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Money as Medium and Tool: Reading Simmel as a Philosopher of Technology to Understand Contemporary Financial ICTs and Media

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Abstract: This article explores the relevance of Georg Simmel's phenomenology of money and interpretation of modernity for understanding and evaluating contemporary financial information and communication technologies (ICTs). It reads Simmel as a philosopher of technology and phenomenologist whose view of money as a medium, a "pure" tool, and a social institution can help us to think about contemporary financial media and technologies. The analysis focuses on the social-spatial implications of financial ICTs. It also makes links to media theory, in particular remediation theory and Marshall McLuhan, and refers to work in anthropology and geography of money to nuance the story of the progressive dematerialization and delocalization of modern life. The conclusion highlights Simmel's continuing relevance for thinking about the relation between technologies and social change, and explores alternative social-financial media and institutions.

Key words: finance, money, ICT, media, technology, Georg Simmel, Marshall McLuhan

1. Introduction

Since the financial crisis of 2008, increased attention has been paid to ethical issues in finance. Bankers have been accused of being greedy, and some blame the capitalist system for the crisis. However, in these discussions, financial technologies and media such as electronic currencies, trading platforms, and high-frequency trading algorithms, are often overlooked; yet, they play an important role in the globalized financial world. If we want to understand what happens in global finance, the contribution of philosophers of technology is much needed.

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In this article, I try to better understand the nature of contemporary financial media and technologies by interpreting and using Georg Simmel's perspective as a lens. I will focus in particular on the topic of 'distance' and Simmel's understanding of money as mediator, as the 'purest of tools' and as having an essentially social and relational nature. I will show that this interpretation can contribute to understanding contemporary ICTs and media, specifically financial ICTs and media. Although I will also discuss potential objections to Simmel, my main efforts will go into showing the usefulness and relevance of his work on money for thinking about a better social future.

I start with offering my summary and interpretation of Simmel's 1907 work *Philosophy of Money*. Then, I show the relevance of his view for understanding contemporary monies, and other financial technologies and media. This will lead me to conclude that if we want to better understand these financial technologies, we can and must read Simmel as a philosopher of technology and media (in particular a philosopher of technology in the phenomenological tradition), and not only as a sociologist or philosopher of *money*. I develop this point by linking Simmel's theory to contemporary media theory (in particular the concept of remediation) and by comparing Simmel's view with that of Marshall McLuhan. Finally, I discuss some potential objections and reflect on the future of financial technologies as related to the future of society and modernity.

Before I interpret and discuss Simmel's analysis of money, let me first say more about his approach. Typically, Simmel is read as a sociologist; yet, there is also value in reading him as a philosopher, and in particular as a phenomenologist who has something to say about technology. I argue that Simmel approaches money as a phenomenologist. Like Husserl, he goes 'back to the things themselves' but in contrast with Husserl he is not interested in 'pure consciousness' but rather in "our cultural relation to the world" (Lehtonen and Pyyhtinen 2008, 309). Simmel is interested in experience and its preconditions and structures, but believes that those cannot be found outside the social; furthermore, he theorizes the social, cultural world, and how money shapes that world and is shaped by it. Discussing the meaning of money, therefore, is for Simmel a matter of discussing money as a phenomenon. He describes the experience of money and analyzes the preconditions that give money its meaning: consciousness, but also social relations and values (Lehtonen and Pyyhtinen 2008). Like Husserl and Heidegger, he is a phenomenologist interested in the conditions of our knowledge, in existence (specifically modern existence), and in the lifeworld, which is for Simmel mainly a social, cultural world. In this article, I propose to read Simmel as analyzing our modern relation to the world, in particular our relation to the world through technology. From Simmel, when he is read as a philosopher standing in the phenomenological tradition, we can learn something about the social world, technology, and media, and about how humans and financial technologies shape one another. Simmel reveals how money as medium and tool makes possible modern society and vice versa. In addition, we can learn something about media and technologies in general, including financial ICTs.

While I will emphasize those insights that are relevant for interpreting contemporary forms of trade, such as high frequency trading and contemporary forms of money such as bank transfers, credit cards, and Bitcoin, I will not offer an extensive, more empirically oriented analysis of these contemporary forms of money and trade here. In this article I focus on Simmel's analysis, interpreted in a way that I hope benefits philosophers of technology when making sense of contemporary forms of money. While I fully recognize that in the social sciences there is a lot of work available on money and I use some of that material here, the motivation for writing this article is derived from what I identify as a lacuna within the field of *philosophy of technology*. The analysis presented in this article is mainly directed at scholars in philosophy of technology who have not yet considered (1) interpreting money as a *technology*, (2) discussing money in the context of *modernity*, (3) using *Simmel* in their work on ICTs, and (4) reading Simmel as a *philosopher of technology*, especially as a philosopher in the phenomenological tradition *avant la lettre*. I show how thinking about money may contribute to thinking about technology and, vice versa, how thinking about money and technology can benefit from thinking about modernity. I also show how Simmel might be meaningfully and helpfully adopted and interpreted within the field of philosophy of technology to shed light not only on money but also on other technologies and media in the context of modern culture, especially on contemporary ICTs. In particular, the article suggests that critical engagement with Simmel's thinking about money may provide better insights into the mediating, social, and relational dimensions of contemporary ICTs.

2. Simmel on Money: Medium, Perfect Tool, and Alienation

In the *Philosophy of Money* (Simmel 2004), we find at least three claims relevant to an interpretation of contemporary forms of money: (1) money is a medium which bridges, yet also creates distance, (2) there is a historical development of money into an increasingly 'pure' tool, which implies a dematerialization, and (3) money, as a social institution, must be interpreted in the context of modernity and contributes to alienation.

First, Simmel argues that from the time when money replaced barter, it became a *medium*. Functioning as a 'medium' means here: something that works 'in between' objects and people. It mediates the exchange relation. It bridges the distance between traders and goods, making it possible to trade at great distance. But, according to Simmel, this also means that money *creates* distance, and alienates; in order to mediate the exchange relation, money has to assume an impersonal, detached form. The result is distance from *objects* (which no longer have 'subjective' value in the sense that we no longer have a direct, personal relation to them; instead they acquire 'objective' significance and value) and from *people*. Personal trading relationships are replaced by impersonal exchange.

Note that this description already has a strong normative connotation. It is assumed that personal trading relationships are preferable to impersonal exchange. Some readers may disagree with this and propose, for instance, that we can and must distinguish 'private' activities involving close relationships from activities such as trading which involve 'public' distant relationships, and that if we maintain this separation there is no problem. However, it is worth remarking that this response assumes (1) that such a distinction is viable and (2) that it is desirable. Both assumptions represent a very modern way of thinking, and one which critics of modernity have been questioning. A Simmelian view holds that in modernity the distant, impersonal, and the calculative take over, encompassing the whole lifeworld and culture, making modernity's attempt to cut up social life into separate spheres highly problematic. For example, the public-private distinction, if it ever truly existed, is constantly questioned by new technologies. Consider how social media shape our thinking about what is 'private': what used to be private information is now made public, and since we can use social media always and everywhere, what is public also enters what were previously considered to be private spheres. These technologies make us question what we want to keep private rather than make public, but also what 'private' means for us today, what it meant in the past, and how much we (should) value it.

The idea that money originates in barter has been criticized by anthropologists, archeologists, and economists. Against what they call the 'myth' and 'folk wisdom' about the barter origins of money, these scholars argue that its origin lies instead in debt (between persons and later in relation to public bodies) and in the gift, which also creates a kind of debt (see, for example, Mauss 1990; Hudson 2004; Hart 2005; Graeber 2011). Still, these accounts of the history of money suggest that debt and gift as precursors of money were linked to more personal and less distant relations than those in modern society. Furthermore, it is undeniable that one function of money is that of a mediator, a role that in the modern West has come to be seen as a crucial function. Money as medium has become the symbol of impersonal relationships in modern society—all perceptions and experience which have also shaped what money 'is.' What renders the myth so powerful are our contemporary daily experiences of exchange by means of money and our modern longing for more personal and less distant relationships—regardless of whether they existed at a given time in history and regardless of the precise origin of money.

Thus, whatever its historical origins may be, this *relational* aspect of money is an important insight to gain from Simmel. The abstraction of money and the distance it makes possible in human relations, the phenomenology of which Simmel sketches so convincingly, derives from its function as a medium—whatever other functions and roles money may have. When and in so far as money functions in the exchange relation, money itself becomes a relation. Simmel writes:

> If money itself were a specific object, it could never balance every single object or be the bridge between disparate objects. Money can enter adequately into the relations that form the continuity of the economy only because, as a concrete value, it is nothing but the relation between economic values themselves, embodied in a tangible substance. (Simmel 2004, 125)

The wider philosophical implication of this relational dimension of money is that money expresses and reveals relationality itself:

> The philosophical significance of money is that it represents within the practical world the most certain image and the clearest embodiment of the formula of all being according to which things receive their meaning through each other, and have their being determined by their mutual relations. (Simmel 2004, 128–29)

Second, according to Simmel, this mediating and relational nature of money means that it contributes to the dematerialization (or spiritualization) of our culture. Money itself is pure symbol and function, which does not depend on substance. It is "pure quantity" (150); it is more an idea than an object. Of course, money has often taken substantial, material forms, and did so in the time of Simmel in the form of paper money. But Simmel already notes that paper money signifies a move from substantial to functional value. He apparently expects that this evolution will continue, until money becomes entirely functional, but says that it is "not technically feasible what is conceptually correct" (165). Thus, he argues that although it would be conceptually correct that money becomes entirely insubstantial and immaterial, this is not yet feasible (at least not in Simmel's time; in our time this might be possible—I will return to this point later in this article). Thus, Simmel sees in our civilization (not only in modernity) a "profound cultural trend" (148) towards the objective, symbolic, the abstract, and the quantitative. In modernity, these effects are increased.

It is in the context of this argument that we must understand Simmel's interesting claim that money is a perfect tool. It is a tool since we use it to reach our ends. As purposeful beings, and tool-making animals, we introduce intermediary steps between ourselves and our ends. But money is a special kind of tool since it is "a tool of endlessly diverse and extensive uses" (Simmel 2004, 210); highly flexible and liquid. Therefore, Simmel argues, money is "the purest form of the tool" (210) and as a pure means and a 'perfect tool,' you can use it to reach all purposes:

> a tool continues to exist apart from its particular application and is capable of a variety of other uses that cannot be foreseen. . . . Money as the means par excellence fulfils this condition perfectly; . . . Money is the tool that has the greatest possible number of unpredictable uses. (Simmel 2004, 212)

Because of this variation in uses (that is, in aims that can be reached by it), money is highly flexible and liquid:

> money's flexibility is only that of an extremely liquid body which takes on any form, and does not shape itself but receives any form it may possess only from the surrounding body. (Simmel 2004, 329)

Yet, at the same time Simmel argues that money is an end, or rather *becomes* an end, since, as a perfect tool, a pure means, it comes to be valued for itself: the means becomes an end (232), a final purpose.

This brings me to the third cluster of claims in the book: Simmel's view of modern society and modernity. For Simmel, money has a social nature. It is "entirely a sociological phenomenon" (Simmel 2004, 172); it reifies exchange among people (176) and it can do this because it is a social institution. If money were a 'mere tool' without social significance and effects, it could not possibly have these alienating effects. Moreover, Simmel's view about dematerialization translates into a view of social order. Simmel envisages an "ideal social order" in which "money with no intrinsic value would be the best means of exchange" (191). This can be interpreted as a monetary and social utopia (see also Dodd 2014), in which money functions as a perfect, ‘pure’ mediator between people and between people and things.

To the extent that this is happening in modernity, we seem to come closer to Simmel’s ideal social order. The liquidity of money certainly has the advantage of connecting people with people, and people with things in the context of economic and financial globalization. At the same time, Simmel is also critical of modernity, in ways that are similar to Marx, Weber, and other theorists of modernity who emphasized objectification, alienation, and bureaucratisation. Money makes possible an extension of economic space, but this means reduction of direct contact between people (Simmel 2004, 181); we become more removed from the groups closest to us. Furthermore, money alienates from work and from the products of work since it makes possible salaried labour and contributes to the division of labour. The modern division of labour “causes personalities to disappear behind their functions” (296), and if we sell our labour, we also separate ourselves from it (456). Interestingly, Simmel thinks this is also true for the manager: equally “subordinated to an objective purpose,” the manager produces for the market (335). Simmel contrasts these modern conditions with those of the medieval craftsman, whose work reflected his personality. Modern (industrial) mass production, by contrast, means impersonal relationships between worker and product, and between worker and consumer. There is general indifference:

> What is distressing is that we are basically indifferent to those numerous objects that swarm around us, and this is for reasons specific to a money economy: their impersonal origin and easy replaceability. . . . Objects and people have become separated from one another. (Simmel 2004, 460)

Simmel analyses this process in terms of distance. Money creates “spatial distance between the individual and his possession,” (332–33) and this has moral and social consequences: individualistic people and individualist forms of association.

Note that like Marx and other critics of modernity, Simmel seems to assume that earlier forms of association were better, in the sense that there was less distance between people. However, contrary to Marx, Simmel does not only and primarily connect these effects with capitalism, not even with modernity as such. In modernity, the effects have increased, but Simmel places modern alienation by means of money in the context of a long history of civilization as a history of money, in which there is a progressive dematerialization (or spiritualization) of money and of culture. Both Marx and Simmel connect changes in the material sphere with changes in the cultural sphere, but Simmel's horizon is that of (Western) civilization, not (only) of capitalism or modernity.

With regard to indifference and alienation in the economy and in corporations, Simmel makes a pertinent remark about shareholders who do not really care about their company, due to the distance *bridged and created* by money (and the individualism related to it):

> The owner of shares who has absolutely nothing to do with the management of the company; the creditor of a state who never visits the indebted country . . . this is only possible by means of money. . . . The power of money to bridge distances enables the owner and his possessions to exist so far apart that each of them may follow their own precepts to a greater extent than in the period when the owner and his possessions still stood in a direct mutual relationship, when every economic engagement was also a personal one. . . . Because of this separation of object and person, the ages of highly developed and independent technology are also the epochs of the most individualistic and subjective personalities. (Simmel 2004, 333)

Distance means that people don't *care* as much as they did before. There is not only a distance between worker and product, but also a distance between the owners of the means of production (and other possessions) and the products of production:

> the joint stock company whose shareholders are united solely in their interest in the dividends, to such an extent that they do not even care what the company produces. (Simmel 2004, 343)

Moreover, money makes possible the calculating character of modern times (443). Simmel writes that the lives of many people are absorbed by calculating and reducing qualitative values to quantitative ones (444). Under such conditions, there is also a larger distance between people. According to Simmel, emotional relationships are excluded. He compares the social effects of money with those of prostitution: the "mutual degradation to a mere means" (377).

Here 'medium' seems to have a different meaning than before: it is not only about money as 'in between,' but about money that is 'all around,' like the water in which fish swim or like the air we breathe. Our world becomes entirely quantified and objectified; money and numbers are all around us. We breathe money and we eat numbers.

Simmel complains that—to put it in McLuhan's terms (see below)—the medium has become (more important than) the message:

> It is true that we now have acetylene and electrical light instead of oil lamps; but the enthusiasm for the progress achieved in lighting makes us sometimes forget that the essential thing is not lighting itself but what becomes more fully visible. People's ecstasy concerning the triumphs of the telegraph and telephone often makes them overlook the fact that what really matters is the value of what one has to say. (Simmel 2004, 482)

This objection sounds very much like some contemporary responses to the Internet and other new media, which complain about the seemingly "empty" chatter on the Internet. Do contemporary electronic media suffocate the message? Do they encompass all and everything into a stream of meaningless data? Even if this is (at least) an exaggeration, it is worth further discussing this issue, especially in relation to financial technologies (which are the focus of this article). Let me now turn to contemporary times and explore what we can learn from Simmel's insights about money for understanding contemporary ICTs and media, including financial ones.

3. Contemporary Financial ICTs: Towards 'Perfect' Media and Simmel's 'Ideal' Society?

Today, global finance seems indeed part of an 'objective' realm of financial numbers and monetary information which is all around us (here money is a 'medium' in the water or air sense). More personal forms of exchange relationships are transformed into exchanges of financial data, which are removed from personal relations between people and from personal relations between people and objects (here money is a medium in the 'in between' sense: it is situated between people and between people and objects). Contemporary monies can be interpreted as being part of a history of objectification and impersonalization through mediation by electronic technologies. Electronic money makes possible exchanges among people who do not know each other in any way other than as nodes in an electronic (financial) network.

Moreover, electronic money is increasingly removed from all 'tangible substance.' This seems especially true for electronic currencies such as Bitcoins, which are generated by a computer algorithm and have no material substance whatsoever. They are traded from computer to computer; no material 'cash' is needed. Whereas currencies such as the US dollar or the euro are instantiated, materialized (if treated and experienced as commodities[1]), or represented by paper bills and coins (if seen as fiat currencies), Bitcoin does not have the form of a material commodity and does not usually have material representations. Of course, some people make material representations of Bitcoin, but the point is that such material form is not *necessary* for the currency to exist. Thus, it seems true that today the historical material-cultural evolution Simmel observed has reached its summit, its highest stage: money becomes pure symbol and function, pure quantity in numerical form. Today it is indeed "technically feasible" to accomplish "what is conceptually correct," as Simmel put it (Simmel 2004, 163). With a Hegelian twist, we could conclude that this development amounts to the 'end' of monetary history. With electronic currency, the final stage in that history has been reached, and with this also the summit of both purification and alienation. If we follow Simmel, then the spiritualization of money also means the spiritualization of culture and indeed the 'ideal social order' he envisaged. At the same time, this also means that the moral and social distance Simmel observed in this time is today higher than ever before.

Furthermore, electronic technologies in finance and elsewhere can now fully act as 'pure tools,' since their non-material nature (or so it seems) makes them extremely versatile, flexible, and liquid. Money now has "the greatest possible number of unpredictable uses" (Simmel 2004, 212). Even if it might not yet be 'perfect,' it comes very close to it. This also means that it easily can become the ultimate end: who would not want such a 'pure,' 'perfect' tool?

This interpretation of contemporary money seems also true for other ICTs and media. In our age, computers seem to be close to functioning as perfect tools. Nearly everything we do at work or in our lives is mediated by and drawn into the computer. The same holds for the many mobile electronic devices we use today. There is an app for nearly everything. You can do virtually everything with your phone. Digital media behave as "an extremely liquid body which takes on any form, and does not shape itself but receives any form it may possess only from the surrounding body" (Simmel 2004, 326). In this shape, they tend to evolve from pure means to final ends. As nearly perfect tools, electronic devices become extremely attractive. They (nearly) become ends in themselves, ends rather than mere means.

This observation brings me to the darker sides of this development. Let us return to the analysis of contemporary money. Globalization has increased the extreme liquidity of money. (In line with Simmel, I use the term 'liquidity' here in the metaphorical sense rather than the technical sense used by economists and finance experts.) Global streams of money flow constantly, bridging physical distance between people (and between people and goods) and creating more mobility.

The world of globalized finance seems to have become a 'non-place,' a 'u-topia' in the literal sense. But, if we follow Simmel, this has a price: an "increasing distance to what was originally nearer" (Simmel 2004, 476). One could make the following Simmelian argument: to function as a highly liquid medium, electronic money has to be removed from concrete relations to people and objects. What is left are data, which are sold and processed as commodities. We want data; we want information. But we forget why we want the data and which information we wanted. What matters is the medium; the means becomes the end.

Electronic money has also effects on the division of labour and on care for things and people in the economy. Since it facilitates global trade and exchange, it makes possible more distance between investor and object of investment, and today it is truer than ever that managers and shareholders "do not even care what the company produces" (Simmel 2004, 343). How *could* they care, if their possessions, means of production, and products are so far removed from them? If Simmel is right about there being a connection between physical distance and what we may call moral-psychological distance, then it seems that in times of financial and economic globalization, conditions are created under which high levels of personal care are unlikely to arise. Furthermore, financial occupations are one of the most 'abstract' occupations civilization has ever seen: consider the important role of mathematicians/computer science experts in global finance who significantly are called 'quants.' In addition, to some extent trade is even delegated to machines and algorithms, as in so-called high frequency trading. From a Simmelian point of view at least, this seems to amount to the ultimate alienation and dehumanization of the economy and therefore, of contemporary life.

At first sight, this Simmelian interpretation also seems to make sense of other ICTs and media. The medium seems indeed to become the message. Critics of the Internet and related electronic devices claim that what is essential is not the World Wide Web, social media, and so on, but what becomes visible in and through these technologies, not the communication device but what one has to say. Yet, it seems that we forget the message and only focus on the medium.

The Simmelian conclusion that follows from this interpretation of contemporary financial media and ICTs is therefore not only limited to financial technologies; it highlights the consequences of new ICTs for contemporary life and, ultimately, for what we become as humans. The Simmelian conclusion of this section might, therefore, be the following: we become our tools, we become information processors, all-purpose tools in the service of what Simmel calls 'objective' purposes. We also become currency: what matters is our exchange value. We and our societies become as mobile and liquid as money (see also Bauman on 'liquid modernity,' e.g., Bauman 2006). We are now part of a global 'non-place,' utopia with all its attractions and problems.

4. Simmel as a Philosopher of Technology

Even if the reader disagrees with Simmel and the interpretation of contemporary (financial) ICTs and media sketched in the previous section, which may well be too one-sided and incurs a number of problems (I will offer some objections later in this article), I hope it has become clear that Simmel's thinking is very relevant for thinking about contemporary ICTs and media, and that he can be read as a (full) philosopher of technology. His view can be placed within criticism of modernity and within philosophy of technology—even if it transcends both fields. For instance, his views of objectification and modern technology can be linked to those of Marx, Weber, and Heidegger. For example, Heidegger criticized 'modern technology' as a particular way of framing the world which makes us see things as 'standing reserve' for us to use and control (Heidegger 1977). As a philosopher, Simmel mainly writes as a phenomenologist who attends to the way we frame reality in modernity. Simmel's views also seem to be in line with claims about disengagement from Hubert Dreyfus and Albert Borgmann, two other philosophers influenced by Heidegger and more generally by the phenomenological tradition. They argue that our use of modern devices means less engagement with things and people, and that electronic technologies threaten the possibility of meaningful, skilled engagement with the world. For example, Borgmann has argued that modern devices hinder engagement with things and with one other; instead, he proposes 'focal practices' (Borgmann 1984).

But Simmel's relevance stretches beyond criticisms of modernity. As I suggested earlier, Simmel's horizon is wider: the claims he makes concern the history of human civilization. For Simmel, moral and social distancing (as made possible by money) are not only modern phenomena, they are deeply rooted in the material-cultural development of civilization, more specifically in the development of (more perfect) tools. With Simmel, we must emphasize that already at earlier stages of civilization tools contributed to an 'objective,' 'calculative' view of the world and of dealing with one another. This happened already in the ancient world (Mesopotamia, ancient Greece, etc.) when more personal and direct forms of debt and means of exchange were replaced by trade at a distance. Furthermore, like other philosophers of technology, Simmel helps us to understand the moral, social, and anthropological significance of tools. With many other philosophers of technology and philosophical anthropologists, Simmel shares the view that we are tool-making beings (see also Plessner 1981). We are naturally artificial and 'intermediate' beings, yet tools always have unintended effects ('other uses that cannot be foreseen') and they shape and influence our lives and our societies. Tools are not and never were 'mere' instruments; they shape human relations and, ultimately, they co-shape the form of human civilization.

Moreover, Simmel does not only help us to better understand money. I suggest that he also aids our understanding of technologies and media in general, in particular all-purpose tools such as computers and other electronic devices and machines (e.g., robots). He also makes us reflect on means and ends. Are we "bewitched" by our media? Are we (too) distracted? Or is the problem not so much that ICTs distract us from what is valuable, but that they *absorb all values*? Is this a problem? Perhaps, it is a problem if they restrict the range of values, if they absorb all objects and relations and turn them into information, data, numbers, and bits. Are contemporary media black holes into which all value and meaning disappear, or in which only one type of value and meaning can appear? Does the distance between the subjective and the objective implode? Can the real be accessed only as 'information'? Is money (still) *a more perfect* means than electronic ICTs? Or does money also become an *electronic* ICT? Simmel enables us to ask a host of interesting questions, which challenge us to think more about the relations between ICTs/media, distance, and meaning.

Let us now turn to some potential objections to Simmel (and therefore objections to the interpretation and application of Simmel offered so far in this article).

5. Objections

Next to the already mentioned problems with Simmel's assumption that money originates in barter (which is an empirical question), there are a number of other, more philosophical assumptions and claims which are problematic in Simmel. In order to fully articulate the interpretation offered in the previous sections (and thus to achieve the main aim of this article), I have suppressed these criticisms so far, but now I need to bring them to the forefront. I will limit myself to a selection of potential objections.

First, it is debatable if there is (a gap between) an objective and a subjective sphere, as Simmel claims. Throughout his book, Simmel puts a lot of emphasis on objectification in our culture by means of money. But to the extent that money can be used for all purposes, it can also be used for 'subjective' ones. The same is true for electronic technologies: computers may have been developed for the purpose of calculation, but many originally unintended uses have been added. It could be said, that the media discussed are both subjective and objective, and that it is better to criticize how they shape our experience and action in undesirable ways without relying on the subjective-objective dichotomy. For example, computers were first made to be 'calculation machines' and hence 'objective' and 'objectifying' in Simmel's terminology. Yet, as the history of computing shows, slowly but steadily they have been used for purposes and in contexts which may be more associated with Simmel's 'subjective.' As this usage became associated with language, with human communication, with play, and so on, computers became more entangled with (other dimensions of) human experience, feelings, and social relations. At the same time, 'objectification' is not absent. For example when we use social media, our data are sold off to third parties, which may be seen as a case of 'objectification'; we are integrated in the 'system' rather than the 'lifeworld,' to use Habermasian categories which are equally binary. However, to use these labels is not enough; it is important to say exactly what is going on and why something is bad. Simmel does some of that, but the distinction often gets in the way instead of being helpful, especially when it brings everything under a totality and covers up differences. To conclude, although the distinction seems to have some use, it may confuse instead of enlighten us about the various ways in which technologies and media shape human experience and sociality (and are in turn conditioned by them). Furthermore, this problem also calls for more empirical and phenomenological research (see also below).

Second, the argument about distancing and mediation which I extracted from Simmel needs refinement in the light of a more comprehensive philosophical anthropology. I do not have enough space to say much about this here, but earlier in this article I distinguished between two kinds of mediation (in-between versus all-around) and here I shall introduce another distinction, one between two types of distance and mediation, which responds to the philosophical-anthropological claim that we are tool-using beings. One is a basic, existential form of distancing and mediation, which is always there since we are tool-using animals and because we reflect on what we do. This basic, existential distance we have as technological beings and reflective subjects must be distinguished from additional distance(s) introduced by specific types of technologies. The latter kind of distancing is a matter of degree, whereas the former type of distance is always there. I propose to interpret Simmel's insights as concerning the latter kind of distance(s).

Third, Simmel offers us a history of money and civilization, but there is little attention to specific contexts and times. To remedy this, I propose attending to specific cultural-material practices in order to complement the more abstract and general arguments made by Simmel, without necessarily *replacing* his phenomenological and transcendental approach (and the interpretation I offered). This could lead to a more nuanced argument about distancing which pays more attention to specific practices and 'distancing machines' and takes into account variations in use and context.

Fourth, adding other, more empirically-oriented approaches could also help us to nuance the dematerialization and de-placing thesis. Electronic tools still heavily depend on material form and infrastructure. Think about the material servers, wires, and devices needed for ICTs in finance and other practices. It remains to be seen if and how this undermines the dematerialization-spiritualization argument of Simmel. For instance, perhaps we could make a distinction between, on the one hand, material hardware and material infrastructure, and on the other hand, non-material software and the non-material function and effects of hardware and software. Or maybe Simmel's argument works at a different, more transcendental level, which would justify including a separate, specifically philosophical approach that goes beyond empirical analysis of material and immaterial aspects. In any case, methods from anthropology and/or from social studies of technology and finance could help to say more about the material aspects of financial technologies. Their relation to this philosophical argument (e.g., Simmel's view) needs further discussion, but they should not be disregarded.

The same is true for thinking about the de-placing thesis. There are many indications that speed still matters in today's 'globalized' world. For instance, speed matters when determining where you put your high frequency trading server; thus, for financial centres and servers geographical location is significant. Financial centres, specific places, are not 'utopian' in this sense: they are not only globalized, but also localized.

Let me give some examples of (good) work in this area. Michel Callon and others have argued that economic markets involve assemblages of human beings and artefacts (Callon and Muniesa 2005; Callon, Millo, and Muniesa 2007). Work in social studies of finance and geography of finance has revealed material, bodily, and spatial configurations of trading practices (MacKenzie 2005; Knorr Cetina and Bruegger 2002; Beunza and Stark 2004; Zaloom 2003; Zaloom 2006; Beunza, Hardie, and MacKenzie 2006). In geography of finance, Saskia Sassen has argued that financial centers are (still) geographically located. There is also interesting sociological and anthropological research on the social meaning of money (Zelizer 1989; Maurer 2006) which further anchors reflection on finance in research on actual financial practices and their relation to society.

Finally, like many commentators of his time, Simmel tends to think rather deterministically about technology and its historical and cultural evolution. But while it is true that we cannot fully control technological development and how it influences and shapes humans and society (an insight which tends to be neglected in design-oriented philosophies of technology), we should not think of technologies and humans as being entirely separate. Technology is not (entirely) external to the human; it is not a totally non-human 'thing.' Instead, technology is also human and social since it is made, used, and interpreted by humans and is inextricably connected to society and culture. Assuming that human beings have some freedom to shape their tools and their societies, this means we can exercise a significant influence on technological development; it is 'our' development. If 'technology itself' is human and social (that is, if there is no 'in itself' in this sense), if technology is a human activity (Coeckelbergh 2012), then it is not something entirely external to us and we have at least some control over it. Technology is part of what we do: we engage with others and the world via technologies and media.

To conclude this section: when we use Simmel to interpret and evaluate contemporary (financial) ICTs and media, we should take into account that even if generally speaking there seems to be a history of dematerialization (or spiritualization) and de-placing in our civilization, which seems to reach a (provisional?) summit in the age of electronic monies, matter and place remain important in today's world—including the financial world. Moreover, if humans and technology are as tightly connected as I suggested, there is no deterministic, autonomous development toward Simmel's utopian social order. Finally, although Simmel as a phenomenologist pays attention to the concrete, to daily experience, his analysis remains at a very general level. It seems best to combine a Simmelian philosophical argument with studies of specific practices and contexts (even if more thinking is needed about the specific role of the philosopher in relation to such more empirically oriented studies). For this purpose, other, more empirically oriented, disciplines are needed, e.g., STS and social studies of finance, geography, anthropology, and so on.

That being said, in the interpretation offered above Simmel is revealed as an excellent starting point for exploring problems of distancing, disengagement, and knowledge in modernity (and indeed in civilization). Simmel's fundamental insight that money and society are very much linked is also crucial if we are to think further about contemporary financial technologies; otherwise, such technologies might continue to be regarded as 'technical matters' or 'economic matters' which have little to do with ethical and societal problems and which are not considered a proper subject matter for philosophy of technology.

To further develop my argument about the relevance of Simmel as a philosopher of philosophy and media, let me conclude this article by suggesting comparisons between Simmel and media theory, in particular remediation theory and McLuhan.

6. Afterword on Simmel and Media Theory: Remediation and McLuhan

In media theory, we can find some ideas to help us to further develop a Simmelian philosophy of (financial) technologies and media. Let me just indicate two places in the literature where we can find inspiration for this purpose.

First, given the Simmelian interest in the history of financial technologies and media presented in this article, the concept of "remediation" (Bolter and Grusin 1999) is worth some attention. The term refers to two claims: (1) new media achieve their cultural significance by remediating (paying homage to and refashioning) older media and (2) new media 'try' to become more transparent than the previous media (they 'want' to become invisible as media) but fail to achieve this. This concept can be applied to electronic financial technologies and other ICTs.

For example, calculator apps installed on electronic mobile devices re-mediate calculator programs on personal computers and of course earlier 'material' calculators, and electronic money 're-mediates' other forms of money. Consider Bitcoin: it re-mediates money in an electronic bank account and 'tries' to re-mediate the liquidity of cash, even if it has an electronic form. It uses the term 'wallet' as the 'place' (or non-place) where you can keep your Bitcoins, and the medium can also be seen as a 'comment' on other media, which are more material. In this case, Bitcoin uses the metaphor of 'mining,' which refers to the mining of material monies such as gold (mining Bitcoins means making them by means of an algorithm). Moreover, electronic money 'tries' to present the exchange relation in a more 'pure,' 'transparent' way than all previous, more substantial forms of money; it 'wants' to be an invisible bridge between people and between people and things, a pure tool. At the same time, it creates more distance than ever, and more attention to and fascination with, the medium as such. Will such new currencies lead to a new monetary and social utopia (with all its dystopian aspects)?

Second, some of McLuhan's ideas about money (McLuhan 2001) are remarkably similar to Simmel's. Discussing some of the similarities can also shed new light on Simmel, and, of course, on contemporary and older financial ICTs and media.

Like Simmel, McLuhan takes money seriously as a human and social phenomenon, rather than a 'mere' tool. He recognizes its influence on our sense of life—an influence which is unintended and not dependent on approval or disapproval of individuals or collectives. An important influence is also distancing and (and this is, of course, McLuhan's term) *extension*. He argues that money, like language, detaches us from the environment. In particular, it extends the grasp of humans from nearest to distant commodities:

> Currency is a way of letting go of the immediate staples and commodities that at first serve as money, in order to extend trading to the whole social complex. (McLuhan 2001, 143)

Money renders our activities more abstract: "the trader and the financier have developed enthralling abstract activities that are extensions of the avid climbing and mobility of the greater apes" (McLuhan 2001, 144). This abstraction means also a dematerialization. Money loses its aura, since (we can infer) it is no longer so substantial, no longer so much an object in itself: "Just as speech lost its magic with writing, and further with printing, when printed money supplanted gold the compelling aura of it disappeared" (McLuhan 2001, 145–46). Money is, thus, a bridge, but it also 'action at a distance.' McLuhan compares this abstraction and distance with writing:

> "Money talks" because money is a metaphor, a transfer, and a bridge. . . . Money separates work from the other social functions. Even today money is a language for translating the work of the farmer into the work of the barber, doctor, engineer, or plumber. As a vast social metaphor, bridge, or translator, money—like writing—speeds up exchange and tightens the bonds of interdependence in any community. It gives great spatial extension and control to political organizations, just as writing does, or the calendar. It is action at a distance, both in space and in time. In a highly literate, fragmented society, "Time is money," and money is the store of other people's time and effort. (McLuhan 2001, 147)

McLuhan suggests that the culture of quantification noted by Simmel is made possible by literacy. Without literacy, there would be no world of prices and numbering, no "psychic resources to create and sustain the enormous structures of statistical information that we call markets and prices" (McLuhan 2001, 148).

The pricing system makes possible “extreme abstraction and detachment” which is “unthinkable and unusable amidst populations for whom the exciting drama of price haggling occurs with every transaction” (McLuhan 2001, 149).

With electronic or ‘information’ technologies, then, money becomes the movement of information. McLuhan writes about the “instant electric interdependence of all men on this planet” and observes that work is being replaced by “the sheer movement of information” (McLuhan 2001, 149). He sees a steady progression toward commercial exchange as the movement of information itself (149). To use Simmel’s term: money has become entirely symbolic: it is immaterial, spiritualized.

Like Simmel, McLuhan also discusses the relation between money and the division of labor. In what he calls “tribal society” (McLuhan 2001, 149) (McLuhan seems to mean ‘pre-modern’) nothing is specialized—even money is not specialized: it can be eaten, drunk, worn, etc.—and “the job of work” as such does not exist, since “the whole man is involved” (149). Thus, in tribal society everyone takes part in all kinds of tasks, not just one type of task, and no distinction is made between work and leisure; everything one does is part of what and who one is. ‘Work’ begins with the division of labor in non-tribal societies and (we might suppose) modern society. However, at this point, McLuhan departs from Simmel. It is easy to see that in modern *industrial* society there is a high degree of division of labor. But today, we have different technologies, *electronic* technologies. This may or may not change the picture. McLuhan thinks that today we are more like a tribal society than what we could call a ‘Simmelian’ modern society. He thinks that “in the computer age we are once more totally involved in our roles” (149) and that with computers the means of processing information “become less and less visual and mechanic while increasingly integral and organic” (150). He suggests that today we have entered a different, late-modern, post-modern, or even non-modern stage in history, with features different from modern society. McLuhan, of course, acknowledges the globalization of finance (see also his famous claim about the ‘global village’). He sees that money ”moves with greater speed and in ever greater volume” (152) and that money enabled Western industry ”to blanket the globe“ (153). But perhaps, today our experience is more involved and less modern than we may think, on the basis of Simmel’s analysis as I interpreted it in previous sections. Did the division of labor change with the electronic devices we use today, and if so, how exactly? Do we no longer have ‘jobs’ or ‘work’? Are we once again totally involved in what we do?

McLuhan only provides vague suggestions. To me, it seems indeed that to some extent, contemporary ICTs abolish the distinction between work and leisure, for instance when we use social media for work purposes and for entertainment and non-work related communication at the same time, or when our 'leisure' activities on social media turn out to be a form of labor (the production of data). But, do these technologies really mean the end of the (high degree of) division of labor, or do they even intensify division of labor in certain areas of life and work? For example, contemporary organizations (in spite of or perhaps *because* of their heavy use of electronic ICTs) are often still very keen on dividing up labor with a view to increasing efficiency. ICTs are used to organize links between the divided jobs, without integrating them at the level of the person. The modern division of labor even makes ICTs necessary. For instance, in organizations, e-mail programs and information management systems are used to manage and coordinate processes, which, exactly *because* they are distributed over many people, require the use of such ICT tools to work and to deliver results. In this sense, ICT is used to maintain or even increase rather than diminish the division of labor and specialization. Most jobs in the information economy, to my knowledge, do not involve 'the whole man,' but only appeal to part of what we (think) we are or want to be. I will not further develop this discussion here, but it is worth thinking more about the precise differences, if any, between Simmel's world and the world of today when it comes to the financial ICTs/media and their influence on human experience. This discussion also shows that more empirical research is needed to substantiate McLuhan's (and Simmel's) claims about the relation between electronic (financial) technologies and social realities.

Of course, there are many other issues that emerge once money is studied as a medium. For instance, if one looks at money as a mass medium, it is also possible to study its politics (e.g., money and power relations) and/or its influence on identity (see, for example, Helleiner's (1998) work on currencies and national identity). Simmel and McLuhan, however, remind us to also look at these issues in the context of *modernity* (and the history of civilization) and to pay sufficient attention to money *as technology*.

7. Conclusion

In this article, I have identified the need for philosophers of technology and media to analyze and reflect on financial ICTs and media in the context of modernity (and the history of human civilization). I have interpreted Simmel and used McLuhan to show how this can be done in a way that touches upon issues such as distance, alienation, and the specialization of labor. Further work is needed, both on the topic (financial ICTs) and on the issues, approaches, and methods used or touched upon in this article. For example, I suggested that we should combine philosophical analysis à la Simmel and McLuhan with empirical research from the social sciences in order to say more about technologies in financial practices and (other) concrete contexts. In this article, I have limited my discussion to what can be drawn from Simmel and McLuhan read as philosophers of technology (in the phenomenological tradition) and I have made references to some relevant work in the social sciences that could be used to further inquiry into these issues—without, however, proposing to *replace* philosophy with empirical studies. Instead, I think that collaboration between philosophy (in particular, phenomenology) and more empirically oriented philosophy is one way to take this forward.

In any case, I hope to have shown that discussing the future of financial technologies is not simply and not primarily a 'technical' matter, for it concerns how we (should) relate to one another, how we work, how we (should) live our lives, and it is about the future of our society and civilization as well. In other words, it is not only a problem for bankers and traders to deal with; it is *our* problem and *our* future.

Note

1. Note that phenomenology, as I understand it here, takes seriously how 'ordinary' people experience money. In contrast to some scientists and philosophers who try to define what money 'is' (e.g., arguments by economists that money is not a commodity), a phenomenological approach recognizes that there are various perspectives from which to view and experience money.

References

Bauman, Zygmunt. 2006. *Liquid Times: Living in an Age of Uncertainty*. Cambridge: Polity Press.

Beunza, Daniel, Iain Hardie, and Donald MacKenzie. 2006. "A Price is a Social Thing: Towards a Material Sociology of Arbitrage." *Organization Studies* 27(5): 721–45. http://dx.doi.org/10.1177/0170840606065923

Beunza, Daniel, and David Stark. 2004. "Tools of the Trade: The Socio-Technology of Arbitrage in a Wall Street Trading Room." *Industrial and Corporate Change* 13(2): 369–400. http://dx.doi.org/10.1093/icc/dth015

Bolter, Jay David, and Richard Grusin. 1999. *Remediation: Understanding New Media*. Cambridge, MA: MIT Press.

Borgmann, Albert. 1984. *Technology and the Character of Contemporary Life*. Chicago: University of Chicago Press.
Callon, Michel, Yuval Millo, and Fabian Muniesa, eds. 2007. *Market Devices*. Oxford: Blackwell.
Callon, Michel, and Fabian Muniesa. 2005. "Peripheral Vision: Economic Markets as Calculative Collective Devices." *Organization Studies* 26(8): 1229–50. http://dx.doi.org/10.1177/0170840605056393
Coeckelbergh, Mark. 2012. "Technology as Skill and Activity: Revisiting the Problem of Alienation." *Techné* 16(3): 208–30. http://dx.doi.org/10.5840/techne201216315
Dodd, Nigel. 2014. *The Social Life of Money*. Princeton, NJ: Princeton University Press. http://dx.doi.org/10.1515/9781400852048
Graeber, David. 2011. *Debt: The First 500 Years*. Brooklyn: Melville House.
Hart, Keith. 2005. "Notes Towards an Anthropology of Money." *Kritikos* 2. http://intertheory.org/hart.htm.
Heidegger, Martin. 1977. "The Question Concerning Technology." In *The Question Concerning Technology and Other Essays,* trans. William Lovitt, 3–35. New York: Harper & Row.
Helleiner, Eric. 1998. "National Currencies and National Identities." *American Behavioral Scientist* 41(10): 1409–36. http://dx.doi.org/10.1177/0002764298041010004
Hudson, Michael. 2004. "The Archeology of Money: Debt versus Barter Theories of Money's Origins." In *Credit and State Theories of Money,* ed. L. Randall Wray, 99–127. Cheltenham: Edward Elgar Publishing. http://dx.doi.org/10.4337/9781843769842.00010
Knorr Cetina, Karin, and Urs Bruegger. 2002. "Global Microstructures: The Virtual Societies of Financial Markets." *American Journal of Sociology* 107(4): 905–50. http://dx.doi.org/10.1086/341045
Lehtonen, Turo-Kimmo, and Olli Pyyhtinen. 2008. "On Simmel's Conception of Philosophy." *Continental Philosophy Review* 41(3): 301–22. http://dx.doi.org/10.1007/s11007-008-9083-8
MacKenzie, Donald. 2005. "Opening the Black Box of Global Finance." *Review of International Political Economy* 12(4): 555–76. http://dx.doi.org/10.1080/09692290500240222
Maurer, Bill. 2006. "The Anthropology of Money." *Annual Review of Anthropology* 35: 15–36. http://dx.doi.org/10.1146/annurev.anthro.35.081705.123127
Mauss, Marcel. (1925) 1990. *The Gift*. London: Routledge.
McLuhan, Marshall. (1964) 2001. *Understanding Media: The Extensions of Man*. London: Routledge.

Plessner, Helmuth. (1928) 1981. *Die Stufen des Organischen und der Mensch: Einleitung in die philosophische Anthropologie (Gesammelte Schriften IV)*. Frankfurt am Main: Suhrkamp.

Simmel, Georg. (1907) 2004. *The Philosophy of Money*, trans. Tom Bottomore and David Frisby, ed. David Frisby. London: Routledge.

Zaloom, Caitlin. 2003. “Ambiguous Numbers: Trading Technologies and Interpretation in Financial Markets.” *American Ethnologist* 30(2): 258–72. http://dx.doi.org/10.1525/ae.2003.30.2.258

Zaloom, Caitlin. 2006. *Out of the Pits: Traders and Technology from Chicago to London*. Chicago: University of Chicago Press.

Zelizer, Viviana A. 1989. “The Social Meaning of Money: ‘Special Monies.’” *The American Journal of Sociology* 95(2): 342–77. http://dx.doi.org/10.1086/229272