Who’s afraid of Financial Markets?
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Abstract

There has recently been an upsurge in social studies of finance, which maintain that economics performs, shapes and formats the economy and consider the formation and functioning of economic markets. They address market activities as global microstructures that are situated, reflexive accomplishments, focusing on the way in which the models, theories, procedures and techniques shape them. In all, financial sociology can attend to the interplay between actors’ cognitive states and the enactment of financial models as situated, historical processes. This promises to develop a broader social scientific account of financial markets as situated, sequentially achieved global socio-material actions.

Introduction

The new financial sociology started to emerge in the 1990’s, when a new interest in the "science" and "technology" of markets appeared. The new multidisciplinary field draws on sociology, anthropology and social studies of science to account distributed material processes of financial markets. Michel Callon’s contribution has been critical in synthesizing influences from actor-network theory and laboratory ethnography so that technological and cognitive equipment could be taken into account in the analysis of the creation and development of financial markets.

In this essay some key texts of the financial sociology starting from The Laws of the Markets (1998) edited by Michel Callon are discussed. These studies, such as Donald MacKenzie’s An Engine, Not a Camera: How Financial Models Shape Markets (2006), address the way in which financial theory has led to changes in market practices. The key notion “performativity” – that financial models do not describe markets, they alter them – has itself proved debatable (Do Economists Make Markets? On the Performativity of Economics, ed. By Donald MacKenzie, Fabian Muniesa and Lucia Siu, 2007). The other main tenet of these studies, the materiality of markets has been the focus of Market Devices (2007) edited by Michel Callon, Yuval Millo and Fabian Muniesa. In The Sociology of Financial Markets (2005) edited by Karin Knorr Cetina and Alex Preda, Karin Knorr-Cetina and her colleagues address social and sequential embeddedness of financial transactions drawing on laboratory ethnography and anthropology.

Since The Laws of the Markets (1998), there has been an upsurge in financial sociology, or social studies of finance as they also have been called. The book amounted to a paradigmatic shift in conceptualization of the relationship between economics and the economy. “Saying that economics has failed by neglecting to develop a theory of real markets and their multiple modes of functioning, amounts to admitting that there does exist a thing – the economy – which a science – economics – has taken as its object of
analysis. The point of view that I have adopted in this introduction, and which the book strives to defend, is radically different. It consists in maintaining that economics, in the broad sense of the term, performs, shapes and formats the economy, rather than observing how it functions” (Callon, 1998: 2). The adoption of Actor-Network Theory (ANT) to study functioning of economic markets led to reconfiguring the perspective of the social studies on the economy, allowing a focus on the relationship between economics and the economy. Further work has established social studies of finance as a field concerned with the formation and functioning of economic markets (in the plural).

To grasp performativity, we may consider Will Hutton’s China and the West in the 21st Century (2007), and its adamant claim that the high Chinese level of savings is unsustainable. Hutton seemed to be trying to practice performativity, as it has been called in recent financial sociology, he deployed modern, western financial views clearly unknown or considered irrelevant in China prescriptively, not descriptively, in order to alter the Chinese understanding of the appropriate level of savings. According to MacKenzie (2006), financial models have performativity; they do not just describe markets, they transform them.

Although the financial sociology does not completely abandon the key idea of classical economic sociology – the social embeddness of economic action (Granoveteter, 1985) – it does give it a strong twist. First, it moves away from the production side of the economy to the second-order economy in which circulating ‘goods’ are contracts (equities, bonds, currencies, derivatives) that have some abstract, virtual quality in them (Knorr-Cetina and Preda, 2005). Social studies of finance, however, do not take the abstractness and virtuality of financial markets for granted, addressing the formation of financial and economic agents “as made up of agencements, of combinations of human beings, material objects, technical systems, texts, algorithms, and so on” (MacKenzie, 2009: 4). The Actor-Network Theory that enabled tackling of ‘details’ of artifacts, embodied humans, technological and conceptual systems has paved the way to material sociology that does not abstract material and physical entities which are a salient part of social systems, such as financial markets.

Performativity

In essence, the performativity thesis states that economics does not just describe “the economic phenomena”, but actually produces the phenomena it analyzes. As MacKenzie and Millo (2003: 108) put it: “Economics does not describe an existing external ‘economy’, but brings that economy into being: economics performs the economy, creating the phenomena it describes.” In all, the thesis opens up the question of the entanglement of economics with the markets, portraying economic theory as a material force that is “incorporated into regulatory structures, pricing software, trading strategies, and so on, [so that] it has created conditions of which it is a reasonably good empirical description” (MacKenzie, 2009: 31). The aim is not just to claim that economics influence peoples’ mind-sets, although it may do that too, but the thesis treats economics as a material force increasingly embodied in economic practices, market arrangements and social structures.
The most powerful show of the performativity of economics is MacKenzie’s *An Engine, Not a Camera: How Financial Models Shape Markets* (2006). The book’s title, which paraphrases Milton Friedman, captures the idea that economic models are an engine of the economy not just a camera to represent it. Realizing Callon’s program of studying the economy and economics in their mutual dependence, MacKenzie narrates a history of the emergence of the modern financial theory that has led to profound changes in financial market practices since the early 1970s. According to the performativity thesis, Mackenzie states that the new financial economics transformed financial practices. The economic theories end up being prescriptive, not descriptive. They allow a rational investor to identify putative investment opportunities, thereby enabling market actors to utilize the presupposed regularities that become materialized as actors act in ways that fulfill them – a perfect reflexive loop.

The idea that economic theory has influenced the form of financial markets is not new. MacKenzie’s historical account, however, also provides a procedural view of how the performative effect has been achieved in practice. In the manner of social studies of science, MacKenzie discusses whether and to what degree the financial theory has created its own reality. The history covers the critical period of the emergence of academic financial economics since the early 1950s, including the theoretical breakthroughs of the Modigliani-Miller propositions, Markowitz’s portfolio theory, the capital asset pricing model of Sharpe and the Black-Scholes-Merton option pricing model. First of all, MacKenzie puts these developments into perspective, supplementing theoretical developments with intimate details about the behind-the-scenes work through unpublished documents and over 50 interviews with the main players in finance. For these reasons, the book captures the ambivalence of the fact that many (if not all) financial models were only loosely empirically accurate but depicted invariances that were exploitable. This double perspective is among the most fascinating features of the book, making it highly illuminating of the relationship between economics and the economy. “Finance theory is an epistemic culture that makes knowledge using models, but there is a deep ambivalence in the field’s attitude to the extent to which its models can be taken as realistic” (MacKenzie, 2006: 249). MacKenzie concludes that the way in which performativity has been incorporated into the financial markets has at least three aspects: technical, linguistic and legitimatory. The dramatic growth of financial markets in recent decades would not have been possible without the development of technical infrastructure and software. Financial theory, such as option pricing, was implemented in the software, allowing semi-automatic fast trading and risk-calculating. Further, theory offers a vocabulary with which to talk about markets and its properties, managing the baffling complexity that might otherwise limit uneasily fuzzy-seeming market transactions. For instance, “implied volatility” is an invented, theoretical notion that reduces the complexity of option pricing. Finally, modern financial theory concerning the “efficacy” of the markets legitimates the working of financial markets by having declared them efficient. The modern derivatives market had indeed remained small-scale, and many instruments illegal until economists undermined regulatory views by purifying them of their gambling status (see also Preda, 2009). The purification was carried out with the help of modern, academic economics that contributed to dissociating financial
actions from their earlier associations with gambling by giving them an aura of scientific rationality (Latour, 1993).

The notion of performativity derives from J.L. Austin’s language philosophy (1962). In contrast to truth-value of sentences, Austin became interested in performative utterances that are characterized by two facts: they are not true or false, and they do not merely state something, but rather perform a kind of action, e.g., ‘I apologize’. This was a fresh start to a praxiology of language, but later attempts to systematize “the speech act theory” have been particularly prone to criticism (Derrida, 1988; Schegloff, 1988). Although the idea of performativity has been widely accepted, no wider agreement has been reached upon its nature. Is it language that “performs”, or is it just a rule-governed act grounded in the social circumstances and intentional processes of the agent; i.e., where is the agency and what are its conditions? Where, when, how, and to what degree do performatives gain their power?

MacKenzie (2006: 17) comes close to recognizing the complexity of performatives in distinguishing of three levels of performativity: generic, effective and “Barnesian”. Generic performativity means that a theory, a model, etc., is adopted by participants to realize an economic process. Effective performativity denotes the effective use of economics in an economic process. Barnesian performativity is the strongest form, in which economics shapes economic processes more like their depiction by economics. Counterperformativity is the opposite of Barnesian performativity. MacKenzie limits his work to the strongest forms of performativity, being interested in the processes in which economics shapes and formats the economy.

Donald MacKenzie, Fabian Muniesa and Lucia Siu have also edited a volume, Do Economists Make Markets? On the Performativity of Economics (2007), which discusses the idea of performativity. First, the book tackles the way economics is enacted into being in markets ranging from auction markets for strawberries to the creation of auctions for the electromagnetic spectrum with the help of experimental economics and game-theory. MacKenzie (Is Economics Performative? Option Theory and the Construction of Derivatives Markets) discusses once more the creation of derivate, and the rise and fall of the Black–Scholes model. Second, the book also voices substantial critiques of the idea of performativity. Most notably, Philip Mirowski and Edward Nik-Khah (Markets Made Flesh: Performativity, and a Problem in Science Studies, Augmented with Consideration of the FCC Auctions) show in their study of the construction of spectrum license auctioning that conflicts over how markets should be constructed involved diverging views of the market. Consequently, performativity alone does not seem a sufficient conceptualization of the formation of markets with the help of conflicting theories of their operation. Mirowski and Nik-Khah seem to bring back the idea of the socio-political, structural embeddedness of economic processes and performativity. In the final chapter, Callon (What Does It Mean to Say That Economics Is Performative?) tries to draw together critiques of criticism, showing that the different formations of markets can be explored as “struggles of performation...between competing programs which make the disassembling and reassembling process possible, necessitating investments that measure up to those by which actual markets were formatted” (Callon, 2007: 349). It is,
however, not certain whether this furthering of the idea of performativity does not lose its recognizability.

Agencements

It is crucial to distance the notion of performativity from the idea of social construction. It may seem that the new financial sociology proposes to set economics to an agent or a subject that constructs the economy. But at this point the Actor-Network Theory becomes procedurally relevant for the research program, proposing a paired vision in which performativity is related to socio-material networks of practices and procedures (c.f. Pinch and Swedberg, 2008). The social studies of finance attempt to shed light on markets by tracing how the webs of heterogeneous material and social practices produce them. “We are no longer dealing with construction, social or otherwise: there is no stable prime-mover, social or individual, to construct anything, no builder, no puppeteer. …Buyers, sellers, notice boards, strawberries, spatial arrangements, economic theories, and rules of conduct, all of these assemble and together enact a set of practices that make a more or less precarious reality” (Law, 2007).

The key concept that helps us to discuss how markets will take different forms in different places is **agencement**. Again, the general idea of agencement is solid. Agencement is the other side of performativity; it ties performativity closely to tools that enable it. Financial markets have grown together with the development of technical infrastructure and software as their material form.

**Agencement** is an assemblage, arrangement, configuration or lay-out that is ‘made up of human bodies but also of prostheses, tools, equipment, technical devices, algorithms, etc’ (Callon, 2005: 4; cited in MacKenzie, 2009: 20). The view that economic actions take place through hybrid collectives that incorporate material and technical devices, texts and human beings distances financial studies both from human-centered views as well as from classical economic sociology, in which an actor is a human embedded in institutions, conventions, personal relationships or social structures (MacKenzie, 2009: 20). The notion of **agencement** involves a conscious word-play. “**Agencer** is to arrange or to fit together: in one sense, **un agencement** is thus an assemblage, arrangement, configuration or lay-out. The referent in everyday speech is often down-to-earth and material, such as the parts of a machine; …The other side of the word-play in the term **agencement** is **agence**, agency. …As Callon and Caliskan (2005: 24-25) put it: ‘**Agencements** denote sociotechnical arrangements when they are considered from the point [of] view of their capacity to act and to give meaning to action’. (MacKenzie, 2009: 20-21).

Agencement amounts to the view that the economy does not exist as an abstract pair of supply and demand curves in Euclidean space, but has to be produced by linking different elements together, human and non-human actors, tools and inscriptions. One of the elements is the discipline of economics. Economic agencies are closely linked with that of economic models so that they mutually define the nature and content of economic transactions using these tools, procedures and devices, which are plastic and reconfigurable as part of the developing materiality of markets.
The materiality of markets has been the focus of _Market Devices_ (2007) edited by Michel Callon, Yuval Millo and Fabian Muniesa, a volume devoted to exploring markets as constructed and performed through and by way of diverse assemblages called market devices. The collection of empirical cases ranges from supermarkets to securities markets. At best, this symmetrical look at market actors and their objects forms an ‘archaeology of present times’. For instance, following Knorr-Cetina’s and Bruegger’s idea of computer-mediated post-social face-to-screen relationship (2002), Cochoy (A sociology of market-things: on tending the garden of choices in mass retailing) captures shoppers’ face-to-shelf relationships as they navigate through supermarkets, facing shelves, avoiding gazing at each other but being observable to each other via their carts and their contents. Millo (Making things deliverable: the origins of index-based derivates) for his part points out that the invention of index-based derivates also depended on the creation of a new ‘language game’: “Actors who traded financial futures and options created a new market nexus of practices and norms, constituting a new lingual and communicative medium, which was later recruited by the regulators. Together, this network of connections among traders, exchanges and regulators qualified index-based derivatives and turned the non-deliverable into tradable assets.” (Millo, 2007: 210). Finally, Lépinay (Parasitic formulae: the case of capital guarantee products) addresses a dramatic turn in economies, their increasing abstraction and distance from the ‘real’ economy, utilizing Serres’ notion of parasitism inventively. Lépinay argues that since certain derivatives act as parasites, their condition of success is that they must remain silent to survive. His empirical case on Capital Guarantee Products proved that maintaining the silence was a major limitation on their success. In all, the volume realizes an ANT program in making the multiplicity and heterogeneity of market participants explicit, risking losing the reader in the midst of a deliberate richness of materials, however.

**Social and sequential embeddedness of financial transactions**

Besides ANT, social studies of finance draw on social studies of science and the laboratory ethnography paradigm. Through the ethnography of currency trading, Karin Knorr-Cetina and Urs Bruegger (2002) made an influential conceptual and methodological advance concerning the sociological side of global information technologies. Their multifaceted notion of _global microstructure_ captures the duality of technology systems as sequentially and culturally specific social actions performed at a global distance. They point out that microsociology seems relevant to the understanding of transnational fields of transactions that are structured more in terms of horizontal associations than aggregated into systems of governance. Mundane social forms, not least conversation, have remained important vehicles for global transactions. Traders perform market transactions through conversations, as they themselves call their global interactions that are of the largest scale possible, and the sequences of utterances perform economic actions, not just conveying information. Their ethnographic focus opened up the mundane practices for gaining intersubjective, reciprocal relationships between market agents. They draw on the philosopher Schutz’s poetic notion of the _we-relationship_: “Since we are growing older together during the flight of the bird, and since I
have evidence, in my own observations, that you were paying attention to the same event, I may say that we saw a bird in flight" (Schutz, 1964: 25; cited in Knorr-Cetina and Bruegger, 2002: 922). In financial markets, the bird “that traders watch together around the clock is the market, as it is assembled in identical (price actions, market analyses, news descriptions, etc., furnished by global information providers), over-lapping (information exchanged through personal relationships), and co-ordinated (in the many windows and channels of the screen with which participants interact) fashions. On each of these screens, the same market has a vigorous presence; traders worldwide who deal in the same financial instrument watch the same screen content, which is delivered to them by globally operating firms, such as Reuters, Bloomberg, and Telerate, and by the banks themselves.” (Knorr-Cetina and Bruegger, 2002: 924). Their analysis reveals that sustaining the market is a common goal in reciprocal relationships between traders. Consequently, trust and its lack seems critical for sustained market transactions. Similarly, market transactions appear to be affectively framed. For instance, unsuccessful operations are graphically described, often in terms of sexual violence, such as "I got shafted/bent over/blown up/raped/fucked". As a whole, Knorr-Cetina and Bruegger managed to show how the post-social global interactions retain characteristics of ordinary social setting continuous with the face-to-face situation.

In fact, The Sociology of Financial Markets (2005) edited by Karin Knorr Cetina and Alex Preda bridges more traditional economic sociology and more recent financial sociology. Their collection explores the more abstract contractual sphere of the financial economy, as well as addressing a number of issues of more traditional economic sociology. The topics range from the post-social flow of financial markets to the conflicts of interest between brokers and the reshaping of American firms via the financialization of economy. Sassen (The Embeddedness of Electronic Markets: The Case of Global Capital Markets) points out the striking growth of global capital flows, showing how they retain a specific geographic sense as they build the top layer of globalization in 30-40 global financial-center cities. Swedberg (Conflicts of Interests in the US Brokerage Industry) discusses the social construction of investors’ interests in the context of recent corporate scandals, pinpointing cases in which rating agencies have privately described, publicly recommended, stocks as a ‘piece of shit’. It is shown that ratings are far from objective, reflecting the interests of the raters and analysts instead. Similarly, Abolafia (Interpretative Politics at the Federal Reserve) analyzes meeting transcripts of the Open Market Committee of the Federal Reserve System, identifying a social framing of major policy changes that he calls interpretative politics. It is disclosed that policy changes depend on interactional meaning construction, in which interpretative reasoning plays a key role in contrast to publicly used econometric jargon. The volume illuminates en bloc the backstage of immense global capital flows, largely unknown to a citizenry subject to its influences. The ultimate goal of the analysis of sequential organization of economic transactions may be to contribute to the establishment of micro foundations for macro (economic) structures, complementing behavioral economics (Akerlof, 2002) and cognitive institutionalism (North, 1990).

Alex Preda has since developed a social genealogy of markets in his Framing Finance: The Boundaries of Markets and Modern Capitalism (2009). For Preda, understanding the
spirit of capitalism implies understanding the actual processes through which the boundaries of finance emerge. In particular, he analyzes the antagonism between the good and useful investor and the bad and reckless speculator. Preda traces the emergence of the scientist-investor configuration through new epistemes of financial knowledge such as chartism, and market devices such as the stock ticker that transformed the availability of price data. Chartism developed the ticker-generated price data analysis into a purely formal technical analysis that was, however, never completely cut off from its original connections with Clairvoyantism. Taken all together, Preda touches the historical formation of conflicting forms of expert knowledge in chartism (technical analysis), fundamental analysis and financial economics, which each offer autonomous visions that conflict with “the wisdom” from others. Preda also puts up an interesting figure, the anarchist Proudhon, who paved way to the legitimating the bourse in the middle of the 19th century. He saw the bourse as the arena for the reconciliation of social interests and class conflicts, allowing a free association of producers as a part of his anarchistic utopia. In all, Preda teaches us about the socio-symbolic framing of financial markets. The archetypes of diabolical markets, reckless speculators and gamblers always also gain a new vivacity at times of crisis.

Social framing of market movements

Behavioral economics has recently become increasingly influential in accounting for departures of stock values from their “rational level” (Scleifer, 2000). Robert Shiller has the unusual record of having twice predicted stock market crashes. His Irrational Exuberance (2000) argued that the stock markets were overvalued just before the markets collapsed (the so-called dot-com bubble). The second edition (2005) covered the housing bubble, predicting its burst. Shiller has taken the price-earnings ratio as his fundament, insisting that levels beyond a historical average are untenable. Consequently, behavioral analysis seeks to account for the rise of overconfidence in the markets. He proposed that financial markets are prone to “naturally occurring Ponzi processes” (a kind of fake performativity) in which a superficially plausible but unverifiable story about how money is made enables high returns for initial investors by giving them the money invested by subsequent investors. Often the stories include “new era” promises, where some new technology, strategy or policy generates belief in a new phase, in which old regularities do not apply any more and higher returns seem possible. Shiller’s Ponzi account also turned out to be true; at least in that recent financial crises have revealed several Ponzi schemes (pyramid frauds). As accurate as behavioral economics occasionally is, its psychological and sociological accounts tend to be rather eclectic, varying from herd behavior to models of information asymmetry. Sometimes the understanding of the social and behavioral basis of markets is less advanced than econometric models.

Financial sociology has also addressed financial crises and irregularities. In particular, the notions of counterperformativity and the superportfolio have been applied to the analysis of crises. As mentioned, counterperformativity concerns instances in which the application of finance theory has undermined its empirical accuracy. The most prominent alleged case is the October 1987 crash, when the Dow Jones Industrial Average fell 22.6 per cent in a day without any preceding major macro-economic “bad news” (MacKenzie,
2004, 2006, 2009). It seemed possible that the then practiced portfolio insurance – as a more simple semiautomated stop-loss strategy – might have created a positive loop, in which falling prices incurred more portfolio insurance-led sales. Eventually, MacKenzie (2004) concluded that it was not possible judge whether portfolio insurance as such was a cause of the market crash, but the lack of awareness of the degree of ‘mechanical’ portfolio insurance sales may have led to the misunderstanding that sales were informed, i.e., something terrible was happening. The agencement included semiautomated models, human actors and cognitive (mis)representations that together caused a counterperformative price fall. In the longer run, the shock effect of the 1987 crash undermined the Black-Scholes-Merton option pricing model upon which portfolio insurance had been based. In all, the stock market crash of 1987 seems to involve counterperformativity in which a widespread adoption of theory-based practice undermines the preconditions of its own exploitability, reminding us of Lépinay’s analysis of parasitism.

The superportfolio notion seems to be a special instance of counterperformativity in which ‘imitation’ of successful trading that exploited price discrepancies led to an increasing number of similar trades creating correlations between assets previously considered uncorrelated, which eventually undermined the previous position. The empirical case concerns the bankruptcy of the Long Term Capital Management hedge fund (LTCM) in 1998 following the August 1998 Russian debt default (Mackenzie, 2003, 2006, 2009). As the initially highly successful trading strategy of LTCM became widely imitated and adopted in the markets, a superportfolio emerged that led to correlations of prices in apparently unrelated assets. Though Russian debt default seemed initially of minor importance, it led to unwinding of the arbitrage positions causing huge unanticipated price movements nearly paralyzing the markets, which was realized as enormous losses when clients got scared.

At times, financial sociology comes pretty close to behavioral economics, as it addresses such factors as “imitation” or “lack of trust” as accounts for (problematic) events in financial markets. Financial sociology, however, is a distinct epistemic formation that includes conceptualization of features neglected by behavioral economics, such as agencement and sequential order that enable it to address the interplay of the sequential, cognitive and material features of the market. Consequently, it can address market activities as global microstructures that are situated, reflexive accomplishments. Agencement enables financial sociology to address the way the models, theories, procedures and techniques contribute to the formation of financial markets. Ethnographies have opened up the backstage of global markets, allowing scrutiny of the sequential coordination of markets based on reflexive interactional structures that extend the face-to-face microcoordination by technical means (Arminen, 2005). In all, financial sociology can attend to the interplay between the cognitive states of the actors and the enactment of financial models as a situated, historical process. Trust and knowledge, or their lack, and (mis)representations are a critical part of procedurally accomplished market actions (dis)informing actors from the meaning of the flow of events and orienting them to accomplish the next move (e.g., to buy or sell) in a seamless web of financial transactions. Finally, financial sociology can address the risks of reflexivity —
second-order risks, as Millo and Holzer (2005) call them. They point out that financial
theories and models can lose their descriptive value and exploitability after they have
become part of the markets they describe. This counterperformativity seems to haunt
those theoretical models that snatch their life from being invisible parasites on the
processes they account for.

Conclusion

MacKenzie’s (2009: 88) credo is that: “All sociology should be material sociology.”
Material sociology takes into account artifacts and other physical objects and entities
(including human bodies) for social relations. Until now, social theory has abstracted
away from material entities and neglected their constitutive role in human realities. The
recent return to things has been prompted by ANT. Materiality also embeds actors, and
delimits or defines the prescribed courses of actions. In its entirety, it may amount to an
account of instruments serving human interaction, discerning how their materiality and
technical features shapes action and enables actors to perform their tasks and economic
actions (Pinch and Swedberg, 2008).

Material sociology also contributes to the new form of economic analysis theorizing the
economy and finances in terms of entanglement and interpenetration of things and people
(Pinch and Swedberg, 2008). In particular, financial markets have been seen as a subject
matter appropriate only for economists, or behavioral economists, who use psychology
and sociology to analyze investors’ alleged irrational departures from rational actions.
Material sociology promises to develop a broader social scientific account of financial
markets that would be profoundly sociological, accounting a situated sequential
achievement of finances as global socio-material actions. The materiality of economic
practices also ties the vision together, so that social analysis does not remain a separate
subtask of accounting for the autonomous “social” aspect of the economy as a
complement to economics proper.

Finally, material sociology that inspects the way in which the social and the technical are
embedded in each other can amount to an analysis of technological forms of life in which
human and nonhuman agencies are mixed. In a profoundly technologized world,
materiality and technology are assembling the choreography of social life everywhere.
Material sociology can address the new technical competencies that amount to
“prosthetic” policies resembling the way disabled people are equipped with prosthetic
devices to help them manage their incapacity and new socio-technical arrangements that
facilitate new forms of agencies the way the handicapped are offered access to all
buildings (Callon, 2008). Material sociology may offer new tools, sensibilities and
methods to account for new types of individual experience and practice that emerge when
social and technical realms are continuously interpenetrated in the connected socio-
technic presence.
References:


