

Following entrepreneurs to markets: What entrepreneurship theory and market studies can learn from each other

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Abstract:

Rationalist approaches of entrepreneurship theory and empiricist studies of markets that draw on Science and Technology Studies and actor-network theory (ANT) have had limited interactions so far and tend to treat each other with suspicion and dismissal. We review both approaches from their respective points of view to identify their differences and misunderstandings, but also their historical, methodological and theoretical commonalities and complementarities. Drawing on an empirical study of e-commerce entrepreneurship in southern England in the mid-2000s that utilised ANT, we articulate the notion of the *entrepreneurial market* as a promising construct for establishing common ground between entrepreneurship theory and market studies for a more fruitful dialogue.

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Introduction

Our aim in this paper is to encourage a productive dialogue between entrepreneurship theory and market studies, which share a number of parallels and complementary insights concerning their neighbouring and at times overlapping areas of enquiry, despite some diagonally opposing philosophical, methodological and political standpoints. As we will argue, the complementarities between the two disciplines often arise precisely because of the very different philosophical and methodological assumptions, among others, about the nature of the *social* and the nature of *agency*. By "entrepreneurship theory" we primarily mean economic and, occasionally, sociological theories of entrepreneurship that use rationalist approaches employing deductive theory building, such as the traditions that sprung from the foundational works of Joseph Schumpeter (e.g. 1934), Israel Kirzner (e.g. 1973), Frank Knight (e.g. 1921), and more recently, Ronald Burt (e.g. 1992). In contrast, by "market studies" we are referring to empiricist approaches to the study of markets (e.g. Callon, 1998b; Callon, Millo and Muniesa, 2007) that emerged from the literature of Science and Technology Studies (STS) (Hackett *et al.*, 2008), often using the tools of ethnography and specifically the toolbox of actor-network theory (ANT) (Latour, 2005), building theory in an inductive fashion.

Both of these areas of study can be situated within broader disciplinary areas (entrepreneurship theory within entrepreneurship studies (Aldrich, 2005), and market studies within valuation studies (Helgesson and Muniesa, 2013) and economic sociology (Smelser and Swedberg, 2005)) to which some of our propositions and findings can also be extended. Nevertheless, narrowing down the focus to comparing, contrasting, and linking entrepreneurship theory and market studies specifically helps us articulate our finer points in sharper detail. It will enable us to formulate the outlines of a *theory of entrepreneurial markets*, by combining an entrepreneurial view of markets with a market-based view of entrepreneurship, in order to provide both disciplinary perspectives with access points to the debate, by drawing on their mutually complementary contributions.

While there has been a reasonably extensive engagement with STS and ANT in organisation and management studies (e.g. Lee and Hassard, 1999; Woolgar, Coopmans and Neyland, 2009) and in some of its sub-disciplines for some time, such as in accounting (e.g. Miller and O'Leary, 2007), finance (e.g. Beunza, Hardie and MacKenzie, 2006), information systems

(e.g. Hanseth, Aanestad and Berg, 2004), and marketing (e.g. Araujo, Kjellberg and Spencer, 2008), or sectoral studies such as tourism (e.g. Johannesson, 2012), the relatively limited attention devoted to this body of work in entrepreneurship studies—as also pointed out by those having made some progress in this area (e.g. Whittle and Mueller, 2008; Korsgaard, 2011; Roscoe, Discua Cruz and Howorth, 2013)—is somewhat surprising. The lack of broader engagement and interest is surprising because the foundational works of STS and ANT were very much based on the study of invention (e.g. Latour and Woolgar, 1986; Latour, 1987), innovation (e.g. Law and Callon, 1988; Latour, 1996), and entrepreneurship (e.g. Callon, 1986; Latour, 1991; Akrich, Callon and Latour, 2002), focusing on the nature of construction and emergence, which are of direct and central relevance to entrepreneurship studies. The reasons for this lack of engagement may have to do with the dominance of the aforementioned rationalist approaches of entrepreneurship theory, the philosophical and methodological assumptions of which are often antithetical to those of the empiricism of STS and ANT-based market and valuation studies, resulting in mutual suspicion and dismissal.

In this paper we aim to show that it is possible to find common ground between these rationalist and empiricist approaches, from which a number of benefits follow for both. The two perspectives, despite their fundamental philosophical, methodological, and at times political differences, can complement each other's blind spots. Entrepreneurship theory can offer a set of concepts and theoretical arguments that can sensitise market studies to play closer attention to the entrepreneurship-market nexus. In turn, market studies can offer entrepreneurship theory qualitative empirical material for testing its hypotheses and help extend its arguments and purview in the direction of markets. Through their interaction, both disciplines can offer each other broader relevance and impact.

In order to accomplish this task, we will first review the key differences and commonalities between entrepreneurship theory and market studies, to highlight opportunities for productive complementarity and problems that need to be overcome. Then we will undertake an empirical description of a specific case of entrepreneurship, by using the tools of ANT to follow entrepreneurs and trace their engagements with markets and marketplaces. This enables us to pick up the loose ends of market-related insights in entrepreneurship theory and explore where they take us if using radically different ontological and epistemological assumptions and methodologies. Out of this description the tentative outlines of a *theory of entrepreneurial markets* emerge, as a presently missing dimension in entrepreneurship

theory, and possible common ground with market studies. The case at hand concerns the spread and adoption of e-commerce by retail micro-enterprises and start-ups in southern England in the first decade of the 21st century, through the lens of a single event that we identify as the instance of an *entrepreneurial market*.

Entrepreneurship theory and ANT studies of organisation and markets

Differences, oppositions, misunderstandings

Entrepreneurship theory's view of ANT: postmodernism and obscurantism

We have alluded above that entrepreneurship theory and STS-based approaches treat each other with a certain degree of scepticism and suspicion that appears to stand in the way of meaningful engagement. Partly this can be explained by the antithetical research philosophies and methods held by both camps that they find mutually unattractive and unconvincing for their own types of inquiries. But there are also some prejudices and straw man arguments that result more from the lack of engagement or the need for differentiating one's argument than from bona fide disagreements. In the following we will examine examples of both types of disagreements from the perspective of both camps, in order to identify the obstacles that need to be overcome for meaningful communication to occur.

The philosophical and methodological disconnects are relatively straightforward and they are derivative of the rationalism versus empiricism debate in philosophy and economic methodology (Markie, 2013). Contributors to entrepreneurship theory tend to operate within the discipline of organisational economics or in quantitative sociology and are engaged in debates with classical and neo-classical economists, thereby also adopting their methods of deductive theory construction. From that particular philosophical and methodological perspective, inductive proof of a theory seems impossible because an empirical observation can be explained with several conceptually different theories (Shionoya, 1997). This then may explain why a rationalist theorist might not be all that interested in what inductively produced theories have to say about their subject matter or why they might dismiss them out of hand as logically faulty and ideologically suspect.

Such prejudice can be observed anecdotally in the way practitioners of entrepreneurship theory refer to STS and ANT-based research among themselves. Take for instance remarks at the *Organizations and Markets (O&M)* blog (organizationsandmarkets.com), a prominent forum of organisational economists interested in the theory of the firm and entrepreneurship theory, especially of the Austrian persuasion (Koppl, 2003). The first thing to note is how little interest there had been in STS or ANT in the blog's 10 years of operation. Out of around 5000 posts there were only 9 that mention STS-related literature, mainly in reference to the performativity debate (especially Ferraro, Pfeffer and Sutton, 2005), with which, to be fair, some of the blog's authors have engaged formally, albeit to express fundamental disagreement (Felin and Foss, 2009b, a).

But by and large the tone of the blog towards authors associated with STS and ANT is dismissive. Most of these references occur in a series the blog authors derogatively entitled "The Pomo Periscope" ("pomo" standing for postmodernism), set up to poke fun at "mainly European lefty and muzzy sociologists and philosophers," whom they accuse of obscurantism (Foss, 2006a, b). They include in this category Bruno Latour for instance, who they refer to as a postmodernist and social constructionist, as well as the broader performativity literature that emerged on the back of ANT-inspired economic sociology (Foss, 2006c; Felin and Foss, 2009b; Lien, 2013). Such a categorisation of Latour's project however betrays a lack of familiarity with his work, and more broadly, with the principles and objectives of ANT: after all Latour's perhaps most widely read book (1993) is effectively a manifesto against postmodernism, by declaring that we have never even been modern, let alone postmodern (see also Latour, 1990). The same can be said about lumping Latour's realist constructivism together with social constructivism, when the latter was exactly what he had defined his research programme against (Latour, 1999, 2003).

But to give the impression that the above mischaracterisation was entirely the fault of the authors of O&M is not correct either. Some of the earliest articles advocating the relevance of ANT in entrepreneurship studies also situate ANT and the work of its practitioners, implicitly (e.g. Steyaert, 2007) or explicitly (e.g. Korsgaard, 2011), alongside social constructivism and other theories that the O&M bloggers consider "muzzy:"

The ANT approach thus shares many features with the post-structuralist, social constructivist and narrative approaches to entrepreneurship, which have gained ground in the entrepreneurship field recently... (Korsgaard, 2011: 665)

While Korsgaard's characterisation of ANT's lineage is not incorrect (though it is incomplete), by not emphasising how ANT has parted ways with some post-structuralist methods (such as deconstruction), and social constructivism in particular, it indeed does provide support to O&M's interpretation of ANT belonging in their 'pomo obscurantism' category. This is not to say that the authors of O&M, and more broadly speaking, practitioners of deductive entrepreneurship theory, would necessarily agree with the philosophical assumptions of actor-network theory, had they paid closer attention to Latour's work for instance and captured the nuances of ANT and associated research. Nevertheless, these misunderstandings, prejudices, and the general lack of closer engagement may have led to some missed opportunities in recognising complementarities and commonalities.

ANT's view of entrepreneurship theory: philosophical and methodological differences

Too much realism, too little realism

Authors using ANT and drawing on STS for the study of entrepreneurship, organisations, and markets are not immune to such oversimplification or lack of engagement either. It is all too tempting for users of qualitative research methods and inductive logics not to position their contributions against what they see as the blind spots or shortcomings of rationalist approaches, which after all is a standard rhetorical strategy in academic discourse for articulating one's contributions. One problem with this strategy is that entrepreneurship theory, as the offspring of heterodox economic approaches, is engaged in some highly specific debates with orthodox and neo-classical economics. Attacking its philosophical and methodological assumptions from the perspective of another discipline such as sociology or anthropology may provide opportunities for some cheap shots, but at the risk of missing the intricacies of the debate which might reveal more common ground than might be immediately apparent at first sight.

Another problem with such a critical stance coming from an ANT perspective is that it may not be entirely consistent with ANT's approach to critique (see e.g. Latour, 2004), which warns against debunking and iconoclasm as counterproductive intellectual practices. There are two main, interrelated lines of attack, when it comes to critiques of entrepreneurship theory from the ANT perspective. Firstly, proponents of ANT question the soundness of the philosophical assumptions underpinning the rationalist, deductive method of theory

construction. Secondly, they question the truthfulness of its outcomes, seeing them as being unsupported by empirical evidence. We will examine some examples of both.

Perhaps the first and most systematic assessment of actor-network theory's relevance for entrepreneurship studies was offered by Korsgaard (2011) who identifies the "entrepreneurial opportunity" school of entrepreneurship theory that has sprung from Kirzner's (1973, 1979) work as the most obvious target of an ANT-based critique. However, Korsgaard's discussion of ANT was a theoretical one, without a demonstration of the method's use for empirical description. For an empirically-based examination of the "entrepreneurial opportunity" concept we need to turn to a paper by Roscoe, Discua Cruz and Howorth (2013). Kirzner (1973: 74) defined the essence of entrepreneurship as the discovery of arbitrage opportunities in markets by individuals that are more alert (and therefore entrepreneurial) than others: "I view the entrepreneur not as a source of innovative ideas *ex nihilo*, but as being *alert* to the opportunities that exist *already* and are awaiting to be noticed." Roscoe et al. join Görling and Rehn (2008) (whose paper incidentally appeared in a special issue that earned itself a "pomo alert" in the O&M "Pomo Periscope" series (Klein, 2008c)) in questioning the ontological assumptions behind an "entrepreneurial opportunity," which presuppose the independent existence of individuals with the special gift of alertness on the one hand, and opportunities waiting to be discovered, on the other.

In terms of methodology, Roscoe et al. contrast the specificity of their ANT-based description of an entrepreneurial case study of a Honduran business with the abstraction, generalisation, and ahistoricism of the Kirznerian type of entrepreneurship theory: "It is precisely our argument that an entrepreneurial opportunity is intelligible only within the specific context that it occurs" (54). From the constructivist and process-orientated perspective of their ANT approach, and supported by their empirical findings, entrepreneurial opportunities are seen not as pre-existing but as collectively and experimentally constructed in the course of entrepreneurial activity by the various socio-material networks involved, and shaped a great deal by accidents and contingency.

From an ANT perspective, a deductively developed entrepreneurship theory such as Kirzner's thus contains simultaneously too much and too little realism. It has too much realism in the ontological sense, in that it assigns independent existence to an entrepreneurial opportunity, without being able to offer a way to confirm that existence prior to it being affected by entrepreneurial activity. But it also has too little realism because the entrepreneurship it

imagines (especially alert entrepreneurs discovering opportunities) does not resemble what empirical researchers such as Roscoe et al. find on the ground.

The problem with methodological individualism

Another line of attack from the ANT perspective proceeds in a similar vein, questioning the validity of principles behind entrepreneurship theory's doctrine of *methodological individualism*. While the doctrine is generally attributed to Max Weber (Langlois, 1998), the term was introduced to both English and German language economics scholarship by Joseph A. Schumpeter (2010 [1908]), who also deployed it towards producing the first significant contribution to entrepreneurship theory (1934). Methodological individualism can be defined as the adherence to the principle that “social phenomena must be explained by showing how they result from individual actions” (Heath, 2011); though in practice it is often interpreted as the 'actions of individuals,' using the figure of a hypothetical and abstract human individual as the building block and starting point in constructing an economic theory deductively (also referred to by Schumpeter (1909) as "pure theory," to distinguish it from empirically based methods such as those of economic history or sociology).

Perhaps the most famous, even notorious example of this method is the "Robinson Crusoe economy" framework, which proceeds from the example of a Crusoe-like one-man economy to build an economic model of the world. Kirzner (1979: 170) makes extensive use of the Crusoe example in the development of his entrepreneurship theory, and jumps effortlessly from Crusoe's socially isolated extreme situation to arguments about the market economy: "We are now in a position to transfer our insights into entrepreneurship from the individual to the market." From the perspective of ANT and other process-orientated materialist approaches, Steyart (2007: 460) finds the privileged position of the concept of the individual problematic and a key stumbling block in the development of entrepreneurship studies:

This methodological individualism forms the backbone of much of entrepreneurship theorizing, thus giving ontological priority to the individual instead of understanding how action is formed within a culturally-embedded context.

Proponents of methodological individualism, from Schumpeter in 1908 onwards to the bloggers at O&M a hundred years later (Klein, 2008a) find such criticism based on a fundamental misunderstanding of the method, and as such, deeply frustrating. Schumpeter (2010 [1908]) repeatedly emphasises that the concept of the individual is merely an

instrument for constructing the theory, like a paintbrush for painting a picture, and not the subject and protagonist of the picture (which is why his version of methodological individualism might be more accurately described as *methodological instrumentalism* (Shionoya, 1997)). In other words, methodological individualism does not—or, rather, should not—automatically mean advocating ontological individualism or political individualism (Hodgson, 2007). It would therefore seem prudent to assess the contributions of entrepreneurship theory within the methodological parameters it sets for itself (and proponents of ANT in entrepreneurship studies would very likely benefit from exercising such generosity), as it would allow for a deeper appreciation of some of the contributions of entrepreneurship theory.

The exercise of such generosity is, however, somewhat complicated by the fact that there are many different, sometimes even contradictory applications of methodological individualism (Hodgson, 2007; Zwirn, 2007), and that the picture painted by the tool often does end up promoting ontological and political individualism. Even if we just compare the two most well-known entrepreneurship theories, those of Schumpeter and Kirzner, the use of the method varies sharply. Schumpeter is adamant that his economic theories (e.g. 1983 [1934]; 2010 [1908]) (as opposed to his historical and sociological work (e.g. 2008 [1942])) are not to be taken as direct descriptions of reality (even going as far as saying that if angels help explain a point, then they can be part of a theory (Shionoya, 1997))—thus remaining largely consistent with the extreme instrumentalism of the method. For Kirzner (1979: 7), in contrast, it is a key rhetorical strategy to claim that his theory is more realistic than orthodox economics:

At the same time that it transforms allocative decision making into a *realistic view of human action*, entrepreneurship converts the theory of market equilibrium into a theory of market process. [our emphasis]

But even in Schumpeter's sociological and historical work, such as in his *Capitalism, Socialism and Democracy* (2008 [1942]), it seems too much of a coincidence that in the end the future of democracy and capitalism hinges on the survival of individual-led entrepreneurship and innovation, as opposed to the collectivised innovation that takes place in large corporations; looking suspiciously like a defence of ontological and political individualism. Nevertheless, even in his speculations about the future demise of capitalism, Schumpeter (2008 [1942]) is careful to emphasise that he is not engaging in predictions or

value judgements but in extrapolations that will acquire truth content only in a pragmatic sense, if and when they happen to fit reality.

Kirzner (1979), in contrast, feels free to draw some far-reaching political conclusions from the outcomes of his deductive theory-construction process, in effect making a libertarian argument, by drawing a direct parallel between the individual's freedom to discover opportunities, and the availability of a free market economy. By linking methodological individualism with methodological subjectivism, Kirzner's entrepreneurship theory is positively anthropocentric (2015), in contrast to Schumpeter's instrumentalist use of the figure of the entrepreneur, which could equally mean a person or an institution, as long as it performs the function of entrepreneurship.

A more contemporary example of ontological individualism might be a recent lecture by Mark Casson (2015), another prominent interlocutor in entrepreneurship theory (see e.g. Casson, 2003 [1982]), where he argued that "the firm as a person is a *legal fiction*," "individuals, not firms, take decisions," and that "it is people that have capabilities, not firms." This particular view of methodological individualism goes counter to the foundational methodological principle of the "individual" just being an instrument of theory construction. These inconsistencies in keeping methodological individualism apart from ontological individualism, and leaping to the defence of political individualism on the back of a deductively constructed line of argument (as Kirzner does), raise some suspicions about an inherent anthropocentric bias built into the method. While it was only meant to be a thought experiment, it often results in an circularity of the argument, by ending up defending the primacy of individuals in economic and organisational life, and specifically in entrepreneurship. Unsurprisingly, the methodological individualism of Schumpeter and Kirzner also inspired research traditions that became preoccupied with the personal characteristics of entrepreneurs (McClelland, 1961; De Vries, 1977) and the cognitive aspects of opportunity recognition (Grégoire, Corbett and McMullen, 2010; Grégoire *et al.*, 2015).

From an ANT perspective, the problem with such an anthropocentric and cognitive focus is that it leads to the side-lining of social, material, creative and pragmatic aspects of agency in entrepreneurship (Steyaert, 2007; Roscoe *et al.*, 2013). Nevertheless, it is worth mentioning that ANT-practitioners are not alone in criticising the dominance of the "entrepreneurial opportunity" line of inquiry. As Korsgaard (2011) points out, there is a groundswell of resistance against the opportunity literature within entrepreneurship studies from other

perspectives as well. In fact, even members of the Austrian School have joined in with the criticism (Klein, 2008b), proposing to focus on entrepreneurial judgement instead of recognition.

As for the criticism that practitioners of methodological individualism are not true to the principles of the doctrine when applying it in practice (i.e. in the practice of deductive theory construction), while it is often a valid one, it may lead to pedanticism that can prevent the appreciation of the results of such theorising that could end up being interesting. After all, it is a criticism that is also frequently levelled at practitioners of ANT. Considering that ANT is a rather loose assemblage of theoretical and methodological principles that are deliberately designed to resist reification, there is nothing easier than to attack implementations of ANT as being incomplete or misguided or untrue to one or more of its founding principles. Indeed, we have already hinted at such inconsistencies when referring to the ANT-inspired works in entrepreneurship studies, such as highlighting the overly critical nature in which they position themselves against deductive entrepreneurship theory, or their lack of empiricism, as was the case e.g. in Korsgaard's (2011) theoretical discussion of ANT in the context of entrepreneurship studies.

And just like the bloggers of O&M can be found to be indulging in treating ANT as a straw man for the critique of postmodernism, similarly we can find oversimplifications of entrepreneurship theory in ANT accounts. Akrich, Callon and Latour (2002) for instance criticise Schumpeter's concept of the entrepreneur as if it was meant to be an empirical description of entrepreneurship, when Schumpeter was adamant about the instrumental nature of this notion, only meant for theory construction, within a very specific debate with orthodox economics about the nature of economic change. While Schumpeter's particular way of mixing theoretical and empirical accounts of entrepreneurship is a legitimate target of critique, there is a huge amount of nuance and sophistication in his arguments that would be a pity for ANT approaches to overlook, as his perspective is not as antithetical to an STS approach as it may initially seem.

Commonalities, complementarities, and opportunities for dialogue

While the differences between entrepreneurship theory and ANT-based studies of entrepreneurship and markets are significant, identifying the commonalities and

complementarities between the two domains may be a more fruitful avenue for identifying opportunities for positive and creative interaction. These commonalities and complementarities arise from some historical, methodological, and theoretical parallels that are often obscured when focusing solely on the differences. Looking for commonalities would also be more in line with the ethos of ANT, as a perspective fundamentally more interested in the building of alliances than engaging in debunking and iconoclasm (Latour, 1999, 2004).

Historical parallels

Let's start with the historical parallels. There are some commonalities between the way entrepreneurship theory and ANT-based studies have formed as disciplines. Both research traditions emerged as outsiders and challengers to their mainstream, engaged in some highly specific debates. Entrepreneurship theory emerged as a critique of orthodox and neo-classical economics, in Schumpeter's work (which was overshadowed by Keynesianism for much of the 20th century (Elliott, 1983)), just as in the case of Kirznerian and post-Knightian entrepreneurship theory (more specifically the Judgement-Based View), proponents of which often identify themselves as belonging to the Austrian School of economics, judged by the mainstream as heterodox. The field of Science and Technology Studies has a similar history in the sense that it started out in opposition to rationalist approaches to the philosophy and history of science, by pursuing empirical investigations of scientific practice and technological innovation, using the methods and perspectives of anthropology and sociology (Law, 2008). ANT-based studies, within the field of STS, emerged from a debate with social constructivism, critical sociology, and phenomenology, to mention just a few of its opponents (Latour, 2005).

The impetus that finally led to the broader acceptance of Schumpeterian and Austrian entrepreneurship theory was the same that provided much of STS with its subject matter: the emergence and proliferation of information and communication technologies (ICTs) and associated industries in the post-Cold War era, with accompanying government policies that gave increasingly more importance to innovation and entrepreneurship on the one hand, and to the role of the 'free market,' on the other (Becker and Knudsen, 2009). The ideas of entrepreneurship theory have found their way into policy instruments aimed at improving national competitiveness and the daily jargon of business discourse and business education

(such as Schumpeter's "disruptive innovation" and "creative destruction") (see e.g. European Commission, 2015).

Methodological parallels

Despite the differences we highlighted earlier in the diametrically opposing ontological assumptions behind the deductive, reductionist approach of methodological individualism in entrepreneurship theory and the inductive, anti-reductionist method of actor-network theory, there are some surprising parallels to be discovered if we pay attention to the insights and instincts underpinning those methodological principles. When Schumpeter or Mises call for methodological individualism, they are expressing the same desire as the developers of actor-network theory to build a theory of the collective from the bottom up, out of the actions of individual elements, rather than appealing to abstract notions of the social. (We can also include here what has been called the micro-foundations movement in strategy and organisation theory (Felin, Foss and Ployhart, 2015).) Consider these two quotes; one from Mises, the other from Latour:

"Society is not an entity in itself... It does not exist or live outside of the conduct of people... Society neither thinks nor acts" (Mises, 2007 [1957]: 250)

"there is nothing specific to social order; ... there is no social dimension of any sort, no 'social context', no distinct domain of reality to which the label 'social' or 'society' could be attributed" (Latour, 2005: 4)

The underlying sentiment is the same, even if the subsequent conceptualisation of what an "individual" is, and its operationalisation for research, are different. For methodological individualism, the individual does end up being a representation of individual or collective human action most of the time; often, though not always, veering into ontological and political individualism. In contrast, for ANT, an individual "monad" is always already a collective and heterogeneous actor-network, and therefore it would be a mistake to equate it with a single human individual, or any other isolated individual entity, for that matter (Latour *et al.*, 2012).

Further parallels can be recognised if we examine Schumpeter's particular conception and use of methodological individualism. Schumpeter manages to deploy the figure of the individual entrepreneur even for complex heterogeneous actors:

the practice of farmers in this country has been revolutionized again and again by the introduction of methods worked out in the Department of Agriculture and by the Department of Agriculture's success in teaching these methods. In this case then it was the Department of Agriculture that acted as an entrepreneur. (Schumpeter, 1951 [1949]: 255)

There are also several aspects of Schumpeter's economic and sociological theories of entrepreneurship, as well as his methodology, that display a great degree of pragmatism in the philosophical and methodological sense, which should chime with a neo-pragmatic approach such as ANT. What Shionoya (1997) describes as Schumpeter's instrumentalism could just as well be characterised as a form of pragmatism, both in terms of his concept of truth, the content of his theories, and his approach to normativity. For instance, Schumpeter (2010 [1908]) argues for radical agnosticism prior to theory building, to avoid being affected by preconceptions. Also, he expects the verification of his theories to happen pragmatically, by fitting reality in the way that ready-made jackets fit a sufficient number of customers (1908, 527-28) (cited in Shionoya 1997: 103-104). His characterisation of the essence of entrepreneurship as "getting things done" displays a lot more pragmatism than let's say the fundamentally cognitive act of Kirznerian opportunity recognition. Finally, Schumpeter steers clear of making predictions or policy recommendations (in contrast to Kirzner's defence of the free market economy), in favour of a pragmatist approach, whereby the political intervention is done by way of the theoretical description itself, especially if it pragmatically turns out to be useful or true:

What our time needs most and lacks most is the understanding of the process which people are passionately resolved to control. To supply this understanding is to implement that resolve and to rationalise it. This is the only service the scientific worker is, as such, qualified to render. (1939, 1, vi) (cited in Shionoya 1997: 85)

Theoretical parallels

Given these similarities in attitudes, instincts, and orientations, whether in disciplinary identity or methodological aims, it should not come as a surprise that there are some points of connection and parallel observations on the theoretical plane as well between entrepreneurship theory and ANT-based approaches, despite the fact that these theories have been arrived at from entirely different starting points and logics. These theoretical or conceptual similarities have to do with observations about the nature of entrepreneurship (and innovation), and the nature of the relationship between entrepreneurship and markets. However, in the case of entrepreneurship theory, many of these insights about the

entrepreneurship-market juncture are not taken much further and often languish as throwaway remarks or footnotes; while for market studies they constitute their main points of departure and lines of inquiry. In this section we review the opportunities that entrepreneurship theory offers for connecting its underexplored insights with topics in ANT-based studies. As for the ways in which the findings and methods of ANT-based studies can complement entrepreneurship theory, we will demonstrate those by way of an empirical case study in the second half of this paper, in line with the requirement of ANT to develop arguments by way of empirical description. The theoretical parallels thus become clearer towards the end of this paper, when concepts from this section are compared with the findings of the empirical section.

The key insights of entrepreneurship theory that correspond with findings of ANT-based studies of entrepreneurship and markets include the recognition that entrepreneurship consists of recombining heterogeneous resources and stabilising them as a new network (Schumpeter); that this stabilisation is a pragmatic affair that requires "getting things done" (Schumpeter); that a big part of entrepreneurial leadership has to do with engaging with the supply-side markets for productive means (Schumpeter); that this entrepreneurial engagement with markets has the character of mediation between multiple markets (Schumpeter, Casson) and experimentation (Knight, Kirzner), requiring the exercise of entrepreneurial judgement about the value of productive means and whether to make or buy them (Foss and Klein); and that markets are social devices (Kirzner) that have the character of networks (Kirzner, Burt). We will examine each of these insights briefly in order to set the scene for our empirical investigation, where we will demonstrate how an ANT-based inquiry of entrepreneurship and markets can empirically test and extend the above propositions.

Schumpeter (1983 [1934]: 15) defined entrepreneurship as the creation of a new combination of productive means, which he meant in a thoroughly heterogeneous sense, as "all possible objects and 'forces'," and which he reduced to the shorthand of human (labour) and nonhuman forces (land) for the sake of simplicity. The entrepreneur that carried out the new combination can be either an individual or an institution (Schumpeter, 1951 [1949]). For entrepreneurship to qualify as such, it had to move beyond mere local invention and become a global innovation in its particular relevant world (which can be as mundane as the world of sausages (Schumpeter, 1947)), through the pragmatic process of "getting things done," i.e.

being implemented as a stabilised network through which the outputs of the innovation and entrepreneurship can be repeated and sustained in a profitable manner.

For an entrepreneur to be able to combine productive means into a new combination, he or she or it needs to first acquire those productive means. This process of acquisition is a fundamental aspect of entrepreneurial leadership for Schumpeter, and it requires engagement with the supply-side markets for productive means, i.e. markets for human and nonhuman resources: the entrepreneur "'leads' the means of production into new channels... by buying them or their services, and then using them as he sees fit" (Schumpeter, 1983 [1934]: 89). In this sense the entrepreneur performs the role of a mediator between multiple supply-side markets, but also between supply and demand-side markets, as the outputs of the new combination will need to be sold to its customers for a profit: "the entrepreneur is the carrier of the exchange acts through which, in the case of an economy organised as a market economy, the economic process is realising itself" (Schumpeter, 2003 [1928]: 246). Casson (2003 [1982]) also describes the entrepreneur as a middleman engaged in market-making, although coming at it from a different perspective, that of transaction-cost economics.

An entrepreneur's engagement with markets is experimental in nature: it involves a trial and error process of testing plans and testing competitors in markets, which serve as social devices for discovering new knowledge (of prices, among others) and for facilitating exchange transactions (Kirzner, 1973, 1979). Whether the entrepreneur is conceived of as an innovator-constructor-mediator (as in Schumpeter's case), or as an arbitrageur (in the case of Kirzner), interaction with various supply- and demand-side markets, and decisions about engaging in exchange acts, require entrepreneurial judgement. The judgement-based view in entrepreneurship theory (Foss and Klein, 2012, 2015) emerged as an alternative to the Kirznerian focus on opportunity recognition, drawing on the work of Knight, Mises and Casson instead. Proponents of the judgement-based view (Foss and Klein, 2012) argue that entrepreneurship has to do with the exercise of entrepreneurial judgement, in the face of Knightian uncertainty, about the value of heterogeneous capital goods, as part of the experimental process of acquiring and recombining them. The experimental exercising of entrepreneurial judgement for Foss and Klein resembles the scientific process that takes place in a laboratory.

Finally, the entrepreneurship-market nexus has the character of a network in entrepreneurship theory. In Schumpeter's work, the concept of the network is implicit in two forms: on the one

hand, the entrepreneur is a mediator in a network of material and market relationships, and on the other he/she/it is also the constructor of the network that implements a given innovation and distributes it to its users. Kirzner's (1973: 10) entrepreneurs also operate within and constitute "an interconnected network of market decisions," in the course of testing their theories about connections between prices in different markets while looking for arbitrage opportunities, in effect looking to exploit instances of ignorance. For Burt (1992), entrepreneurship is explicitly about exploiting the advantageous distribution of gaps ("structural holes") between unconnected contacts in a player's social network, or in markets, which are also conceived of as networks of players.

As we will show in our empirical section, many of these deductively constructed claims can be shown to parallel and complement insights that have emerged from ANT-inspired studies of entrepreneurship and markets. Concepts from entrepreneurship theory can be used as sensitising devices in the course of empirical description and inductive theory development, thus providing opportunities for connecting the insights of the two domains.

In order to be able to answer the question in our subtitle (What entrepreneurship theory and market studies can learn from each other?), in this section we have attempted to answer first the questions 'why such learning would be desirable,' 'to who,' and 'how such learning might take place.' We reviewed how the literatures of entrepreneurship theory and STS-based studies of entrepreneurship and markets view and engage with each other. We found that the level of engagement is rather limited, which is surprising, if we consider the number of parallels between their respective subject matters, insights, and instincts. The entrepreneurship-market nexus is recognised by both streams of research as important, yet a thorough exploration and consideration of this nexus is lacking in both, for different reasons. In the case of entrepreneurship theory, its anthropocentrism appears to stand in the way of direct engagement with markets as social and material devices. In the case of genuinely ANT-based studies of entrepreneurship, there are few of them, and they tended to focus on the critique of the ontological assumptions of the opportunity recognition concept (which could be considered an outcome of the subjectivism of the Austrian School), rather than engaging with the market-related aspects of entrepreneurship, for which entrepreneurship theory has produced some pointers, but which it does not appear to have the methodological resources to follow up.

As Korsgaard (2011: 673) notes, from an ANT perspective "entrepreneurship is always market creation." There is thus an opportunity for ANT-based studies of entrepreneurship to draw on the resources of ANT-based market studies, and thus also engage in a dialogue with entrepreneurship theory, by drawing on their insights to sensitise the ANT researcher to the conceptual, methodological, and political controversies surrounding the entrepreneurship-market nexus, by providing empirical material for the 'testing' of those propositions (in Schumpeter's pragmatist sense, to see whether and how those theories fit reality), and by tracing new avenues for conceptual development in this area.

Empirical story: following entrepreneurs to markets

Methodological considerations

So far we have said relatively little about what ANT is or how ANT-based studies of markets would be of use to this endeavour. This was intentional. It is not within the scope of this paper to provide a general overview of ANT as a research approach and method. Others have already done that at much greater length and depth than we could do here (Latour, 2005; Law, 2009; Mol, 2010). Concerning ANT's relevance for entrepreneurship studies, as we have already mentioned, Korsgaard (2011) provides a helpful assessment, and Roscoe et al. (2013) provide an example of its use.

As for a review of the market studies literature, we could have provided that upfront. However, it is within the ethos of the ANT method to construct arguments with the use of empirical material in an inductive fashion, rather than by first outlining and then applying theoretical concepts and models (Latour, 2005). For this reason, we aim to demonstrate the relevance of the market studies literature to entrepreneurship theory (and also to broader entrepreneurship studies) by way of an empirical description, instead of a theoretical explanation. This will also allow us to attempt to demonstrate the use of the ANT method, and through this demonstration illuminate some of its key principles. At the same time we will outline the parallels between the propositions of entrepreneurship theory and the findings of an empirical examination of the entrepreneurship-market nexus.

We should emphasise that the tentative nature of this endeavour is a fundamental feature of the ANT method. An empirical description in the ANT vein is analogous to a scientific

experiment, in the sense that it is subject to fallibility. The objectivity of an ANT account is to be judged by the specificity and extent to which it is able to identify and give voice to the actors (and networks) in the controversy that it is describing, and to which it is able to make a difference that its readers would find interesting and useful (Latour, 2005). Therefore, "empirical description" in this context is a technical term that is meant to encompass analysis, explanation, and the production of accounts.

The data for the empirical story that we will present here comes from a qualitative study (conducted by one of the authors, referred to hereafter as "the researcher") of the emergence of e-commerce entrepreneurship in a regional economic cluster in the south of England. The research question of the study concerned the ways in which the innovation of e-commerce was spreading in a regional community of small retailers and start-ups (spanning two southern English counties) in the mid-2000s. There were two main theoretical controversies the study was interested in. The first one concerned the relationship between innovation and entrepreneurship, which have been conflated in entrepreneurship theory, as a way of avoiding to have to deal with the philosophical and social theory dilemmas of the specific-general, local-global, individual-collective, human-nonhuman, and agency-structure dualisms, and as an effect of the abstract, retrospective or predictive nature of deductive theory construction. The second one concerned the relationship between entrepreneurship/innovation and markets, as we have outlined it earlier. But there were practical and political controversies as well, which concerned the central government's role in supporting the diffusion of innovations, the fostering of entrepreneurship, and the functioning of a market economy within a context of global competition.

We used actor-network theory as our research philosophy and method to pursue our research question. ANT guided our data collection and analyses processes, as well the production of accounts. At a practical level, ANT is a tool for producing descriptions, by way of tracing activities and relationships between actors. As an inductive approach, it begins with a radically agnostic stance towards the nature of the controversy it wants to study, and the identity of the participating actors and the nature of their relationships, which are expected to emerge in the course of the tracing and out of the simultaneous and subsequent analysis and description. The ethnographic method of participant observation is particularly suitable for the study of a live controversy; therefore, it was our researcher's primary data collection method. These field notes were then supplemented with interviews and documentary

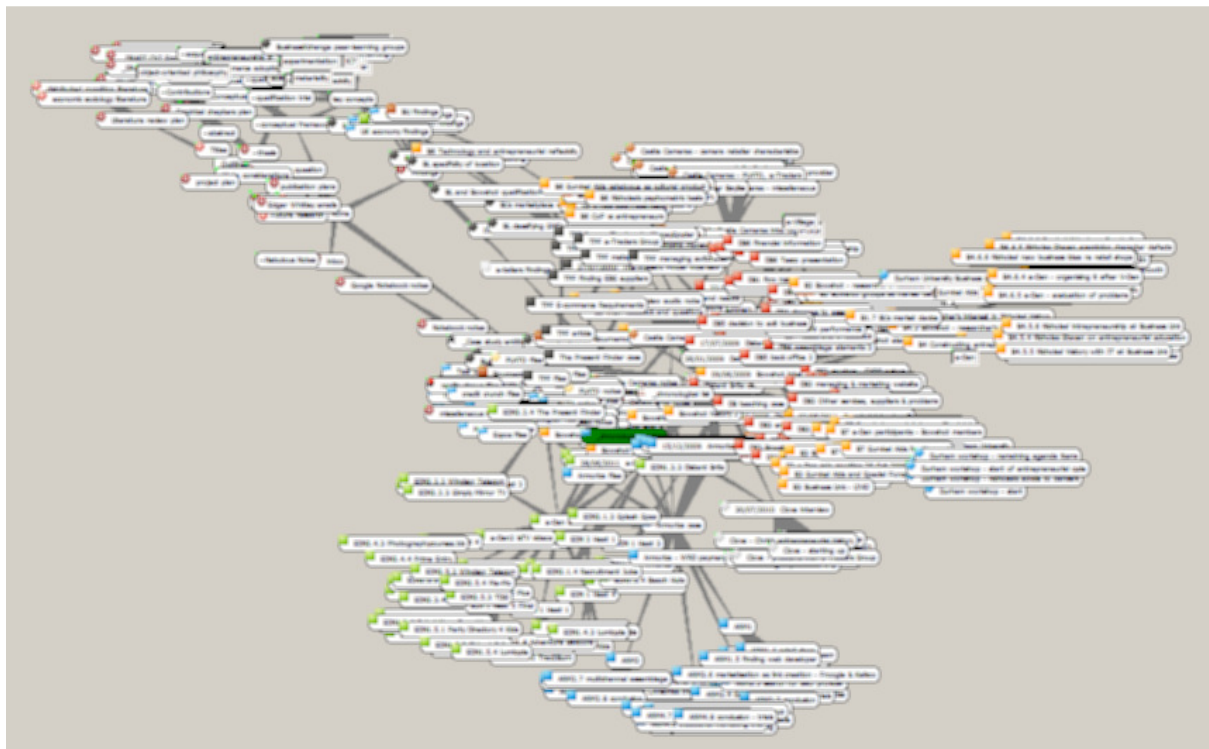
evidence, in order to reconstruct the historical trajectories of the controversies and actors that had been observed and identified.

To facilitate this process and analytical attitude, ANT advocates starting the description in the midst of things (*in medias res*), by simply following actors and their actions, in order to trace the networks they participate in constituting and by which they are constituted (Latour, 2005). The actors' activities in negotiating and constructing networks, and networks in turn constituting actors, are referred to as "translations" in ANT terminology, to stress that the transportation of force, objects, and meanings simultaneously results in transformations of those participating entities, and when they do not, then there have been other translations at work to produce such states of stability. Philosophically speaking, the principle of translation represents the reversal of the relationship between identity (stability) and difference (change), whereby it is the latter that needs to be taken for granted, and the former that needs to be explained. This is another point of concordance in interest between ANT and entrepreneurship theory, as the primary objective of the latter is also to use economic change (entrepreneurship) to explain the disruption and achievement of economic equilibrium.

The bulk of the data was collected over a 4-year period between December 2006 and October 2011. In total there were 83 discrete observation events (with an average duration of two hours) with 15 commercial, government, and higher education organisations as participants and observation sites. The researcher conducted 30 interviews with representatives of 17 organisations, resulting in 51 hours of recordings. Collected documentary evidence consisted of 1,360 digital files of mainly text, but also some additional audio and video recordings of events, as well as around 2,800 web pages. The participant observation field notes, the transcripts of interviews, audio and video recordings, as well as a relevant selection of supporting documents were imported into and analysed in a desktop wiki software (ConnectedText), using its hyperlinking technology to physically interrelate pieces of data in order to facilitate the tracing of connections and visually represent these relationships.

After the conclusion of the analysis stage, this interrelated body of data constituted a single networked object, as illustrated in Figure 1.

Figure 1: Network view of analysed empirical data in ConnectedText's Navigator tool
 (Document titles blurred to preserve participants' anonymity)



This network could be described as a four-dimensional object, in the sense that it describes and interrelates histories and practices of a set of actors with specific geographical coordinates (mainly in the southern English economic cluster, although some of the actors were acting from a distance, from the central government in London to firms in Silicon Valley and subcontractors in Asia). Our software enables us to rotate this object, and also to click on any individual node (representing a specific actor or event), as an entry-point into the network and into the story. This object thus makes it possible to enter and tell the story in many different ways, potentially starting with any actor (node) in the network and at any event where they performed (Latour *et al.*, 2012). In this sense there is no "case study selection" taking place in an ANT study during the empirical data collection stage, as "cases" are not selected but end up emerging from the empirical description. When a particular storyline is selected from the network during the account-production and reporting stage, it is already considered to represent *the general* aspects of the overall story, on account of being a constitutive part of the overall network.

Figure 1 helps illustrate how ANT's monadology is different from methodological individualism (Law, 2004). While methodological individualism starts out with the *abstract*

figure of the individual as an instrument of theoretical description, for ANT an individual monad is simultaneously an actor and a network (hence the term "actor-network"), which, however, needs to be traced empirically for *specific* entities, in order to be grasped (identified and comprehended as such) (Latour *et al.*, 2012). Moreover, the monad is by definition heterogeneous, i.e. made of parts that can be human and nonhuman, tangible and intangible and so on). Tracing the actor-network here is a method, rather than a goal in itself. The point of the networked object in Figure 1 is to help us identify new constellations and formations of actors and their activities (as assemblages of actors that previously have not been described as connected or recognised by anyone as composite objects in their own right, performing their own functions). Just like with any other scientific instrument, the purpose is to make invisible and unknown things visible and known.

In this paper we will enter this corpus through the description of one specific event, in order to extract the findings that are specifically relevant for our subject matter here, namely, the relationship between entrepreneurship and markets, especially in light of the propositions of entrepreneurship theory, for which it provides an opportunity to be tested (albeit in a qualitative sense, to see whether and how they fit the reality that we have described). Our earlier review of entrepreneurship theory thus serves as a way to sensitise ourselves to look out for the patterns in our corpus that may have relevance to those theories, and make use of concepts locally for the interpretation of observations where they can be of help.

Following entrepreneurs, entering the market

In accordance with ANT's principle of radical agnosticism, and in observance of the advice to start in the midst of things, the researcher did not select a case study on the basis of some predetermined criteria but sought out the first apparent opportunity to access the controversy that was the subject of the study (e-commerce innovation and entrepreneurship) and the "tribe" (in the ethnographic sense) that was concerned by it. This opportunity had offered itself in the form of a workshop on the topic of e-commerce to which the researcher was invited as a participant on 12 December 2006 in the southern English town of Trumpton (names of participants and geographical locations have been anonymised).

The workshop was organised under the aegis of the regional branch of Business Link, a government-funded small business support organisation, and in cooperation with the business school of a regional university and two e-commerce business service (EBS) providers (web

developers) from the local area. The objective of the workshop was to provide a select group of 25 small business owner-managers and aspiring entrepreneurs from the county of Midsomer with both an academic and a commercial perspective on the nature and significance of the emergent innovation of e-commerce, as well as practical advice on how best to adopt this new technology. The event was free of charge to qualifying participants, and it was funded by the United Kingdom's central government, as part of its industrial policy (in accordance with corresponding European Union policies) to foster the transformation of the UK into a "knowledge-based economy" (DTI, 1994; EU, 2000).

From the agnostic position of the researcher there was no immediate way of instantly identifying who or what was an entrepreneur and what kind of markets may have been possibly involved. Indeed, the main preoccupation of the researcher was to engage in "networking" in order to find actors to follow, so that the research journey of tracing their activities could begin. Even from the perspective of entrepreneurship theory, a workshop organised by a government agency and a university in the style of a lecture and a seminar, hosting small businesses that are prospective adopters of an innovation that has been invented elsewhere, is hardly a typical case of a Schumpeterian new combination or a Kirznerian opportunity recognition. From the ideological position of the Austrian School this looked like a case of taxpayer money being spent on intervening in the 'free market,' by picking and supporting 'winners:' the innovation of e-commerce, as well as the fortunate small businesses that were selected to benefit from taxpayer-funded advice and commercial opportunities to promote their wares.

Yet from the perspective of the networked object that emerged from the collected and connected data in the subsequent four years (and which started out by the researcher following actors encountered in this very first data collection event), the 12 December 2006 Business Link workshop had already contained many of the characteristics of entrepreneurship and associated markets that were only grasped from the analysis of the corpus later on, making it possible "To see a world in a grain of sand," to quote the poet William Blake (2001 [1863]). In retrospect, the event did turn out to be a microcosm of the rest of the network (or, to use ANT's technical term, a *monad*), once it has been traced. In light of the *whole* it was possible to recognise the ways in which the *small* (the local event with micro-enterprises) had already contained the *big* (macro-actors and global events). Entrepreneurial and market processes had already been taking place at the Business Link

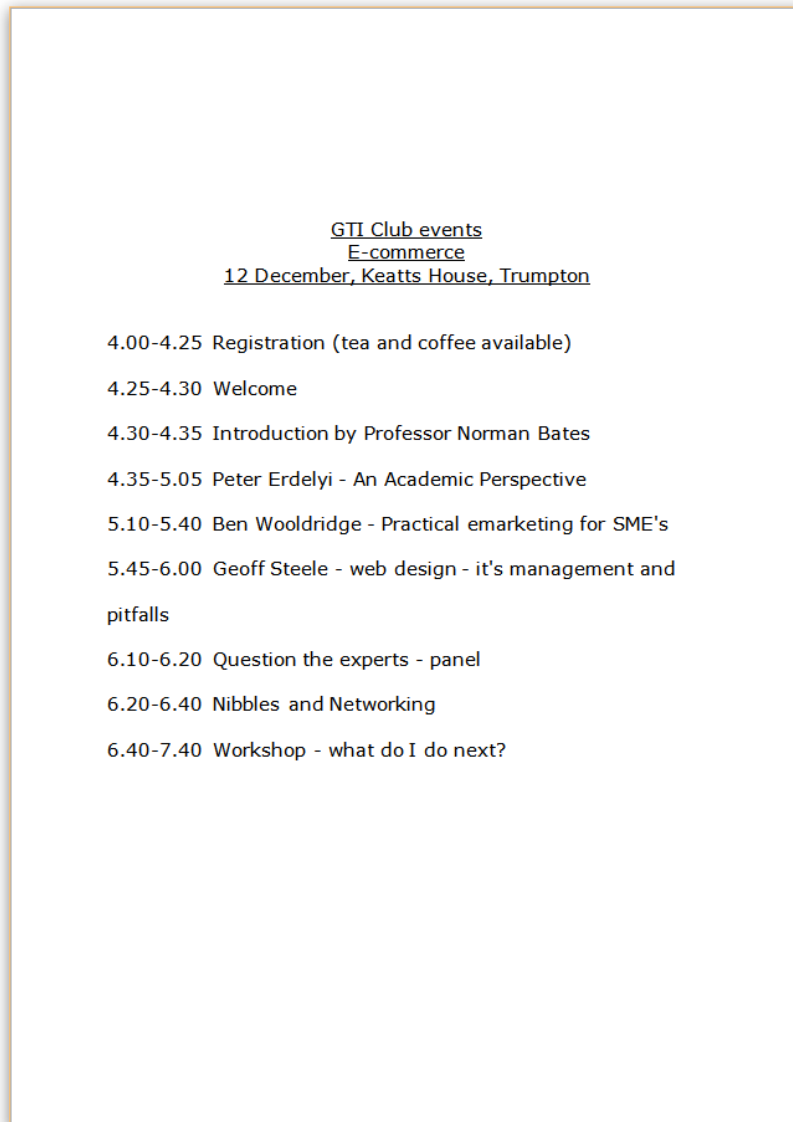
event, though maybe not quite the way entrepreneurship theory would have imagined. Nevertheless, this event can also serve as an occasion for examining entrepreneurship theory's propositions, some of which it does confirm, and others it helps modify.

The ANT method of tracing the activities of actors is a material-semiotic approach, as it is aimed at following the translations (transportations and transformations of forces, objects and meaning) across heterogeneous media that occur as actors go about their business of constructing and stabilising their realities (Law, 2009). Figures 3, 4 and 5 provide examples of artefacts that were constructed by the participating actors to help in turn construct and perform the Business Link event itself, as an entrepreneurial and market event. All of these documents were included as printed sheets in a Business Link branded glossy paper folder that was handed to each participant when registering at the start of the event. The back cover of this folder (Figure 2) carried a piece of text that explained the role of central, regional and local government in supporting Business Link, and the ways in which this government intervention was funded, implemented, and controlled. The UK government, literally and figuratively, provided a frame within which this particular Business Link event could be held.

Figure 2: Detail from back cover of Business Link folder



Figure 3: Programme of 12/12/2006 Business Link event (anonymised)



GTI Club events
E-commerce
12 December, Keatts House, Trumpton

4.00-4.25 Registration (tea and coffee available)

4.25-4.30 Welcome

4.30-4.35 Introduction by Professor Norman Bates

4.35-5.05 Peter Erdelyi - An Academic Perspective

5.10-5.40 Ben Wooldridge - Practical emarketing for SME's

5.45-6.00 Geoff Steele - web design - it's management and
pitfalls

6.10-6.20 Question the experts - panel

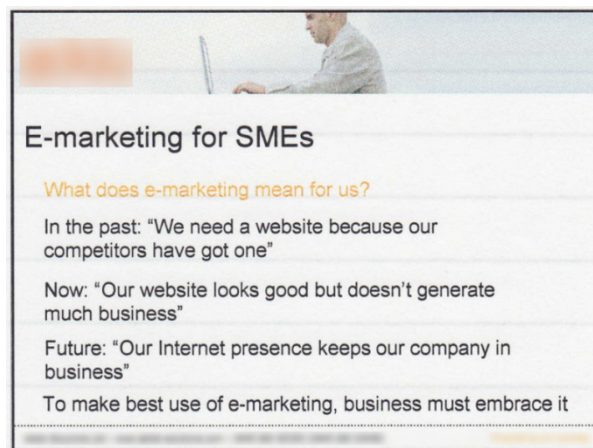
6.20-6.40 Nibbles and Networking

6.40-7.40 Workshop - what do I do next?

Figure 3 contains the programme of the 12 December workshop. It identifies the key controversy it was concerned about ("e-commerce"), the participating actors, and the running order that served as a protocol for framing and performing the event. The controversy is hinted at in the title for the event, as well as in the titles of the contributions. 'GTI' stood for a UK central government funded programme called "Growth Through Innovation," which, as its name suggests, was aimed at helping small businesses grow through innovation. This specific event focused on the phenomenon of e-commerce, and was designed to provide small retailers, manufacturers and start-ups from the area with both an academic and a practical perspective on how to adapt to or adopt this innovation and engage with the new markets that it had helped create. E-commerce (online retailing) was discussed both as an emergence (an

emergent innovation), and as an emergency that threatens the competitiveness and continued existence of the participants' businesses, as can be seen in this PowerPoint slide (Figure 4) of Ben Wooldridge, Director of the web design agency DigitAll Ltd., who had a vested interest in convincing the participants about the need to invest in e-commerce, being one of the prominent web design agencies in the region that could provide them with that service.

Figure 4: Slide 5 from DigitAll Ltd.'s PowerPoint presentation



While the first half of the event resembled a university lecture format, where "experts" (academics and practitioners) carried out presentations using a PowerPoint projector, followed by a Questions & Answers period, the second half (the workshop) resembled a university seminar, where representatives of Business Link, the university, and the two e-commerce business services providers talked to each participant (who were organised into groups of five people sitting around a table) about their experience and needs regarding the adoption of e-commerce. The "e-Marketing Workshop" handout (Figure 5) served as a device to facilitate the development of talking points for these interactions, where each participant, whether an audience member or organiser, had an opportunity to contribute. The proceedings had very much the air of a supportive environment, where the organisers aimed to be helpful and attentive to the participating SMEs' (small and medium-sized enterprises) needs, albeit tinged with a sense of exigency which the presenters contributed to by stressing the rapid changes in the business environment due to these technological innovations.

Figure 5: "e-Marketing Workshop" handout

Diagnostics
<p>Where would you locate your business on the DTI's e-business adoption ladder:</p> <p>Step 1: my business owns a PC Step 2: we use e-mail Step 3: we have a publicly accessible website Step 4: we support on-line ordering Step 5: we support on-line payment Step 6: we support on-line order tracking Step 7: we integrate ICT into our fundamental operations</p> <p>Do you use any specific ICT solutions for managing relationships with other stakeholders (suppliers, distributors, investors, lenders, interest groups, media etc)?</p> <p>Do you have any specific plans to invest in a particular e-marketing/e-business solution?</p>
Presentation and Discussion Notes, Questions
Action Points/ To Do

A number of questions emerge from this description so far. "What does this event have to do with entrepreneurship and markets?" "In what ways are entrepreneurship and markets represented?" Who or what are the entrepreneurs and the enterprises? What are the markets?" "How do we recognise them when we see one?" To establish the identities of these entities, on the one hand, we can draw on and test definitions that emerged from market studies and entrepreneurship theory, and on the other, we can use the concepts that emerged from the subsequent empirical data collection and analysis, resulting in the aforementioned networked corpus.

Firstly, participating actors had described themselves as entrepreneurs. Audience members were predominantly founding owner-managers of SMEs (mainly micro-enterprises and small firms), and so were the two EBS presenters. Entrepreneurship for them meant 'new venture creation.' This definition, however, could be disputed from the perspective of Schumpeterian entrepreneurship theory. For Schumpeter, the only genuine act of entrepreneurship in this context would have been the disruptive global innovation of e-commerce, as a new combination of productive means. The EBS providers were mere repeaters of the innovation, and the SMEs in the audience were its existing or prospective adopters and customers. A Kirznerian approach might be more amenable to granting participants entrepreneurial status, as both the presenting EBS providers and the potential buyers of their services in the audience could be thought of as engaging in the testing of theoretical price points in the market, ready to pounce on arbitrage opportunities, should they be discovered in the course of the informal encounters during the coffee breaks, where talk of a potential commercial transaction and market exchange might come up. The market in question was the business-to-business (B2B) market for e-commerce technology to enable the traditional retailing function to be carried out online.

Indeed, the participating EBS providers had an opportunity to demonstrate their expertise and their existing product portfolios to the assembled audience, who in turn had an opportunity to evaluate these EBS providers as potential suppliers of capital goods (the e-commerce website) to their firms. From the perspective of the judgement-based view (Foss and Klein, 2012), the SME owner-managers were engaged in a process of developing their entrepreneurial judgements about the value of their existing combination of productive means, and the possibility of replacing or extending those capital goods with a new good: an EBS service relationship to produce and maintain an e-commerce website, which normally

required the construction of a customer-facing front-end, a business-facing back-end (online back office), as well as expertise to digitally market the website's service online. Ultimately, the EBS providers were there to promote their services and look for potential customers, while the SME owner-managers were evaluating their options for investing in e-commerce, whether to "make or buy" their e-commerce solution, and looking for potential EBS suppliers.

Yet the promotional materials developed by the organisers avoided any mention of the fact that this event could serve as a B2B marketplace for e-commerce. Instead, the focus was on learning. Business Link's and DigitAll Ltd.'s press releases and email invites spoke of "a series of workshops designed to accelerate your knowledge and understanding," with presentations aiming "to educate companies who are looking to use e-marketing to grow their businesses, on best practises and to learn from examples of previous successful implementations." The reasons for positioning the event rhetorically as an educational event rather than a commercial marketplace event became clear from the subsequent examination of Business Link's history, and the experience of the local branch's e-commerce business adviser, Simon Jacobs, who hosted the event.

Business Link was set up by John Major's Conservative government in 1992 in order to intervene in a perceived market failure in the SME sector of the British economy, due to SME owner-managers' reluctance to seek external advice from management consultants, partly based on overinflated confidence in their own managerial abilities, which was thought to impede on UK SMEs' ability to adopt new technologies and associated expertise (DTI, 1994). Facilitating the widespread adoption of emerging information and communication technologies (ICTs) by small businesses that formed the bulk of the UK economy in both GDP contribution and employment was seen as an essential step in the eyes of the Major government, if the UK was to retain its competitive position in the post-Cold War era that was marked by the decline of traditional British industries and the emergence of new competitors in post-communist countries (DTI, 1994).

A Business Link event to support SMEs' innovation adoption and engagement with the necessary B2B markets for the required capital goods thus had to be designed in a way that made it appear as beneficial to potential buyers and allowed for opportunities to evaluate their options in a neutral environment, without undue sales pressure. As Jacobs put it, the goal was to attract the "goldfish," that is the potential buyers, which required restraining the

"piranhas," the (capital goods) sellers, so as not to frighten off the buyers who were sceptical about and reluctant to pay for management advice. Seminars, workshops, and conferences had become Business Link's main formats for facilitating the encounters between buyers and sellers of management advice and technological innovations, especially after Tony Blair's Labour government in 2005 banned Business Link advisers from giving direct recommendations of suppliers to SME buyers, to avoid charges of bias by suppliers that have not been recommended (BERR, 2009; Forte, 2011).

Entrepreneurial markets

Even though for strategic reasons the marketplace nature of the 12 December event was not made explicit by its organisers, and it did not look like a formal marketplace in the sense of a traditional street market or stock exchange, it had displayed a number of market characteristics and performed several market functions, despite the fact that no actual exchange transactions were carried out. Market studies have developed a broader definition of a market as a heterogeneous **arrangement**, "a combination of material and technical devices, texts, algorithms, rules, and human beings with their various instruments and prostheses" (Callon, 2007: 160), which can fulfil a number of market functions, including "the conception, production and circulation of goods, their valuation, the construction and subsequent transfer of property rights through monetary mediation, exchange mechanisms and systems of prices" (Muniesa, Millo and Callon, 2007: 4).

The 12 December 2006 event was itself such a heterogeneous *market device*, for the fulfilment of some, but not all, market functions (Callon *et al.*, 2007). The format and composition of the event, with the carefully selected mix of potential buyers and sellers of e-commerce business services, acted as a frame (Callon, 1998a) for certain market functions. One of these functions, though only a secondary one, was the facilitation of some encounters between the buyers, sellers, and market makers (the representatives of Business Link and the university), as an "encountering device" (Çalışkan and Callon, 2010). More importantly, however, the market device of the workshop had created occasions for articulating market demand on the part of the buyers. After the suppliers' PowerPoint presentations laid out the exigency and benefits of e-commerce, the SME participants were led to undertake an evaluation of their existing combinations of productive means, with the help of the self-diagnostic questionnaire (Figure 5) and the group discussion, that served as a *socio-cognitive prosthesis* (Çalışkan and Callon, 2010), enabling comparisons with the needs and uses of

others. Aided with the input of the facilitating EBS supplier, university academic, or Business Link adviser (who took turns at each table), the SME owner-managers were able to engage in some analysis and evaluation that supported the function of making an entrepreneurial judgement about the value of one's existing and prospective mix of capital goods.

Although the market functions performed at the 12 December event concerned only a part of the entrepreneurial process of acquiring and recombining productive means (which in this case also happened to be an innovation, namely e-commerce technology), the local branch of Business Link had a broad portfolio of other market devices that facilitated the subsequent steps of this entrepreneurial market process. They offered various peer learning groups where potential buyers could further develop their market-related skills to articulate their market needs and entrepreneurial judgements about the "make or buy" dilemma of acquiring new capital goods, or indeed whether to hold their existing pattern of combination, when in comparison to peers (and thanks to their confirmation) it appeared to be temporarily optimal. The local Business Link also offered a similar forum to sellers, such as SME suppliers of e.g. e-commerce business services, to help them articulate and market their offerings. Finally, the local branch also offered large conferences and trade show events, where occasions were engineered for SME buyers and sellers of various services to encounter each other in a more formal marketplace-like setting to evaluate each other more directly as potential contractual partners. Business Link was not the only market maker for such entrepreneurial evaluations and judgements in the area: there were also various executive education and networking organisations from the private sector with offerings that acted as similar market devices.

Conclusions

We propose that markets such as the one we described above are of a specific type and of particular relevance to entrepreneurship theory, and more broadly to entrepreneurship studies. The 12 December Business Link event was an example of an *entrepreneurial market device* enacting a type of *entrepreneurial marketplace* to perform some functions of an *entrepreneurial market*. The term *entrepreneurial* has a particular meaning here for us that has direct significance for several of the entrepreneurship theories we have reviewed earlier.

In a literal sense, the Business Link event was an entrepreneurial marketplace because it involved actors that described themselves as entrepreneurs: founder-managers of start-ups, micro-enterprises, and small businesses. But it was also entrepreneurial in a Schumpeterian

sense. On the one hand, it facilitated the diffusion of a globally disruptive innovation, e-commerce. On the other hand, it involved entrepreneurs engaging in entrepreneurial leadership as defined by Schumpeter, i.e. in the evaluation of new productive means (e-commerce business services) for possible acquisition and recombination. Moreover, there is even a third sense in which the Business Link event could be conceived of as Schumpeterian entrepreneurship: Business Link itself was a grand entrepreneurial venture of the Major government in entrepreneurial market-making.

As the event concerned the early stages of the process of acquiring productive means, it was also entrepreneurial in the Knightian sense, as it focused on developing entrepreneurial judgement about the value of one's existing capital goods, through the experimental process of encountering peers, with whose assemblage one can compare one's own, and on encountering and evaluating potential suppliers of alternative capital goods. Entrepreneurial market devices are thus simultaneously *entrepreneurial judgement devices*. Finally, in a much more abstract sense, the Business Link event was also an entrepreneurial marketplace according to Kirznerian theory, offering opportunities for buyers and sellers of the market good of e-commerce to recognise arbitrage opportunities through encountering and evaluating each other.

In light of these findings we suggest that the **notion** of the *entrepreneurial market*, and the **sites** where such a function is performed, could be the common ground through the study of which ANT-based market studies and entrepreneurship theory can establish mutually beneficial interactions. This does not mean that the two domains will—or even should—come to a full agreement on everything. But we hoped to demonstrate in this paper that there are sufficient connections in terms of insights and instincts between the two that should justify the suspension of mutual suspicions and prejudices, so that a more fruitful dialogue can unfold.

References

- Akrich M, Callon M and Latour B. 2002. The key to success in innovation Part I: The art of intersement. *International Journal of Innovation Management* 6(2): 187.
- Aldrich HE. 2005. Entrepreneurship. In *The handbook of economic sociology*, Smelser NJ and Swedberg R (Eds). Princeton University Press: Princeton, N.J.; Oxford: 451-477.
- Araujo L, Kjellberg H and Spencer R. 2008. Market practices and forms: Introduction to the special issue. *Marketing Theory* 8(1): 5-14.
- Becker MC and Knudsen C. 2009. Schumpeter and the organization of entrepreneurship. In *The Oxford handbook of sociology and organization studies: Classical foundations*, Adler PS (Ed). Oxford University Press: Oxford: 307-326.
- BERR. 2009. Business Link: Research into drivers of perceptions of Business Link. Department for Business Enterprise & Regulatory Reform. London, UK, FreshMinds.
- Beunza D, Hardie I and MacKenzie D. 2006. A price is a social thing: Towards a material sociology of arbitrage. *Organization Studies* 27(5): 721-745.
- Blake W. 2001 [1863]. Auguries of innocence. In *English poetry II: From Collins to Fitzgerald. The Harvard classics. 1909-14*. Bartleby.com: New York: 356.
- Burt RS. 1992. *Structural holes: The social structure of competition*. Harvard University Press: Cambridge Mass.
- Çalışkan K and Callon M. 2010. Economization, Part 2: A research programme for the study of markets. *Economy and Society* 39(1): 1-32.
- Callon M. 1986. Some elements of a sociology of translation: Domestication of the scallops and the fishermen of St. Brieuc Bay. In *Power, action, and belief: A new sociology of knowledge?*, Law J (Ed). Routledge & Kegan Paul: London.
- Callon M. 1998a. An essay on framing and overflowing: Economic externalities revisited by sociology. In *The laws of the markets*, Callon M (Ed). Blackwell: Oxford: 244-269.
- Callon M (Ed). 1998b. *The laws of the markets*. Sociological Review Monographs. Blackwell: Oxford.
- Callon M. 2007. An essay on the growing contribution of economic markets to the proliferation of the social. *Theory Culture Society* 24(7-8): 139-163.
- Callon M, Millo Y and Muniesa F. 2007. *Market devices*. Blackwell: Oxford.
- Casson M. 2003 [1982]. *The entrepreneur: An economic theory*. Edward Elgar: Cheltenham, UK.
- Casson M. 2015. The individual, the firm and the global economy. *Fifth Reading-UNCTAD International Business Conference*. Henley Business School, University of Reading.

- De Vries MFRK. 1977. The entrepreneurial personality: A person at the crossroads. *Journal of Management Studies* **14**(1): 34-57.
- DTI. 1994. Competitiveness: Helping business to win. Department of Trade and Industry. London, UK, HMSO.
- Elliott JE. 1983. Introduction to the Transaction Edition. In *The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle*, Schumpeter JA (Ed). Transaction Publishers: New Brunswick, USA; London, UK: vii-lix.
- EU. 2000. E-Europe 2002 — an information society for all. Action plan. Prepared by the Council and the European Commission for the Feira European Council, 19-20 June 2000. Council of The European Union. Brussels.
- European Commission. 2015. *Open innovation 2.0 yearbook 2015*. Directorate-General for Communications Networks, Content and Technology: Luxembourg.
- Felin T and Foss NJ. 2009a. Performativity of theory, arbitrary conventions, and possible worlds: A reality check. *Organization Science* **20**(3): 676-678.
- Felin T and Foss NJ. 2009b. Social reality, the boundaries of self-fulfilling prophecy, and economics. *Organization Science* **20**(3): 654-668.
- Felin T, Foss NJ and Ployhart RE. 2015. The microfoundations movement in strategy and organization theory. *The Academy of Management Annals* **9**(1): 575-632.
- Ferraro F, Pfeffer J and Sutton RI. 2005. Economics language and assumptions: How theories can become self-fulfilling. *Academy of Management Review* **30**(1): 8-24.
- Forte EH. 2011. *Intervention: The battle for better business*. Lulu Press: Raleigh, NC.
- Foss NJ. 2006a. “Critical” this and “critical” that. *Organizations and Markets Blog* <https://organizationsandmarkets.com/2006/08/14/critical-this-and-critical-that/> [17 May 2016].
- Foss NJ. 2006b. Pomo Periscope I: “Economics and narrative form”. *Organizations and Markets Blog* <https://organizationsandmarkets.com/2006/10/17/pomo-periscope-i-economics-and-narrative-form/> [17 May 2016].
- Foss NJ. 2006c. Pomo Periscope VI: Performativity. *Organizations and Markets Blog* <https://organizationsandmarkets.com/2006/11/14/pomo-periscope-vi-performativity/> [17 May 2016].
- Foss NJ and Klein PG. 2012. *Organizing entrepreneurial judgment: A new approach to the firm*. Cambridge University Press: Cambridge.
- Foss NJ and Klein PG. 2015. Introduction to a forum on the judgment-based approach to entrepreneurship: Accomplishments, challenges, new directions. *Journal of Institutional Economics* **11**(03): 585-599.

- Görling S and Rehn A. 2008. Accidental ventures—a materialist reading of opportunity and entrepreneurial potential. *Scandinavian Journal of Management* **24**(2): 94-102.
- Grégoire DA, Corbett AC and McMullen JS. 2010. The cognitive perspective in entrepreneurship: An agenda for future research. *Journal of Management Studies*: no-no.
- Grégoire DA, Cornelissen J, Dimov D and van Burg E. 2015. The mind in the middle: Taking stock of affect and cognition research in entrepreneurship. *International Journal of Management Reviews* **17**(2): 125-142.
- Hackett EJ, Amsterdamska O, Lynch M and Wajcman J (Eds). 2008. *The handbook of science and technology studies*. MIT: Cambridge, Mass.; London.
- Hanseth O, Aanestad M and Berg M. 2004. Guest editors' introduction: Actor-network theory and information systems. What's so special? *Information Technology & People* **17**(2): 116.
- Heath J. 2011. Methodological individualism. *The Stanford Encyclopedia of Philosophy*. Zalta EN.
- Helgesson C-F and Muniesa F. 2013. For what it's worth: An introduction to valuation studies. *Valuation Studies* **1**(1): 1-10.
- Hodgson GM. 2007. Meanings of methodological individualism. *Journal of Economic Methodology* **14**(2): 211-226.
- Johannesson GT. 2012. "To get things done": A relational approach to entrepreneurship. *Scandinavian Journal of Hospitality and Tourism* **12**(2): 181-196.
- Kirzner IM. 1973. *Competition and entrepreneurship*. University of Chicago Press: Chicago, London.
- Kirzner IM. 1979. *Perception, opportunity, and entrepreneurship*. University of Chicago Press: Chicago, IL.
- Kirzner IM. 2015. *Austrian subjectivism and the emergence of entrepreneurship theory*. Liberty Fund, Inc.: Indianapolis, IN.
- Klein PG. 2008a. Do economists believe in “atomistic individualism”? *Organizations and Markets Blog* <https://organizationsandmarkets.com/2008/04/14/do-economists-believe-in-atomistic-individualism/> [18 May 2016].
- Klein PG. 2008b. Opportunity discovery, entrepreneurial action, and economic organization. *Strategic Entrepreneurship Journal* **2**(3): 175-190.
- Klein PG. 2008c. Pomo alert: New management journal special issues. *Organizations and Markets Blog* <https://organizationsandmarkets.com/2008/12/23/pomo-alert-new-management-journal-special-issues/> [18 May 2016].
- Knight FH. 1921. *Risk, uncertainty and profit*. Houghton Mifflin: New York.

- Koppl R. 2003. *Austrian economics and entrepreneurial studies. Advances in Austrian economics v. 6*. Elsevier
- Korsgaard S. 2011. Entrepreneurship as translation: Understanding entrepreneurial opportunities through actor-network theory. *Entrepreneurship & Regional Development* **23**(7-8): 661-680.
- Langlois RN. 1998. Personal capitalism as charismatic authority: The organizational economics of a Weberian concept. *Industrial and Corporate Change* **7**(1): 195-213.
- Latour B. 1987. *Science in action: How to follow scientists and engineers through society*. Harvard University Press: Cambridge, MA.
- Latour B. 1990. Postmodern? No, simply amodern! Steps towards an anthropology of science. *Studies In History and Philosophy of Science Part A* **21**(1): 145-171.
- Latour B. 1991. Technology is society made durable. In *A sociology of monsters: Essays on power, technology and domination*, Law J (Ed). Routledge: London: 103-131.
- Latour B. 1993. *We have never been modern*. Harvard University Press: Cambridge, MA.
- Latour B. 1996. *Aramis, or, the love of technology*. Harvard University Press: Cambridge, Mass.
- Latour B. 1999. *Pandora's hope: Essays on the reality of science studies*. Harvard University Press: Cambridge, Mass., London.
- Latour B. 2003. The promises of constructivism. In *Chasing technoscience: Matrix for materiality*, Ihde D and Selinger E (Eds). Indiana University Press Bloomington & Indianapolis: 27-46.
- Latour B. 2004. Why has critique run out of steam? From matters of fact to matters of concern. *Critical Inquiry* **30**(2): 225-248.
- Latour B. 2005. *Reassembling the social: An introduction to actor-network-theory*. Oxford University Press: Oxford; New York.
- Latour B, Jensen P, Venturini T, Grauwin S and Boullier D. 2012. 'The whole is always smaller than its parts' – a digital test of Gabriel Tarde's monads. *The British Journal of Sociology* **63**(4): 590-615.
- Latour B and Woolgar S. 1986. *Laboratory life: The construction of scientific facts*. Princeton University Press: Princeton, N.J.
- Law J. 2004. And if the global were small and noncoherent? Method, complexity, and the baroque. *Environment and Planning D: Society and Space* **22**: 13-26.
- Law J. 2008. On sociology and STS. *The Sociological Review* **56**(4): 623-649.
- Law J. 2009. Actor network theory and material semiotics. In *The new Blackwell companion to social theory*, Turner B (Ed). Blackwell: Oxford: 141-158.

- Law J and Callon M. 1988. Engineering and sociology in a military aircraft project: A network analysis of technological change. *Social Problems* **35**(3): 284-297.
- Lee N and Hassard J. 1999. Organization unbound: Actor-network theory, research strategy and institutional flexibility. *Organization* **6**(3): 391-404.
- Lien L. 2013. Hard and soft obscurantism. *Organizations and Markets Blog* <https://organizationsandmarkets.com/2013/01/23/hard-and-soft-obscurantism/> [17 May 2016].
- Markie P. 2013. Rationalism vs. Empiricism. *The Stanford Encyclopedia of Philosophy*. Zalta EN.
- McClelland DC. 1961. *The achieving society*. Van Nostrand: New York.
- Miller P and O'Leary T. 2007. Mediating instruments and making markets: Capital budgeting, science and the economy. *Accounting, Organizations and Society* **32**(7-8): 701-734.
- Mises Lv. 2007 [1957]. *Theory and history: An interpretation of social and economic evolution*. Ludwig von Mises Institute: Auburn, AL.
- Mol A. 2010. Actor-network theory: Sensitive terms and enduring tensions. *Kölner Zeitschrift für Soziologie und Sozialpsychologie* **50**(1): 253-269.
- Muniesa F, Millo Y and Callon M. 2007. An introduction to market devices. *The Sociological Review* **55**(s2): 1-12.
- Roscoe P, Discua Cruz A and Howorth C. 2013. How does an old firm learn new tricks? A material account of entrepreneurial opportunity. *Business History* **55**(1): 53-72.
- Schumpeter JA. 1909. On the concept of social value. *The Quarterly Journal of Economics* **23**(2): 213-232.
- Schumpeter JA. 1934. *The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle*. Harvard University Press: Cambridge.
- Schumpeter JA. 1947. The creative response in economic history. *The Journal of Economic History* **7**(2): 149-159.
- Schumpeter JA. 1951 [1949]. Economic theory and entrepreneurial history. In *Essays of J. A. Schumpeter*, Clemence RV (Ed). Addison-Wesley Press: Cambridge, MA: 248-266.
- Schumpeter JA. 1983 [1934]. *The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle*. Transaction Publishers: New Brunswick, USA; London, UK.
- Schumpeter JA. 2003 [1928]. "Entrepreneur" translated by Markus C. Becker and Thorbjorn Knudsen. In *Austrian economics and entrepreneurial studies. Advances in Austrian economics v. 6*, Koppl R (Ed). Elsevier 235-265.

- Schumpeter JA. 2008 [1942]. *Capitalism, socialism and democracy*. Harper Perennial Modern Thought: New York, NY.
- Schumpeter JA. 2010 [1908]. *The nature and essence of economic theory*. Transaction Publishers: New Brunswick, N.J.
- Shionoya Y. 1997. *Schumpeter and the idea of social science: A metatheoretical study*. Cambridge University Press: Cambridge.
- Smelser NJ and Swedberg R. 2005. *The handbook of economic sociology*. Princeton University Press: Princeton, N.J. ; Oxford.
- Steyaert C. 2007. 'Entrepreneuring' as a conceptual attractor? A review of process theories in 20 years of entrepreneurship studies. *Entrepreneurship and Regional Development* **19**(6): 453-477.
- Whittle A and Mueller F. 2008. Intra-preneurship and enrolment: Building networks of ideas. *Organization* **15**(3): 445-462.
- Woolgar S, Coopmans C and Neyland D. 2009. Does STS mean business? *Organization* **16**(1): 5-30.
- Zwirn G. 2007. Methodological individualism or methodological atomism: The case of Friedrich Hayek. *History of Political Economy* **39**(1): 47-80.