What's new in the '*new*, new economic sociology' and should Organisation Studies care?

Abstract: This chapter considers what two sociolog*ies* of markets have got to do with Organisation Studies. Special attention is paid to two main strands. First, an overview is given of how economic organisations were understood in the new economic sociology developed (mostly) in the US after M. Granovetter's essay on embeddedness drew attention to the role played by social networks in economic action. The chapter then turns to how the '*new* new economic sociology' produced (mostly) in Europe after the performative turn initiated by Callon´s *Laws of the Markets* (1998) challenged this account by pointing instead to the role played by devices or agencements in processes like calculation, and qualification that 'made' the economic. While stressing the conceptual and methodological differences that distinguish these approaches, the chapter also considers the results of more recent efforts to combine elements from both, for instance in recent studies of valuation, and the particular implications this has for the study of organisations, especially market organisations.

Keywords: markets, devices, agencement, social networks, performativity, calculation, qualification, valuation.

It wasn't all that long ago that the subjects of interest to authors like Weber, Durkheim, Tarde or Simmel could flow from fashion to money, from religion to markets, from biology to firms. Such free ranging thought seems arcane, even anarchic now only because for most of the past century the institutional establishment of academic disciplines and the particular separation of territory between sociology and economics have together been so successful. This latter distribution, sometimes referred to as Parson's Pact (Beunza & Stark, 2008) in a, not exactly grateful, acknowledgement of Talcott Parsons' turf negotiation with academic economists - was especially pronounced in the US academy after the mid twenty century (Mitchell, 2005). In this settlement, sociologists were to study institutions, social integration and value*s,* in plural - but not markets - while economists were to focus on economic growth and competitive market arrangements coordinated by prices, information and valu*e*, in singular - but not religion, crime or families.

This settlement slowly began to unravel from the late 1970s. First a movement, later labelled 'economic imperialism' saw economists like Gary Becker and Oliver Williamson begin to study *sociological* subjects like trust, families and norms[i]. Around the same time, a second movement had sociologists including Mark Granovetter, Harrison White and Richard Swedberg claim 'economist reserved' areas like producer markets and finance for sociological research. Unfortunately, and despite meaningful efforts in this direction (Swedberg, 1990), the outcome of this overlapping span of interest between the disciplines was rather more mutual indifference than fruitful conversation[ii]. The renewed sociological interest in economic issues remained nevertheless, and the work that has developed, albeit unevenly, in this context has become a rich source of conceptual tools and methods not only for sociology but across the social sciences and for organization studies in particular.

Parson's pact was a significant divider but it was never universally adhered to sociological interest in economic matters never completely disappeared. Organization studies itself was part of what kept a more sociological interest in the economic going. As demonstrated by authors of the Carnegie School, by population ecologists, by the 'classical' organisation scholars Chester Barnard and Wilfred Brown discussed in Du Gay and Vikkelso (this volume), as well as by the likes as Charles Perrow or Karl Weick, Organization Studies grew up as a field where researchers from various disciplinary backgrounds could interact. The borders between the sociology of organizations and economic sociology are notably thin, several of the most influential of economic sociology texts have appeared in journals associated with the study of organizations (such as Academy of Management Review and Organization Studies), and some of the most influential economic sociologists, David Stark, Harrison White or Neil Fligstein to name a few, are really organization scholars too. Organization Studies has been a nexus, a point of intersection where different disciplines - each with their own concepts and methods but interested in a similar object- happened to meet.

But even though organizations – firms and bureaucracies – have long been studied *sociologically*, as systems, as locations of bounded rationality or centres of sense making, did not entirely dissolve the pact, or leave sociologists free to study markets, or economists to study arts or culture. The peculiarity of the new economic sociologies that have developed in the last three decades, and especially in the last fifteen years or so, is that they have finally begun to devote serious sociological energy to analysing economic issues like market behaviour, finance trading, prices and even econometric formulae and pricing algorithms. This chapter reviews, in a necessarily selective way, how the new economic sociology arose, how it came to be challenged by the 'new, new' version[iii], some recent attempts to develop the strongest insights from both and finally what the importance of all this economic sociology is for those interested in studying organisations.

The review follows a geographical organization. The New Economic Sociology, as the economic sociology that emerged in the 1980s is now widely known, was mostly a movement within the American academy. Since then, in the guise of the social studies of markets, an even newer economic sociology has boomed, primarily in Europe, where networks of researchers studying a wide variety of economic arrangements, especially financial markets, from the perspective of their social, material and technical organisation, are now proliferating. These two economic sociologies are separated by time and geography but that is not all that divides them. The shape of their differences can be glimpsed from two roughly emblematic statements of each move: Mark Granovetter's 1985 article 'Economic Action and Social Structure: The Problem of Embeddedness' and Michel Callon's contributions to *The Laws of the Markets* (1998) collection. Despite the guest appearance of Granovetter in the latter, and despite the priority attached in both statements to the idea of networks, they define the problems and scope of economic sociology in very different ways. Granovetter's paper marks out the social structural approach that defines the New Economic Sociology with its quantitative methods, its emphasis on explaining causal relationships and importantly, its preference for theoretically parsimonious elaborations. The '*new,* new economic sociology', as McFall (2009) unimaginatively labelled the stream of research that followed in the wake of Callon's turn to markets, on the other hand, gives priority to descriptive, often ethnographic or case based studies, a modest reluctance to establish cause and a swashbuckling attitude to coining the new concepts required for its theoretically comprehensive framework.

The differences between both approaches can be characterised as two opposing sides along the classical divide between academic disciplines (explanatory versus descriptive, analytical versus continental, realist versus constructionist, and so on). Yet, economic sociology, or more specifically the social studies of markets, can also be read as a field in which different conceptual and methodological approaches complement each other's blind spots (c.f. Fligstein & Dauter 2007, Fourcade 2007). In this spirit a growing number of researchers combine insights from both in an attempt to develop new tools and new modes for studying how markets, those most taken for granted of economic structures (cf Aspers 2011), are actually, practically organised and with what consequences. We don't aim to provide an exhaustive overview of this extensive literature; rather our approach is to focus on explaining the key concepts developed within these fields and particularly to signal where more attention to the sort of problems addressed in recent studies of markets, like the intersections of processes of qualification, measurement and valuation, also bear on the study of organisations.

The New Economic Sociology: in and out of relations

An embedded turn

> I believe the embeddedness argument to have very general applicability and to demonstrate not only that there is a place for sociologists in the study of economic life, but that their perspective is urgently required there (Granovetter 1985: 507).

In what turned out to be the exemplary call to action for the new economic sociology Granovetter (1985) explained that economic situations were conventionally split into two opposing poles: on the one hand, situations of market exchange, where self-interested anonymous agents confront each other, and on the other, institutional situations, where individuals are integrated by common norms. This division was challenged by economists' then, fresh, interest in studying norms and institutions (Granovetter in Opazo 2011). However, Granovetter - and this is perhaps what made his text so important - not only contested economists' understanding of norms and institutions as 'sociological' concepts, but made full use of the opportunity to take aim at sociologists' grasp of organizations and economists' models of markets.

Neither economists' focus on the dyadic interactions of self-interested individuals, nor sociologists' interest in cultural integration, Granovetter insisted, were useful starting points because they do not, in fact cannot, bring into clear focus what finally matters: practical, specific social relations. Organizations are not homogenously integrated by common norms, but these norms *circulate* through particular patterns of social relations. Economic agents are located in complex webs of social ties that connect them, directly or indirectly, with many other agents - they do not face markets in isolation. By the same token, networks of formal and informal relations may offer the frame that enables, or sometimes disables, individuals' access to new ideas, goods and other resources but that does not mean they float in a sea of common values. As Swedberg and Granovetter summarize;

> Economic action in short, is 'embedded' in ongoing networks of personal relationships rather than being carried out by atomized actors. By 'networks' we mean a regular set of contacts or social connections among individuals or groups. And action by a network member is embedded, since it is expressed in interaction with other people (2001: 11).

Economic actors - consumers, firms, board members or entrepreneurs- then are located within specific sets of social relations, and economic sociology is the discipline that studies this *embeddedness*. Market and organizations should therefore be studied by following those relations that frame their interactions. This perspective breaks the dualist divide between markets and organizations and proffers the new tools of networks analysis to be applied in the study of both. This has undoubtedly been a liberating move. Sociologists were enjoined not to limit themselves to the study of cultural values and what happen within the borders of formal institutions, but instead take an interest in any interaction, including market (inter-)action, that takes place within social networks. Accordingly, the new economic sociology has produced a vast amount of work studying how social ties play out in different types of economic situation, including interlocking boards (Davis, Yoo & Baker, 2003; W. Mizruchi, 1996), business groups (Granovetter 1995); financial providers (Baker, 1984; Chan, 2009; Guseva & Rona-Tas, 2001); informal work (Portes & Sensenbrenner 1993), consumption (Di Maggio & Louch, 1998);and a long etcetera (see Smith-Doerr & Powell, 2004 for a review).

Social network based economic sociology opened up a new way to study markets, but it also offered rich resources for the study of organizations, of entrepreneurship and business strategy. And here too, it has been a heavily cited piece by Granovetter (1973) that paved the way. The article mobilised the now widely used distinction between 'strong' and 'weak' ties to differentiate between two types of social contacts that are relevant in job searches. Strong ties exist between those who share many common links and are emotionally close; weak ties, on the other hand exist when there are fewer links and less emotional attachment. The 'strength of weak ties' thesis emerges through the article's finding that job searchers not only do not face the job market in isolation, but that they find new opportunities often through weak ties that open up access to new resources and fresh information.

The migration (Fourcade & Khurana 2013: 125), and increasing influence, of the new economic sociology to some of the most prestigious American business schools was speeded up by Ronald Burt's (2001) rephrasing of Granovetter's ties in terms of 'closure' and 'brokerage'. Closure refers to social groups that are highly cohesive and connected while brokers connect different cohesive groups. Cohesive groups are high in shared values and trust, but information is redundant (since everyone already knows the same things), while brokers, or 'structural holes', allow access to new information, disruption and innovation. Similarly, Brian Uzzi (1999) demonstrated the relevance of these insights to organizational practice through what he called the "paradox of embeddedness". Uzzi's study found that companies that only deal at arms' length with their potential financers are penalized with higher interest rates than those that borrow money from bank officers they know personally; further, those companies that get the very best rates are the ones that combine the trust – and risk reducing – power of personal knowledge with the cold calculation of impersonal search.

Taken together, the insights provided by the network revolution in economic sociology have provided what is probably the main sociological contribution to strategic management. Economic agents are not only socially embedded but, by leveraging their exposure to benefits like trust, stability and tacit knowledge associated with social closure and those like innovation, change, disruption associated with brokerage they can also strategically manage their social ties (Vedres & Stark, 2010). With this, Boltanski and Chiapello (2002) argue, economic sociology ceased being a passive observer of market interactions and transformed into an increasingly influential agent in shaping the current *'connexionist'* or networked capitalism.

Markets from networks

The embeddedness turn opened up sociological research and developed into a substantial resource for researching organizational issues including entrepreneurship, innovation and strategy. But embeddedness has its limitations. To follow networks implies a *de-differentiating* methodological step. What this means is that those agents that seem at first to be isolated, whether individual firms, buyers, sellers, regulators etc., might be connected, and it is always the social that connects. This, however, leaves something out. Market agents are, of course, not isolated, but nor are they floating in a vast social soup. Instead they deal with a particular set of agents operating within relatively delimited social spaces. How these spaces are delimited has been the concern of another branch within 'new' economic sociology.

Perhaps the most ambitious attempt to work this out was Harrison White's. White, agreed with Granovetter, his former student, that economic agents had to be located in social networks, but he was also interested in how firms 'de-coupled' from these networks (White 1981).

> Markets emerge from networks of firms exactly insofar as they suppress networks […] Thus decoupling is a subtle process in which a given market distances itself from any particular ties with particular other markets. Even if the previous ties of a producer to particular firms are retained, those habitual partners and thus their industries are decoupled from the market interface. (White 2002: 211- 212).

What makes White's work particularly original is that it goes beyond the new economic sociology view of local personal relations as *the* social stuff in markets. Firms not only interact with their local ties but they orientate their action considering what other comparable firms are doing. In this way, White faces up to the key situation of markets - and one that is rarely recognized as social - competition. But, there is no competition without comparison, and just as important as networks are the accounts or *stories* that make heterogeneous social units comparable (White 2008).

Competition here is understood as a continuous process of market and market niche differentiation. In the same way that a firm has an abstracted social identity, operating sometimes through a carefully cultivated brand, markets are abstracted out of inter-organizational networks. Firms find their footing among other firms, and, in doing so, markets and market niches, emerge as the interface where this comparison takes place. Importantly, on a similar line with the heterodox group of French economists known as the Convention School, White suggests that each niche is not only a smaller sample of bigger markets, but that firms facing specific market niches will have to face different 'quality' profiles. Quality here is the outcome of economic 'qualification' processes that define stabilize and attach characteristics to products to transform them into tradable goods (cf Musselin and Paradeise, 2005; Favereau, Biencourt and Eymard-Duvernay, 2002). For instance, in the theatre market in NYC, companies face quite different niches and modes of valuing if they enter into Broadway musical, Broadway Drama or off Broadway (White 2005). And, at the same time, this does not mean that markets only emerge from the mutual observation between peers, but markets are interfaces located in between upstream (toward providers) and downstream (toward purchasers) flows of goods, money, information and other resources. And, thus, competition can be directed in either way.

Like the economic sociology led by Granovetter, White's sociology of markets has been an important influence on recent accounts of organization and business. Firms not only relate to their local networks but also to their competition mates by signalling and reading each other signals (Podolny 1993). Firms deal with the inherent uncertainty of economic action primarily by observing, not consumers, but what other firms, other organisations, are doing[iv]. White's work, and that of his colleagues, argues that firms face not one, but many different market interfaces. For instance, multidivisional fashion companies deal with several markets, and their own identity and strategy are produced in the continuous *switching* in and out of the different interfaces and networks with which they are associated (White, Godart, Corona, 2007; Arnoldi & Lash 2012). This in turn means that economic sociology has had to refine its toolkit for studying different sorts of organisations and that those studying organisations might find there something that they can use even if the functioning of economies and markets is not their primary concern.

The New 'new': calculation, performativity and devices

In retrospect, two relatively distinct moments can be identified within the New Economic Sociology. An early dedifferentiating stage concerned with identifying the ways agents and organizations, which had formerly been treated as separate, atomistic entities, were connected through practical, social relations. The second, re-differentiating phase, shifted the emphasis on to studying how, out of these practical relations, symbolically delimited markets were de-coupled. This movement was not so much a paradigm shift as a consecutive methodological step in the study of markets - start with networks, then explore how de-coupling takes place within them. Organizations are embedded in social networks, but, as they enter markets, they are decoupled from local ties and judge their actions largely by observing their competitors' actions. Embedding-decoupling/disembedding are not the dialectical processes Polanyi imagined instead they are dynamic, continuous and multiple.

Given the success of this work in marking out the grounds for economic sociology as a distinct disciplinary field, the challenge that came was not entirely an obvious one. Apart from anything else, the Social Network Analysis (SNA) of the new, economic sociology and Actor Network Theory, the source of the challenge, seemed to share considerable common ground in professing the constitutive positioning of entities within networks of relations. As Callon himself explained:

> For Granovetter the only possible solution is that provided by the network; not a network connecting entities which are already there, but a network which configures ontologies. The agents, their dimensions, and what they are and do, all depend on the morphology of the relations in which they are involved. For example, a very simple variable such as the length of the network, or the number of connections that an actor has with different networks, determines what the actor is, wants and can do. There is thus in Granovetter's work an emerging theory of the actor- network. We find in it the reversibility of perspectives between actor and network, as well as the variable geometry of identities (Callon 1999: 185-186).

In other words, both SNA and ANT assume that actors (firms, consumers, scientists, laboratories) are never isolated but are situated in specific relations. Researchers should thus sidestep traditional abstract divisions and instead go and study what specifically connects them. This however is about as far as the similarities go as ANT gave rise to an unexpected, sometimes controversial, sociological *re*turn to the economy - and to economists.

Tu ne calculeras pas! (Thou shalt not calculate)

As Franck Cochoy (2007: 109) remarked the '(now not so) new economic sociology', as we have seen, convincingly fleshed out economic exchanges to show the embeddedness of market behaviour, the significance of relations and networks and of processes like decoupling. This work was a necessary rejoinder to the domination of neo-classical economic theory and helped, at least in some parts of the social sciences, provoke a rethink of the status of essentialized, calculative agents who 'calculate because they are calculative by nature' (Callon and Muniesa, 2005: 1229). In opposition, the new economic sociology placed calculation in observable, empirical settings as one, sometimes marginal, element alongside other social, cultural or affective elements that interact in the determination of action and choice. As necessary as these efforts to add a little more 'soul' to the abstract model of calculative agents were, Callon's impatience with the limitations of such a solution was a big part of the impetus behind the research project heralded in *The Laws of the Market* (1998). Neoclassical economics may have summarily dismissed the diversity of market behaviour but arguments about embeddedness risked dismissing the particularity of economic calculation altogether.

This move, as Cochoy's contribution to this volume also argues, restricts sociology to a single position in the endless dispute about economic rationality that seeks always to question, soften or enrich economists' models instead of tackling exactly *how* calculative practices come to be. In positing that a calculating '*homoeconomicus* really does exist' Callon (1998: 51) sought to open up the mysteries of calculation as a cognitive operation too difficult to be the sole preserve of isolated human agents, but one that was instead made real only through its *distribution* across a range of actors, techniques and devices. Calculation, for Callon, is too important and too difficult a topic to be left only to economists. Sociologists – and here that means a very broadly defined group of non-economist observers certainly including those in management and organisation studies – have to deal with the black box of calculation, how it works and how it fails, if they are to be properly equipped for public, political debate about what should, and what should not, be calculated.

The high public, political and institutional stakes in what Callon, and ANT theorists more generally, understand as a world of proliferating uncertainties, lie behind the insistence that the key question for economic sociology is neither one of humanizing nor rejecting the calculative agent but of exploring precisely *how* calculative agencies, in all their forms, have emerged. There is little point in devoting so much attention to excavating the social context in which economic action is embedded when, through an actor-network lens, the social is not a pre-existing context, but only a consequence of specific collective practices. The genius - or depending on your point of view, the fatal flaw - of ANT approaches to the social, is the exposure of just how little the word means out of context and yet how much it is made to carry (Latour 2005; Callon 1998, 2007). All that can be reliably of the social, Latour insists, is that it refers to networks of association and relations. As an explanation of market action, 'the social' is frustratingly nimble, seeming to cover a multitude of actions and relations, without saying anything definite about their content.

In Callon's (1998b) elaboration, the social is set aside as an explanatory variable in a move that defines the exterior to economic action as emergent only through the framing of market transactions. The 'outside' of market transactions, the externalities, are defined dynamically through framing processes, which, temporarily and partially, disentangle agents from other networks. This is not the same as 'disembedding' – 'Callonian' approaches take as given the claim that economic agents are surrounded by multiple social and technical relations - but framing allows calculation to take place nevertheless. In framing, the agent's 'objectives, interests, will and thus identity' (Callon, 1998b: 253) are not disembedded, so much as they are reconfigured, in a process that works through the agent's networks of associations. Framing extricates or disentangles agents from this network, but as the frame can never be hermetically sealed, overflows inevitably occur. However temporary and incomplete, the work of framing and disentangling is a prerequisite for market transactions as this is the only way the stage can be cleared for calculation to take place. In short, to study markets is not only about mapping the ties that connect economic actors, but about following the process that makes things calculable (Caliskan & Callon, 2009; 2010).

> What needs to be explained is not the fact that, despite the market and against it, person-to-person interaction has to be developed in order to produce shared information. On the contrary, we need rather to explain the possibility of this rare, artificial latecomer composed of agents which are generally individual, calculating humans, foreign to one another and engaged in the negotiation of contracts. The evidence is the flow, the circulation, the connections; the rareness is the framing. Instead of adding connections (contingent contracts, trust, rules, culture) to explain the possibility of the co-ordination and the realism of the calculation, as in the various solutions proposed by economists, we need to start out from the proliferation of relations and ask how far the bracketing of these connections -… 'framing'- must go to allow calculation and co-ordination through calculation (Callon 1999: 186)

Callon's main question then was not 'who -or what- composes market situations?' but, rather, 'what *makes* a situation market like?' Any social situation will involve social and material relations but crucially, markets encounters are not *any* social situation. They have certain particularities that become clear when the process of enacting a new market is followed. This is why Maria-France Garcia-Parpet's 1986 paper, *'The Social Construction of a Perfect Market: The Strawberry Auction at Fontaines-en-Sologne'* [v] became so important.

Garcia-Parpet follows the transformation of Fontaines-en-Sologne's strawberry market from a local exchange to a new auction. What the paper shows, in Callon's (1998a) reading, was that to make a "perfect market" the reach of relations, mediators or social connections did not have to be extended, but quite the opposite - they had to be cut off. To become a market requires calculation, and those elements that compose a traditional commercial encounter only become properly calculable if they are delimited. Seller and purchaser have to be separated, goods have to be disentangled from production, clear property rights have to be set out and prices needs to be established. This transforms calculation from a natural property of economic agents into a collective, socio-technical achievement that contains a number of distinctive features. Callon (1998a) set these features or preconditions out as demanding first, that agents had to have access to the minimum information necessary to hold preferences, preferences had to be ranked, then revealed and finally negotiated if transactions were to take place.

Do economists make markets?

These preconditions have to be met and Callon's answer to how this was achieved turned attention back to economics. In the emblematic Fontaines-en-Sologne strawberry case, the key actor was a young economist who translated his textbook knowledge into a practical arrangement. This neatly illustrates Callon's provocation, economics is not the highly abstract -and normally mistaken - knowledge to be questioned by other social scientists, but is instead a central agency in the process of making things calculable. Economic knowledge is thus not merely descriptive but *performative*, because it performs or, more technically, 'per-formats' the elements internalized in economic calculation.

This move inspired numerous researchers to put empirical flesh on the claim that a calculating *homoeconomicus* exists because s/he is formatted by economics. Elaborating the role calculative devices in specific market contexts play in performing the economy became a fulltime occupation for a good proportion of literature in the field. Donald MacKenzie's (2006; cf MacKenzie and Millo, 2003) account of the Black-Scholes formula, from finance economics to the dominant market device in framing derivatives transactions quickly became the prima facie, though far from the only, case mobilised to evidence the argument. Still if it's economics itself that simplifies and 'disembeds' market participants 'to the extent that economics becomes applicable' (Mackenzie and Millo, 2003, p138), it is a *very* broadly defined economics that is at work. It is not just the formal operation of pricing mechanisms that are involved but all manner of devices, techniques and strategies for measuring, charting, brokering, negotiating, ranking, marketing, merchandising etc. These collective material knowledges and practices configure the economy by shaping how agencies calculate.

This expanded construal of what it takes to perform economies was already being set out with the publication of the '*Economy of qualities*' in 2002. Here, Callon, Meadel and Rabeharisoa argue that the ways socio-technical devices produce *attachment* in markets have to be investigated empirically alongside how they enable calculation. The 'economy of qualities' is a reference to the driving force of processes designed to attach consumers to products by singularizing them. These processes, labelled product qualification processes, work through business and marketing strategies designed to help products coincide with social networks. Socio-technical devices like stock logistics, packaging, display, advertising *etc.*, are all designed to gently nudge consumers into 'qualifying', that is, thinking about, identifying and ultimately demanding certain product qualities. Today the list of devices explicitly designed to knit qualification into everyday social networking has really taken off with the development of techniques to harness the marketing utility of vast accumulations of transactional data through social media, participatory marketing, usage optimised websites, customer relationship management software etc. Whether digital or traditional, qualification processes that objectify and singularize products are the core of all market transactions. Through objectification the object becomes a good and through singularization it becomes 'a thing whose properties are adjusted to the buyer's world, *if necessary by transforming that world'* (Callon and Muniesa, 2005: 1234).

From networks to 'agencement' to market devices

Transforming the world to allow exchange to take place was the work of a very bloated group of 'economists' – a category Callon uses to encompass all those professionals working on the study, analysis and design of market activity. These groups are part of the networks of economic action that Callon has in mind. Networks here are not just the relations persisting between institutions and individuals but 'techno-economic networks' (Callon, 1991) populated by a wide array of human and non human agents. In the more recent parlance, these are more often scored as *agencements* or, in this case, market 'devices'. Market devices, as Muniesa, Millo and Callon later explained (2007, p2), are the 'material and discursive assemblages' that intervene in, are prerequisite to, the construction of markets. The notion of 'device' offers a means of bringing objects *inside* sociological analysis by calling attention to the various ways; soft, gentle, hard or violent, in which they act. In articulating actions, devices have agency but devices should imply no division between humans on one side, machines on the other. Instead Muniesa et al. suggest a mode of analysis in which the person/subject is enacted through the device.

This hybrid, compound character is conveyed more clearly by the - awkward in English - neologism, *agencement*[vi]. As Cochoy notes in his contribution here, agencements mix human and non-human, textual and material, social and technical elements in assemblages that produce action. As agencements, market devices *do things* and in following them the sociologist or organisation theorist should be able to unravel how, what Muniesa et al. call the 'evolving intricacies of agency' (2007: 3), are distributed across markets, organisations and institutions. Just how the various elements combine is what gives shape to distinct forms of action.

> Nothing is left outside of agencements. That is to say there is no need for analysts to seek further explanation, because the (eventual) construction of its own meaning is by definition an integrated part of the agencement. An STA [*socio-technical agencement*] eventually includes the statement(s) pointing to it and interpreting it, just as creating instructions are part of a device that participate in making it work. We therefore choose to use the French word agencement, instead of arrangement, to stress the fact

> that agencies and arrangements are not separate. Agencements denote socio-technical arrangements when they are considered from the point view of their capacity to act. (Caliskan & Callon, 2010, p9, *my insertion*).

The action Callon describes is one in which worlds – or institutions, markets and organisations - acquire their specific form through continual, intensive observation and experimentation. Certainly it is the case that in the wake of ANT, and STS (Science and Technology Studies) approaches more generally, there has been a resurgence in detailed descriptive empirical studies of many dimensions of organizational, institutional and market processes.

This is not of course exclusively the result of the 'new, new' economic sociology -a turn back to investigating empirical economic practices within the social sciences was well underway even before the publication of *The Laws*.[vii] The collection nevertheless provoked something of a spike in interest. In approaching economies and markets, and by extension the institutions and organizations that comprise them, as the outcome not the foundation of particular material practices, this work turns attention to the technical instruments, the formulae, tools, protocols and operations that organisations develop (even if it has, as Mennicken and Miller suggest in Chapter XX here, rather neglected meanings, knowledge regimes and the relations between them in the process). As Cochoy shows in Figure XX (ppp this volume) this is reflected in the near equal prominence of Callon in the organisation and management and the science and technology literatures. Core organizational tasks for example in accounting, stock management, product development, marketing, retailing and merchandising, record-keeping, charting, measuring, ranking and pricing have been the subject of a new, or at least rebooted scrutiny.[viii] At the same time parallel moves from within management and organisation studies have elaborated how an ANT, or more broadly STS type sensibility, can be put to work in the analysis of organising processes (Alcadipani and Hassard, 2010; Czarniawska, 2004, 2009; Woolgar et al. 2009).

After the New 'new': controversies about qualities and qualification, values and valuation

So far, so good! But the accommodating scale of the new, new economic sociology has not been met with universal enthusiasm. Concerns have been expressed on methodological and political grounds. Methodologically, in a framework that is all about process and action, about hybrid jumbled up *agencements* where the actor should be followed wherever her path leads - and certainly beyond the boundaries of organisations, laboratories, territories or jurisdictions - however compelling the conceptual argument might be, the practicalities of how it is all to be managed are daunting. This is a long way from the analytical parsimonies of the new economic sociology. One risk is that in being such an accommodating 'Theory of Everything', the actor-network approach ends by describing a lot but explaining very little (c.f. Thompson, 2003; Fine 2003; Mirowski and Nik-Khah, 2007). Agencement then becomes 'simply a jargon into which to translate banal description and narrative' (Hardie and Mackenzie, 2007,p74). Still methodological distinctions between comprehensive and parsimonious approaches to analysis can be overstated. Neither can reduce the objects of study in a world that won't stay still - and may even be motivated to avoid being known (c.f. McGoey, 2012, Callon, Lascoumes and Barthe, 2009) - to a stable, compliant problem awaiting analysis. Researchers from both approaches still have to make practical decisions about what lines of investigation to follow, what objects, institutions, relationships and networks to study and which to leave out. Neither can actually offer a complete description and neither can offer final certainties that the key actors have been identified.

Perhaps trickier, Whittle and Spicer among others, have queried the practical and ontological politics of an account that is catholic enough to include non-humans within its definition of agency as tending to 'legitimize hegemonic power relations, ignore relations of oppression and sidestep any normative assessment of existing organisational forms' (2008, p622-23; c.f. Miller, 2002; Fine 2003). These sorts of argument are driven by concerns about the values enshrined within a project that takes economics, including in its old enemy neoclassical form, seriously enough to want to engage with it rather than continue the Parsonian tradition of mutual indifference teetering toward open hostility (usually flowing from sociologists, economists are seldom that roused by whatever sociologists say) (c.f. Barry and Slater [eds] 2002; Mirowski and Nik-Khah, 2007). They are also underpinned by the strange equivalence that is frequently drawn between empirical description and apolitics. This equivalence persists despite the enduring interest in public debate, political engineering and technical democracy in the published work of both Callon and Latour. Still critical objections are not necessarily unproductive. Two debates in particular are worth probing a little deeper to assess what comes next in economic sociology and what bearing it has for those interested in studying organisations.

Qualities and qualification

While the term, 'economy of qualities' only began to circulate in Anglophone literature after the publication of Callon et al.'s (2002) article, it references a debate that can be traced back to Chamberlin's theories of monopolistic competition in the 1930s, through to Ackerlof's work on uncertainties in the 1970s, through the more recent work of economists Francois Eymard-Duvernay and Jean Gadrey and that of the sociologists Lucien Karpik and Michel Callon. As Musselin and Paradeise (2005, p92) explain, these theorists share an interest in establishing 'contextualized product definitions', that is, definitions which privilege the way goods are defined in the relations between producers and clients. Beyond this common interest there is not so much a unified approach as a 'swarm of correspondences' since the authors, whether they approach the qualification problem as economists or as sociologists, take very different positions on the question of economic calculation.

Callon's definition of market calculation may seem entirely reasonable applied to some market transactions - *viz* the *perfect* strawberry auction - but it fits less snugly with the material market practices many other sociologists and anthropologists observed. Objections that Callon's formulation contained a rather too enthusiastic overture to neoclassical economics piled up (Miller 2002; Fine, 2003; Musselin and Paradeise, 2005; Mirowski and Nik-Nhah 2007; Karpik, 2010) and clarifications, or concessions, about precisely was meant by calculation accumulated in response (e.g. Callon, 2005; 2010; Callon and Law, 2005; Callon and Muniesa, 2005; Holm, 2007; Caliskan and Callon, 2009, 2010). This work featured a number of interventions designed to refine or nuance precisely what it was that was being claimed of calculation by explaining that while in the hard, narrow arithmetical sense, 'nobody calculates' (Callon and Muniesa, 2005, p1230) agencies nevertheless *do* engage in a distinctively economized process in which they 'form expectations, make plans, stabilize their preferences and undertake calculations' (Caliskan and Callon, 2010, p6). There is an explicit, and for authors like Karpik (2010) a provoking, effort here to loosen the distinction between calculation and judgment since, Callon and Muniesa insist, 'calculation can either meet the requirements of algorithmic formulation or be closer to intuition or judgment' (2005: 1232) and both interact in the 'qualification' of goods.

Multiple contradictory calculations -or simultaneously qualitative and quantitative 'qualculations' - feed the definition and valuation of marketised goods until the terms of the transaction are worked out through pricing mechanisms (Caliskan and Callon, 2010). 'Qualculation', a term introduced by Franck Cochoy is meant to invoke the dominance of 'quality based rational judgements' (2008, p17; 2007) in certain market situations. In supermarket shopping, for example, qualculation is enabled by apparently mundane devices like shopping trolleys, that allow entities to be 'detached', ordered into a single space and manipulated in some way, before finally, a result, a choice, is extracted. Processes of qualculation and qualification work at both supply and demand sides to 'singularize' the attributes of, and thereby create attachments to, particular products. Callon explains that analysis should not start with agents calculating the utility of goods but with the goods themselves following 'their metamorphoses, careers, qualifications and re-qualifications, from laboratories to marketing departments, to the consumer' as they change hands throughout their lifecycles (Callon in Musselin and Paradeise, 2005, p97; cf Appadurai, 1986).

Singularised products, in this explanation, are the result of the constant professional work of qualification-requalification. This account of singularization does not, as Musselin and Paradeise (2005) point out in the quality debate they referee, explain how consumers are to *evaluate* these defining attributes. How, exactly, people evaluate qualities, is the core of a passionate disagreement between Callon and other scholars, notably Lucian Karpik.

For Karpik, evaluation is the task of judgement devices that help 'dissipate the opacity of the market' for goods and services that cannot be traded primarily on price (2010, p44; 2005). When one persists past the terminological competition, it emerges that what Karpik calls 'singularities', are not goods and services that have been through a process of singularisation. Singularities are very particular goods or services with multidimensional, uncertain and incommensurable qualities which mean that people need the help of specific judgement devices to make reasonable choices between them. Just as it would be odd to choose a psychotherapist on price alone, Karpik (2010) lists a range of other examples; fine wines, restaurants, classical music and luxury brands, whose sale depends on devices like guides and rankings, personal trust, critical reviews and branding strategies.

The debate between Karpik and Callon goes further. The idea that special devices are required to enable judgement in certain market settings is at odds with the foundational claim in *The Laws.,* that 'framed, formatted and equipped' humans beings calculate in *all* market settings (Callon, 1998, p51). This girds the next move that the practical function of economics is not to study but to perform the economy. This performative move is rejected by both Eymard-Duvernay (2005) and Karpik (2005, 2010) as a peculiar capitulation to exactly the encompassing, atemporal conception of the market they, as heterodox economist and sociologist alike, want to avoid. Studying economic qualification processes, in all their sectoral, organizational and institutional diversity, concerns serious exploration of alternatives to the universalizing logic of the market. Callon and Muniesa's analysis, Karpik complains aims 'to replace a pluralist, fragmented, divided, conflictual market with a market characterised by general equivalence, which amounts to producing the much desired calculative market' (2010, p120). In high colour, Karpik goes on that collapsing the distinction between judgement and calculation is logically equivalent to reducing 'pruning a vineyard' to calculation and so risks losing not just judgement but wine too.

Values and valuation

Karpik is persuasive that calculation and judgement are different and in ways that matter for more than etymological or even logical reasons. For Karpik, losing judgement is to risk losing all the ways beyond economic calculation that institutions, organisations and even markets, make decisions. Karpik uses singularities to explore how these other sorts of decisions, judgements, are devised in markets for non-'standard' products. This idea is beautifully elaborated in Karpik (2010) but it still stumbles on the dichotomy it sets up, between singularities markets, which require qualification and re-qualification, and standard abstract markets, which don't since they can be regulated by price adjustment alone. This of course raises the question of whether any products are really chosen solely on price information. For Callon, Karpik's argument isolates 'calculation and economic rationality on one side, judgment and social mechanisms on the other' and reinforces the vision of the market in line with economists' models (2005, p98). Now, given Karpik's rejection of

Callon and collaborators' expanded definition of economic calculation to incorporate judgement, on the grounds that it gives insufficient space to the role of human judgement in market action, this leaves them both in the interesting position of accusing each other of the same failing – that of being too close to standard economic models of how markets work. A more pragmatic, and increasingly pragmatist, solution to this controversy has turned away from calculation to the role of values and valuation.

David Stark (2011) for instance has come back to the work of John Dewey (c.f. Muniesa 2012) to suggest that despite their differences Karpik's 'judgment' and Callon's 'calculation' are both concerned with the more general notion of *valuing*. To turn to *valuing* does not imply a return to values in the sense of what is outside or prior to economic calculation, but to a practical situated action that is normally socially and materially distributed and equipped with devices and formulas. Valuing, as Dewey explained, comprises at least three distinguishable processes: *pricing*, *prizing,* and *praising* and all of them have been revisited in recent economic sociology.

One move has been to extend Viviana Zelizer's (1981, 1983) project of capturing empirically the processes involved in pricing previously 'priceless' goods including contemporary art (Velthuis 2005), nature (Fourcade 2011), and organs (Healy 2006). Wendy Espeland's work (Espeland & Sauder 2007, Espeland & Stevens 1998), has driven interest in the part played by rankings, ratings and other devices in listing, classifying and prizing, but not necessarily monetarily pricing, economic goods (Carruthers, 2010; Rona-Tas & Hiss, 2010). Finally, *praising* or 'the capacity of a good not simply to be appraised but to evoke a sense of amazement, to inspire, to be an object that connects or conveys the user to a world of imagination' (Stark 2011: 326) has prompted new work exploring the processes that endow marketed goods, including fine wine, art performances, even life insurance with 'surprising', 'charismatic' or 'sacred' qualities (Garcia-Parpet 2011; Hutter in Ossandón 2012b; McFall, 2014). This is not a demarcation of economic objects, those for pricing, from those for prizing or praising. Instead increasing attention is being paid to the active process of making 'singular', in Karpik's sense, goods that are otherwise 'standard', brands that are traded on price (Lury & Moor, 2011) and the 'gourmetization' journeys of once relatively standard goods like beer, hummus or apple juice.

In this context too, economic actors and organizations are no longer characterized as 'mono-logic' (either super calculative or social dopes) but situated *in-between* multiple valuing dynamics (Boltanski & Thévenot 2006). Increasingly attention is paid to what Zelizer (2012) calls 'relational work', the effort spent by economic actors to disentangle and establish the type of transaction in which they are involved, which in turn problematizes the idea of the 'economy' as an area of social life characterized by its own singular logic (Ossandón 2013). In a related vein, other recent work addresses the role of valuing frictions and dissonance, for instance in financial arbitrage and in the risk assessment of securitizied debt obligations within financial organizations, as the sources of new ideas and new uncertainties (Beunza & Stark 2008; MacKenzie's (2011).

So should organisation studies care?

Work in these veins has the potential to move debate beyond the current stalemate between Callon and his critics and to connect European and North American sociologies of markets. The new and the 'new, new' economic sociologies have not only helped to describe and understand markets better but are also rich sources of methodological and conceptual inspiration for social theory in general and organization studies in particular. The creative recombinations of these new sociologies, to paraphrase David Stark, opens up new common ground around the notion of valuing and expands the vocabulary, tools and methods available for studying highly dynamic economic objects and processes. This matters, across the disciplinary divides, more than ever in a context of ongoing financial and sovereign debt crises. Of course organisation studies has to engage seriously with the development of calculative practices and with how the products of the academy, all those techniques, knowledges and tools, play their roles in the formation of markets and market relations. But studying how markets are organised is not just important for learning how to deal with failure or how to regulate them better. It's important for at least two other reasons, one obvious and one maybe less so.

Markets are not everything or everywhere but since 'everyone seems to agree' (Callon, 2007b, p139) they are extending their reach as all sorts of organizations, which operated not that long ago in accordance with other bureaucratic or professional rules, succumb to the dynamics of marketization (Scott and Le Galés 2010) they are evidently a significant organising mechanism. Markets organise, and they are managed *in* organisations. It would therefore be a peculiar act of disciplinary closure for organisation studies not to engage with an emerging literature so heavily invested in the development of empirical and practical resources for studying markets. Secondly, market failure and its serious consequences have been the enduring preoccupation of the non-economic social sciences for decent reasons. And yet negative social consequences are not the only thing the social sciences could record. Market organisations do some things well and it is at least possible that some of the things they do well might improve other organisations. The constant processes of adaptation, innovation and alignment and realignment with consumers define success in market organisations whose products persist only by interesting people (cf Akrich, Callon, Latour, 2002, p203). Alignment and realignment with what users need is also crucial for all sorts of public provision but this is probably not the lesson that marketised public services have learnt from markets. A fair speculation is that marketization programmes have been lured by neo-classical efficient market claims and not by empirical, case based learning about how market organisations work, how they succeed and how they fail. This sort of knowledge might even be what the combined wit of organisation studies and the new, new economic sociolog*ies* could generate if the peculiar organisation of academic disciplines was to be reshaped.

> If sociologists of science have tended to neglect broader issues of governing economic life, mainstream economic sociologists have tended to continue to focus more or less exclusively on the study of institutions, organisations and networks. This is both regrettable and paradoxical. In our much vaunted 'global' or at least transnational world, it seems that while the practices and ideas that animate the economy continue to blur or attenuate national boundaries, the disciplines that study such processes remain remarkably bounded geographically and intellectually. This needs to change. (Miller, 2008, p59)

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[i] Levitt and Dubner’s hugely successful Freakonomics (2005) and its successor projects are a popularizing outcrop of this work
[ii] See Ossandón (2012a) for more on this
[iii] See also McFall (2009)
[iv] Certainly, this understanding of organizations as cultural agents that deal with their uncertainty by reading their peers’ action is not only present in White’s economic sociology. It is also present in perhaps the most influential stream within recent sociology of organization, sociological neo-institutionalism (DiMaggio & Powell 1991; DiMaggio and Powell 1983). The main difference is that in this latter tradition, instead of

networks, the overarching concept is social "fields". Thinking in terms of fields implies that organizations are not only placed among their competitors, providers, customers, and financers, but also in relation to regulators, advisors and researchers, and all those who influence the field's structure, operation and cognitive frames (Fligstein 1996). For some excellent examples see DiMaggio (1991) on art museums, Dobbin & Dowd (2000) on the rail industry, Fligstein (1991) on American corporations, and Powell et al. on the bio-tech industry in California.

[v] Callon drew extensively on this in his introduction to *The Laws* in 1998 but it took until 2007 for an English version to appear.

[vi] Agencement began as concept concerned with the force of connections between a given state of affairs and all the statements that could be made about it (Deleuze and Guattari, 1988), connections as deep, in Callon's version, as operating instructions are to any machine. Priority is to be given to neither the state of affairs nor the statement but to their connection. To work, this explanation relies on the idea of a performative action that enables things to become true or false, or more precisely, to succeed or to fail.

[vii] Mennicken and Miller's chapter in this collection clarifies this long lineage as well as the overdependence in some of this work on devices at the expense of ideas, theories, the prevailing wisdom or more grandly 'rationalities'. See also Miller and Rose (1990), Porter (1996) and du Gay (1996)).

[viii] The literature is vast but see Justesen and Mouritsen (2011) on accounting; Araujo et al. (2010); Cochoy (1998) on marketing; Poon (2009) on credit scoring; Muniesa (2007) on pricing as well the various contributors on merchandising, charting, measuring, ranking etc. collected in Callon et al. (2007) Pinch and Swedberg (2008)