2019, 174) characterizing the overall phenomenon, an effort of analytical abstraction would release what follows. It seems that, in our time, both the supply-induced monetary innovation and the demand-induced one are living a phase of effervescence and diffusion, but – from a socio-political perspective – in very distinct ambits and for pursuing quite opposite purposes. In fact, on the one hand, the fiat money issued by the State (left-upper quadrant), and the squared fiat money produced within the de-regulated financial markets (left-lower quadrant), represent the urge of the declining dominant international structure of governance to finance the provision of the needed resources – basically in force of its leading actor's residual power. The deregulated area of this type of monetary innovation relies on a deliberated political decision taken in reason of a specific class alliance oriented to the production of certain specific effects of restructuring of the existing social system. It is based on the function that capital's general quarter – as Braudel conceived financial capital – performs through its 'speculative' activities: those able to glimpse, detect, and open new unexpected journeys for capital valorization. The political function enforced through monetary, fiscal, and financial regulation, works also as a tool for fine-tuning the equilibrium between the economic

and political forces, among classes and social groups, as well as for managing and channeling social energies towards some precise practices and auspicated objectives. On the opposite side, current manifestations of demand-induced monetary innovation rely on social forces' perceptions about their effective needs, possibilities, and desires. Those are polarized between experiences or adventurous projects driven by the interests of the new global companies (for example, see Baarlam 2019; Volpicelli 2019), which have full cognition of what new values are and new forms of money into the info-sphere should be (right-lower quadrant); and the hypothesized project of absorbing and guiding this new wave of demand-induced monetary innovation within a framework of State-controlled public regulation (right-upper quadrant). It is the case of some ongoing experiments, carried out by some important central banks (Grazzini 2019), to which the European Central Bank could soon adhere given its neo-president declared willingness «to harness the benefits while managing the risks» posed by «the changing nature of money», by actively using the instruments provided by «the fintech revolution» (Lagarde 2018, 1). More specifically, according to her perspective, central banks should go «Beyond regulation», and «issue a new digital form of money [...] a digital currency [that] would be a liability of the state, like cash today, not of a private firm» (Lagarde 2018, 3).

5. Conclusions

According to the results of our investigation, first of all monetary innovation emerges as an increasingly crucial aspect of current social, political, and economic reality. For that, it deserves much further studies and the development of critical thinking about its issues. In fact, the definition of money's design, nature, quantity, quality, institutional sources, circuits of circulations, modes, and criteria of regulations, constitutes an extremely relevant battleground, virtually extended to the entire globe and to the multiple current dimensions of social relations. If it has already been important throughout all modern history – especially moving from those areas of colonial and post-colonial North America where world system's hegemonic energies were reconfiguring themselves –, social and political impact of the conflict that very different socioeconomic forces and institutional actors perform in the present within that battleground, seems to be much stronger than it was and could even become decisive.

Finally, in light of our analysis, we can fix the general set of considerations which follows. The first one concerns the evidence that current monetary innovation process is running on the cleavage between the 'old' analogical dimension of reality, and the

emerging, increasingly relevant, digitalized info-sphere. Between them, monetary innovation is not simply playing the one against the other: in many relevant cases, it seems to be attempting a solution to such a duality and to realize their mutual 'organic' integration. For many reasons, the main central banks appear as the only agents effectively able to accomplish such a historic task. Besides, current monetary innovation experiences – regardless of their promoters and actors' explicit intentions –, overall considered, from a socio-political point of view, seem to be crossed by two main operative logics and evidences. On the one hand, those experiences seem to be contributing to push forward further frontiers of capital accumulation, as well as to nurture larger and deeper monetization of human relations – either directly, or by targeting that growing jungle of non-human operations, made of those algorithms and digital procedures constituting an externalized but very effective sphere of human relations themselves. Moreover, monetary innovation experiences help the articulation of more dynamical and efficient joining rings among those social discrete dimensions of 'material life', markets, and capitalism – as identified by Fernand Braudel (1979) – now crossed by new ties, vectors and dimensions which are redefining their structures. In this regard, the net effect largely consists of the blurring of the lower strata's protective boundaries, as well as the establishment of a more marked hierarchical relationship among them: whence the enhancement of the extractive and usurping capacity of capitalism towards the bottom. Nevertheless, from a tactical point of view, such experiences seem to be consenting the concrete experimentation and improvement of sometimes limited but important projects and practices inspiring more just alternatives to historic capitalism, worthy of larger emulation – however, again: constantly at risk of being soon and effectively coopted and subsumed by the articulated capitalist system of capture. Finally, for monetary innovation practices, being or becoming part of the instruments for resistance to exploitation and nihilism, seems to rely on their effective ability to protect local social environments from the destructive and dystopian power of the agents and dynamics of liberal and neoliberal capitalism (Polanyi 1944; Buscema 2019), as well as to distinguish and shelter *goods* from commodities and *commons* from properties.

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