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Consumption Markets & Culture

ISSN: 1025-3866 (Print) 1477-223X (Online) Journal homepage: http://www.tandfonline.com/loi/gcmc20

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To cite this article: Michel Callon (2016) Revisiting marketization: from interface-markets to market-agencements, Consumption Markets & Culture, 19:1, 17-37, DOI: 10.1080/10253866.2015.1067002

To link to this article: http://dx.doi.org/10.1080/10253866.2015.1067002

Published online: 20 Aug 2015.

Consumption Markets & Culture, 2016
Vol. 19, No. 1, 17–37, http://dx.doi.org/10.1080/10253866.2015.1067002

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Revisiting marketization: from interface-markets to market-agencements

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This article proposes to get rid of the vain opposition between markets as de-socializing forces and markets as civilizing processes by exploring the close relationship between innovation and competition. This suggests abandoning the traditional view of markets as interfaces for the novel conception of market as *agencements*. Indeed, a thorough examination of the notion of market competition leads to distinguish two ways of describing markets, depending on the role played by product innovations. In interface-markets, innovation strategies aim to reduce competitive pressure, while in market-agencements they are the expression of competition itself. In the former, the definition of market goods is secondary, whereas in the latter it is at the heart of the confrontation between economic agents. The competitive dynamics of market-agencements, which makes the establishment of new bilateral transactions and of product innovation the dominant rule, results in the constant expansion of the market sphere. The marketization process is thus at the core of markets' functioning. Thinking about marketization amounts to thinking about the architecture of markets and the organization of competition, that is, the mechanisms whereby goods are designed, the formatting of bilateral transactions, and the singularization that they imply. Political and moral reflection is at the heart of markets and not pushed out to their fringes.

Keywords: agencement; bilateral transactions; competition; economics; economization; market-agencements; marketization; markets

1. Introduction

Marketization, which is gradually expanding the empire of commodities and imposing the financial world's modes of evaluation on more and more sectors of activity, acutely raises the question of the role of markets in contemporary societies. In a recent paper that draws on Hirschman's (1982) seminal article, Fourcade and Healy (2007) point out that debates surrounding marketization have generated a set of arguments and standpoints that fall into three large categories: some maintain that markets promote peaceful and cordial relations – what in the eighteenth century was called *doux* commerce – and can be seen as civilizing forces, synonymous with efficiency and democratic standards; others argue, on the contrary, that markets are machines which destroy the social fabric and eventually themselves as well; and finally, more recently and especially with the upsurge of neoliberal ideology, markets are perceived as fragile

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institutions threatened by conservative forces that are impeding their development and which must be fought. These contrasting arguments correspond to different attitudes towards marketization, and engage their proponents in a tug of war with, on the one hand, those who think that markets are a satisfactory solution to the problems arising in human communities and, on the other, those who see them as a problem. Ultimately, the two positions are irreducible, especially since they agree on one basic point: both take the notion of a market for granted, seeing it as unproblematic. In other words, they know what a market is, even if they disagree on its effects.

My objective here is to contribute to changing the terms of the debate. To put an end to this tug of war and to renew reflection on marketization, we have to challenge this postulate and problematize the definition of markets. And rather than adding a new definition to the many that already exist, one that might be more appropriate and objective, I propose to set out from the actual usage of the word "market." In particular, I wish to consider the way in which market and competition are closely associated. A thorough examination of the notion of market competition leads to distinguish two ways of describing markets, depending on the role played by product innovations. In interface-markets, innovation strategies aim to reduce competitive pressure, while in market-agencements they are the expression of competition itself. In the former, the definition of market goods is secondary, whereas in the latter, it is at the heart of the confrontation between economic agents. Empirical research on the innovation process confirms the greater realism of the market-agencement conception and leads to a new view of marketization and its implications. The competitive dynamics of market-agencements, which makes the establishment of new bilateral transactions and of product innovation the dominant rule, results in the constant expansion of the market sphere. The marketization process is thus at the core of markets' functioning.

2. Marketization and the market

2.1. *Marketization as a particular and disputable modality of economization*

The notion of economization refers to a set of actions aimed at transforming and formatting institutions, behaviours, objects, affects, and feelings so that they become economic, that is, so that they match a certain idea and a certain conception of what economy is. Hence, the reality that the word economy relates to, at a certain point in time and for certain actors, depends on (potentially) multiple conceptions guiding the economization process (Caliskan and Callon 2009, 2010). Nothing is inherently economic ("economy per se obviously does not exist," Braudel 1985, 10), but everything can become economic. This may be the wise and measured management that Aristotle advocated. Or, on the contrary, the desired result may be to make profit-seeking and the optimization of the use of resources a universal rule. Highlighting economization processes allows for the recognition of the historical and therefore variable and evolving dimension of economic activities.

The potential diversity of modalities of economization of human activities should not make us lose sight of the fact that, depending on the circumstances and period, some of them are more influential than others. For the past 50 years, the idea that, for better or for worse, markets are the reference in the organization of economic life has gradually come to prevail, both in academic circles and among policy-makers. Moreover, whereas the market concept is polysemic, one of its definitions, generally qualified as neoliberal, has become predominant (Mirowski 2009). The neoliberal version is now considered to be the dominant form of marketization, which is itself conceived of as the dominant form of economization.

In this version, the market is defined as an economic organization revolving around individuals, the liberation of their creative and productive capabilities, and the assertion of their free will. It is opposed to the economic model of a command economy that paralyses society and makes it ineffective by stifling individual initiative. The establishment of such markets and their extension requires the creation of institutions, without which they could not function (for a review of this question, see Fligstein 2001). These institutions are a constant, endless struggle. The result, over the past decades, has been the development of global policies of privatization, the liberalization of financial markets and international trade, state withdrawal, and the transformation of firms' governance structures.[1] In parallel and complementary to these offensive strategies, preventive practices have been established, with the main objective of weakening all institutional change that may thwart the development of markets.

This growing ascendancy of markets has taken two complementary forms: intensive marketization, denoting the mechanisms aimed at increasing and amplifying market pressure within existing markets, for example, by tracking down all forms of organization that hinder their functioning, and extensive marketization, which can take more or less violent forms (Harvey 2003) and denotes the gradual commodification of goods and services that either did not formerly exist (Steiner and Trespeuch 2014) or, like work, land, and money, had remained outside market mechanisms (Polanyi 1944).

We can say that this view is predominant because, unchallenged, it polarizes debates on marketization. On the one hand, there are those who argue that even though the market has shortcomings (such as producing externalities or underinvesting in the production of public goods), it does nevertheless avoid the worst problems that led to the failure of command economies. On the other hand, there are those who see the growing ascendancy of markets, defined as such, as auguring the end of politics and the disappearance of altruism and of privacy, solidarity, and community life, all of which are being undermined by unbridled individualism, the growth of injustice, and the deterioration of moral life. By choosing to be for or against marketization, one forgets that the neoliberal version of markets is not the only possibility. This opposition pushes into the background other debates on the nature of markets, which become virtually inaudible.

To discuss marketization and its implications, we have to return to the market concept and admit that we do not really know what a market is or could be.

2.2. *Markets and language games*

What is a market? In answering this question, there is a strong temptation to turn to theoretical work and to seek an objective and consensual definition. This quest is, however, destined to fail as we encounter multiple and often incompatible conceptions. Elaborating a new definition as a substitute for the others will merely complicate the situation. Yet should we for all that give up trying to understand market activities, and thereby refuse to discuss marketization? Should we agree to consider that, because it is dominant, the neoliberal version of markets and marketization is the only possible one?

Based on a suggestion of Depeyre and Dumez (2010), I would like to show here that an alternative strategy is possible. Depeyre and Dumez look at the various language games in which the market concept appears, and thereby its different uses. The word "market" is everywhere; it circulates from one place to another, creating a space of possible confrontation and exchange. Everyone engages the word in courses of action, in analyses, or in reflection that load it with specific meaning. Depeyre and Dumez point out, for example, that:

> the study of a real extreme case shows that one can talk of the market even when close relations of mutual dependence exist between the supply and the demand, even when there is not really a product, and even when there is no real price. (2010, 226)

They conclude that it would be fruitless and counterproductive to pretend that there could be a market concept or even, more modestly, that we could give it a definition, which, albeit imperfect, was nevertheless satisfactory.

The Wittgensteinian notion of a language game is useful. Who would dare claim that it is possible to devise a definition of market activities that expresses what an Egyptian small farmer feels when discussing the price of his/her bale of cotton with a merchant from Cairo; and that simultaneously does justice to the work of Milton Friedman, Friedrich von Hayek, Oliver Williamson, or Richard Nelson; and finally that also takes into account the manoeuvring of Monsanto as it uses all available means to eliminate traditional agriculture? On the other hand, who would deny that by referring to the market, each of these actors contributes to the constitution of a set of questions that divides them yet which they share, and that this notion helps to make more explicit? All of them talk of a market, each one focuses on different practices and issues, but each one, in their own way, recognizes the existence of common issues. The notion of language game encompasses this tension. It furthermore enables one to consider from the same point of view those who are in the market and those who study it from the outside; those who practise it and those who analyse it.

In the different language games concerning the market, we often find the notion of competition. Whether we open an economics textbook, a treatise on economic sociology or a book on anthropology, whether we listen to a senior official or a company director, a trade union leader or a judge ruling on the regularity of markets, we almost inevitably encounter the subject of competition. From Smith, who, perpetuating a long-standing tradition, saw competition as “the force tending to equate market and natural price” (McNulty 1967, 396), to more recent developments in economics, the study of markets has constantly revolved around the analysis of the modalities of competition between agents. To renew reflection on the modalities and implications of marketization, I therefore propose to start with the notion of market competition and the various conceptions thereof. Beyond the diversity of definitions, I believe it is possible to distinguish two contrasting ways of describing market competition, depending on the role that it gives to product innovation. Whereas in one approach (the interface-market), innovation is a strategy designed to weaken the intensity of competition, in the other (market-agencement), competition is expressed in innovation strategies aimed at establishing bilateral monopolies. In the former, innovation tends to introduce imperfections in competition; in the latter, it ensures its purity. I will present each of these two contrasting conceptions and highlight their opposition about the role and meaning of bilateral transactions in market exchange.

3. Interface-markets or how to do away with activities involving the design and qualification of goods

An interface-market brings together supply and demand considered to be autonomous and separate, each of which comprises distinct spheres. Polanyi uses the suggestive term blocs (of supply and demand) to denote these spheres and to emphasize their separation. Supplies and demands in their multiplicity are represented by agents whose identity is defined by their role and the competences it implies – the main roles being those of sellers and buyers.

3.1. *Goods are platforms that articulate blocs of supply and demand*

Irrespective of how agents and their competences are described, or how blocs and their constitution are analysed (networks, separate atoms, etc.), there is an assumption that the confrontation between these blocs concerns the goods offered by suppliers and sought by demanders. The goods are already there, available. They do of course have to have been designed to meet the demand, and to have been produced and put on sale, but these different activities do not interfere with the architecture of interface-markets. They participate in the constitution of the blocs and in the possibility of their encounter, but do not challenge the relevance of this structure. Goods are, or can be, defined by characteristics that are more or less easy to identify and to compare. Their description can be controversial. But apart from these difficulties, these goods are things that can be located in time and space, and whose existence is taken for granted.

In traditional analyses, markets have only two sides, one for the supply bloc and one for the demand bloc. To take observed trends into account, the possibility of several sides is now envisaged with the notion of multisided markets (Rochet and Tirole 2003). The most well-known example is that of the free press. *The daily* that underground users are offered every morning on their way to work is financed by the advertising in it. Like many others, the newspaper articulates three blocs: the advertising agencies that buy the space; the users of public transport who read the newspapers; and the firm that designs, produces, and distributes these dailies. To design this type of good, the function of which is to articulate several blocs to one another, economists have suggested the notion of a platform.[2] A platform-good acts simultaneously as a link and as a service supplier.

I propose that we extend this notion to configurations that involve only two blocs. In these markets, as in all multisided ones, the main function of goods is to articulate supply and demand outside of them. This is why it is appropriate to qualify them as platforms. The platform-good maintains the separation between blocs, while keeping them linked. Conversely, when the blocs of supply and demand are independent of one another, they require platform-goods for a market to exist. This combination of blocs and platforms constitutes the structure of interface-markets.

3.2. *Competition, demographic pressure and market structures: the spectre of a bilateral transaction*

Interface-markets organize the encounter and confrontation between (at least) two blocs, with goods being the (passive) agent in this process. The confrontation leads to the setting of prices or, from a normative standpoint, to their "discovery." This is the point at which the notion of competition comes in, as the level of prices depends partly on the modalities and intensity of the competition.

To understand the role of market competition in interface-markets and to highlight its effects, it is useful to start from the notion of bilateral transaction. The bilateral transaction constitutes a reference situation in which there is a direct encounter between a supplier (only one) and a demander (only one) who wish to engage in a transfer of property in exchange for monetary compensation. The setting of the price at which the transaction will be concluded depends both on the limits that the agents set for themselves (the supplier decides not to sell below a certain price and the demander decides not to buy above a certain price) and their respective strength in the negotiation. Bilateral transaction is thus characterized by calculation and judgement corresponding to the agents' preferences, and by power relations that depend primarily on available resources and information.

It is often posited that the transaction is better from a moral point of view and preferable from an economic one if the impact of power relation is reduced in price-setting mechanisms (whether it is to the supplier or the demander's advantage). The introduction of competition is precisely what makes it possible to obtain this result. It rids the transaction of everything that is foreign to individual calculation or judgement and that stems from relations of domination. In practical terms, it consists in a gradual increase in the number of agents (supplies and demands) involved, or likely to be involved, and that transform the bilateral transaction into a multilateral one. Owing to competition, it is the market that bargains and alleviates, and sometimes eliminates, the arbitrary nature of power relations. Competition gives each individual agent the autonomy enabling them to escape the others' ascendancy. Its establishment implies that the goods offered (and sought after) are similar.

The mechanism that allows for this result is known as "the law of the market or the law of supply and demand." This law can be summed up as follows:

> When people want more of a good than is currently being produced, its price will rise. This higher price increases producers' profits and provides incentives for existing firms to expand production and for new firms to enter the industry. Conversely, if an industry is producing a good for which there is no market or a good that people no longer want in the same quantity, the result will be excess supply and the price of that good will fall. This outcome reduces profits or creates losses, providing for some existing firms to cut back the production and for others to go out of business. (Case, Fair, and Oster 2009, 759)

The validity of this law is based on a conception of competition that now seems to stand to reason. Yet it took a long time to be formulated clearly, as the hypotheses defining its validity were not self-evident (Schumpeter 1996, 611). These hypotheses are moreover the same as those that define the interface-market: the existence of blocs external to each other, whose encounter implies the existence of determined goods that form and articulate these sets.

An elegant way of describing the role of competition in the formatting of market transactions is to introduce the notion of market structures or, perhaps more precisely – to avoid the determinism of structures – of competitive configurations. Two extreme situations can typically be distinguished: those where competition is absent (two agents) and those in which a high level of competitive pressure exists (many agents). Between the two, intermediate situations exist, which are normally grouped together under the term "imperfect competition." The description and analysis of these configurations have been examined in many studies. One of the variables most often considered is the number of agents involved, or likely to be as for instance in contestable markets (Baumol, Panzar, and Willig 1982). We can thus distinguish very roughly between *multilateral* transactions (with a large number of agents), *bilateral* ones (with two agents), and *paucilateral* ones (with few agents). These competitive configurations do of course result from these agents' entry and exit strategies. Whether they are on the demand or the supply side, the agents play with these configurations, that is, with the intensity of demographic pressure so as to increase their respective weight in the transactions concerning them. Their objective is to turn the power relations to their advantage. They do so by creating imperfections in the competitive struggle. This is where innovation strategies come in. I now examine these strategies.

3.3. *Innovation is an effect of competition*

In interface-markets, one of the strategies available to agents (of supply, especially) in order to avoid competition is to promote product innovations.[3] By proposing or seeking different goods, they are able to alleviate the competitive pressure, at least temporarily. Innovation strategies are simultaneously a consequence of competition, as they enable agents to withdraw from it, and an impediment to its deployment, as they hinder it by making it imperfect. Innovation that affects products transforms the structures of markets, yet without challenging the fact that they are and remain interface-markets. The variable on which innovation plays is the platform-good. By modifying it, it redefines the blocs that it articulates, and thereby the population of agents concerned.

The characterization of market structures is enriched when the dynamic dimension introduced by product innovations is taken into account. It is no longer enough to describe them with the usual criteria, that is, the number of competing agents and the height of the barriers to entry (a height which moreover has an impact on entries and exits, and thus on the number of agents). A new variable has to be added: the degree of product differentiation. The more products resemble one another, the greater the intensity of the competition. Product differentiation, on the other hand, reduces this intensity, to the point of eliminating it when products are no longer comparable and a new market has been created. Product innovation, which is an effect of market structures, impacts on them in turn and leads to their transformation.

Thus, innovation concerns the functioning of interface-markets only to the exact extent that it is correlated to their structural transformations. Innovation is one of the drivers of interface-market dynamics – a dynamics that is conceived of as a sequence of changing structures (Malerba 2007). Envisaged from the agents' point of view, it is a regulator of competition that gives them leverage to influence its intensity. Although innovation depends on the state of competition and affects it, it remains outside that which defines competition as such. Goods are taken into consideration only from the point of view of the articulation they provide between supply and demand. It is not essential to know how the good is maintained as a platform, through superficial or profound changes, and how as it changes it creates attachments, that is, how it constantly reproduces its function as a platform articulating supply and demand. The design and qualification of goods are considered to be outside the market per se. Yet that it is this design and qualification that explain how a market is created and evolves, how supply and demand are formed, and why, as they change, they (sometimes) adjust to one another. This work, which is at the heart of the market dynamics, is nowhere to be found in the description and analysis of interface-markets. It is mentioned only with regard to its cost or chances of success.[4] Design and articulation activities are not endogenized. Innovation derives from competition instead of defining it.

4. Innovation is competition to establish bilateral transactions

A radically different view of market activities has come to prevail in the past two decades as a result of empirical research on design activities and more broadly on innovation processes. The idea that innovation strategies aim to reduce competitive constraints and make competition imperfect is not consistent with empirical findings. Additionally, the hypotheses underpinning the interface-market concept have been challenged. Goods cannot be equated to platforms. The distribution of agents in various blocs external to one another is unrealistic. Competition does not demand the disappearance of bilateral transactions; on the contrary, it tends to establish them. Innovation is moreover not a strategy intended to attenuate competitive pressure; it is an essential driver of that pressure. To account for this reversal of perspective, I suggest moving from the notion of interface-market to that of market-agencement.

4.1. *From platform-goods to process-goods: the proliferation of interconnected agents*

The description of markets cannot be based on the hypothesis of two independent blocs. Activities concerning the design, qualification, and circulation of goods simultaneously involve agents of both supply and demand. Networks are woven and through them adjustments between supply and demand are made in various ways. Throughout the design, production, and commercialization processes goods change, along with the related supply and demand. Thus, goods, supplies, and demands do not constitute separate entities; they are closely interrelated, caught in webs of evolving relations, which ensure adaptations and adjustments that would otherwise be incomprehensible. These activities are not adjacent to markets; they are their core. Describing the functioning of a market means describing this continuously renewed process.

As research on this co-production advanced, it became clear that it was not limited, as Von Hippel (1988) had initially believed, to certain high-tech sectors where lead users – who are just as competent as producers and who know what they need better than the latter – play a strategic role in the definition and qualification of the products intended for them. Extending his research to other sectors, Von Hippel (2004) himself showed that similar mechanisms could be observed in the fields of sport, leisure, ICT, and health (particularly with patient organizations). To characterize this phenomenon, he coined the term “democratization of innovation” while noting that from one sector to another the intensity, modalities, and extension of these collaborative activities vary. Chesbrough (2003) generalized these findings with the notion of openness, thus emphasizing the multifarious agents likely to be involved (from design to consumption), as well as the proliferation of collaboration in which they engage. However, talking of open innovation or of democratization is probably excessive (Dahlander and Gann 2010; West et al. 2014). Collaboration and networking do not prevent certain agents from being excluded, nor certain questions from being censored. Moreover, the notion of collaboration conceals the fierce struggles and the exacerbation of interests found in this collective work (see Amin 2012 and his notion of a collaboration between strangers). Irrespective of these reservations, what matters here is that it is impossible to consider blocs as independent, and to design goods as platforms articulating them. The sociology of innovation and uses as well as the anthropology of commercial activities (e.g. Akrich, Callon, and Latour 2002; Amin and Cohendet 2004; Araujo, Finch, and Kjellberg 2010; Callon, Millo, and Muniesa 2007; Cochoy 2004b, 2011; Garud, Tuertscher, and Van de Ven 2013; Oudshoom and Pinch 2003; Stark 2009) have highlighted the variety of agents who are collectively involved in the creation, production, sale, and use of these products (firms, universities, financial institutions, government agencies, sales professionals, and consumer groups), as well as the diversity of relations formed between them (hierarchical or heterarchical, trade, bartering, gifts).

The collective and dynamic nature of the design, production, commercialization, and consumption of goods which, at some stage of their life, are subject to market transactions, stems from the fact that their shape and characteristics at the time and place they are bought or sold are simply one step in a series of transformations which take place before and after the transaction. This process is the qualification of goods, whereby their characteristics and the profiles of demanders and suppliers are co-produced (Callon, Méadel, and Rabeharisoa 2002).

Consider an example illustrating the generality of this process which is now unexceptional in sectors such as health, e-commerce, and services but which has actually constantly characterized market activities: a good corresponding to a mass market whose architecture looks very similar to that of interface-markets, such as a particular model of a car of which several hundred thousands are sold. The model in question starts its existence on a drawing board, or rather in the form of a 3D digital representation, and then moves on to become a list of specifications, a series of diagrams and maps in a design department, a model on a platform, a still vague form of a concept car, a prototype, an image in glossy catalogues with technical attachments, a demonstration model in showrooms, described by the salesperson's explanations and rhetoric, and then an object of tests and comparative evaluations in magazines. Once the transaction has been concluded, the car continues to be requalified, to live a life that was not necessarily planned: it turns into an object of social distinction, it is lent, (re)sold as a used car (which its previous owner had anticipated by taking care of it and/or choosing a model with a high second-hand value), reduced to a wreck whose components are recycled in the form of scrap or spare parts, or re-manufactured as in certain developing countries so that it may have a second life on the market. The notion of an object's career (Appadurai 1986; Kopytoff 1986) applies perfectly, provided it is associated with all the material changes affecting the vehicle as it goes from hand to hand, and without which it would be immobilized.

The transformations of the product before and after the transaction, that is, its successive qualifications, can start very early on, what we could call high upstream, for instance in the design or research department, in the standardization or certification services, and so on. They may then carry on significantly once the transaction has been concluded, and finally mobilize and involve a large number of heterogeneous agents. Or they may take place mainly in a small number of places, for example, high upstream and then in the organization of commercial activities, in which case the number of agents involved may be small. In any case, the qualification of goods results from a collaborative activity, as the form it takes at the time of the market transaction is only one of the many it will have throughout its career (Akrich, Callon, and Latour 2002).

We can thus see why we need to talk of the product as a process. Like the platform-good, the process-good articulates supply and demand (and if it was unable to do so it would not warrant being called a market good), but this articulation is an action resulting from a series of transformations and adaptations between design, production, circulation, and consumption. An instantaneous and lateral approach to the market is completed by a temporal and longitudinal one (Garud and Karnøe 2004).

4.2. *The logic of competition is to establish bilateral monopoly*

In view of the existence and upsurge of collaboration and interrelations that cause the various agents to cooperate and that ensure the co-profiling of supply, demand, and goods, it is interesting to reconsider the signification of the bilateral transaction. The aim of market organization is not to eliminate bilateral transactions, but to establish them, to enable them to exist and to last through their successive metamorphoses, on an ever greater scale. Whereas bilateral transactions act as a foil in the market-interface conception, in concrete markets they are the configuration that should be sought after. Any good – such as a car sold on such-and-such a day to such-and-such a buyer – that has found a customer, is a good that has been singularized. A mass market is a juxtaposition of bilateral transactions. Making the establishment of the bilateral transaction the ultimate goal of market organization and not what must be avoided at all costs leads to a complete reversal of the role attributed to competition. This is confirmed by empirical studies.

Research on industrial dynamics shows, for example, that, in a given industry, rival firms have different characteristics (see Malerba 2007 for a synthesis). Even if they are supposed to participate in the same markets, firms and products are never identical. As Grandclément (2006) has shown, even when the commercial strategies of suppliers seek explicitly to suggest and impose similarities between the products that are offered ("me-too" products), the material organization of interactions between sellers still retains sufficient leeway to restore differences. As Cochoy (2004a) so rightly says: imitation and differentiation go hand in hand, for the best way of highlighting difference (which in certain cases may simply be a different price) is to make products equal in other respects. This diversity persists irrespective of the level of disaggregation (Griliches and Mairesse 1997), that is, it constitutes a structural characteristic of markets. Competition feeds on the differences and not the similarities between rivals and between the goods they propose. To compete, to want to continue to exist, is to differ. In a market there are only singular supplies and demands, articulated by goods which are themselves singularized.

With the interface-market, monopoly is defined by the absence of competition, and the main virtue of market organization is to put an end to monopoly situations, generally by increasing the (actual and potential) number of suppliers or demanders of identical or similar products. In contrast, in concrete markets bilateral monopoly is the most perfect form of competition. The more capable a firm is of excluding the agents that could threaten the bilateral monopoly, the greater its competitive strength will be. We could say that the intensity of the competition rises proportionally to the decline in the number of agents. This is nothing new. It was established by authors such as Robinson (1965) and Chamberlin (1933) in the early twentieth century. In his masterly history of economic thought, Schumpeter commented on these two authors' contribution: "[They proposed] to reconstruct the theory of value by allowing monopoly to swallow up the competition analysis: every firm being a monopolist, that is, a single seller to its own product . . . " (Schumpeter 1996, 1155). Whereas in the traditional conception, monopoly and competition are opposites, in this perspective monopoly is, on the contrary, the strategy that expresses the logic of competition in the purest terms. A firm designs, produces, and sells a product that is singular and comparable to no other, to escape the influence of other firms and capture its customers without leaving them the possibility to turn to another supplier. The result, which is any firm's objective, is the constitution of a demand that is made impermeable to the influences of other firms on the behaviour of the firm under study. Supply and demand are singularized, that is, they are related to a product which has been designed to be different from all other imaginable products, and the singular characteristics of which are provided by, and provide for, its (exclusive) attachment to the beneficiaries, that is, to those for whom it is intended and who agree to pay to make the attachment last. In one case, competition takes place through the increase in the number of suppliers of a given product; in the other, its intensity culminates with the reduction of the number of firms that offer the same product.[5]

The reasoning should not stop at considering the supply alone. As we suggested above, it is not realistic to draw a line that cannot be crossed between supply and demand (e.g. as platform-goods do in interface-markets). The qualification of products is a continuous process in both space and time; it does not stop with the transaction. The product pursues its career because the agents are as active on the demand side as they are on the supply side (whereas in the interface-market the consumer consumes but is not involved in the qualification of the good). This means that there is no reason to confine Robinson's and Chamberlin's thesis to the supply only. It must be extended, by paraphrasing Schumpeter, to the demand as well: "Reconstruct the theory of value by allowing the monopson to swallow up the analysis of competition: any consumer would be considered as a monopson, that is, as the only buyer of its product."

Market economic activity tends towards the joint constitution of monopolies and monopsons, that is, the constantly renewed establishment of bilateral transactions. This struggle is endless as the result is continuously threatened by certain agents' desire to do away with or deny differences. The mastery and outcome of this battle for the legitimate perception of differences and resemblances are fragile and always likely to be called into question. In market-agencements, competition can also be imperfect, but as we will see, in a different way to that of interface-markets.

4.3. *Innovation as the driver of competition*

It follows that any successful transaction implies a particular formatting of the traded good, and that it can therefore be analysed as the result of product innovation. There is no transaction and therefore no market activity without innovation. Product innovation, which is another name for singularization, can have differing degrees of depth (drastic or incremental), mobilize few or many actors and competences, and concern mainly technical and productive phases or commercial phases, or both at once. The classifications and analyses devoted to the different modalities of innovation apply perfectly (Abernathy and Clark 1985).

Innovation is not a strategy that agents develop to escape competition or alleviate its severity. Innovation is inseparable from market activity, since the latter consists in establishing bilateral transactions and since any successful transaction implies its singularization, that is, a specific qualification of the traded good, even subtle (and able in some cases to be reduced to a price difference alone). A firm that does not innovate is a firm that progressively excludes itself from market activities. Innovation is the essence of competition rather than being considered as a strategy to avoid competition, and the intensity of the latter is indexed on the depth and scope of the innovation proposed. The greater the singularization, in other words, the more drastic the innovation, the more the competition can be qualified as intense. Conversely, the weaker the singularization, meaning the more innovation is incremental, the more the competition can be qualified as imperfect. It can go so far as to be cancelled out when singularization tends to become imperceptible.

This assertion, to which it is difficult to subscribe when one remains confined to the representation of supply and demand prevailing in the interface-market model, applies to a particular firm – even if this is even more counter-intuitive. A firm's commercial activity must be analysed as an aggregation of a varying number of bilateral transactions, each of which link the firm to each of its customers. Every new customer, every new sale, implies an innovation, which can be minimal or even insignificant but the existence of which must be acknowledged and recognized, and without which the very existence of market competition is denied. Marketing specialists clearly see this when they speak of a firm's cannibalization of its own products. A firm struggles against itself – and it can choose to minimize the effects of this struggle by striving to contain the singularization of its products (one should say of each copy of each of its products) – as much as it struggles against rival firms.

5. Marketization and its implications: from interface-markets to market-agencements

The above findings show the limits of the interface-market concept to account for forms of market competition. Markets cannot be described as compound structures comprised of platform-goods that articulate blocs, which are themselves independent. Recent research shows the multiplicity of agents involved, the heterogeneity and specificity of their profiles, and the diversity of relationships that form not only among them but also between them and the material entities that circulate (Callon 1991). Markets, as we see them developing around us, call for new analytical tools, as the activities that they organize include design activities, sometimes way upstream (e.g. in academic R&D laboratories), as well as all the downstream practices related to what we call consumption and which continue the work of reconfiguring goods and uses. Competition brings together vast networks of heterogeneous agents which are mobilized through a wide range of relations and activities to establish bilateral transactions. For example, in the health field, scientific research, public agencies, hospitals, pharmaceutical laboratories, and patient organizations, to name but a few, collaborate to singularize treatment and devise combinations of molecules and therapies, all of which participate in defining and consolidating the profiles of the patients concerned (Keating and Cambrosio 2012). That which recent developments in health and services have brought to the fore equally applies, in various forms, to the sectors usually associated with mass production.

To distinguish this description of market activity from the one proposed by the interface-market conception, I have suggested talking in terms of market-agencement (or as proposed by Araujo, Cochoy, and Trompette, forthcoming). Market agencing refers to the collective action structured by socio-technical devices and intended to establish successful bilateral commercial transactions and to promote their proliferation. In market-agencements, innovations that produce bilateral monopoly, without which markets collapse, drive competition and at the same time ensure the sustainability and the extension of market activities. I first show how market-agencement, unlike interface-markets, calls into question the distinction between market and marketization. I then suggest some directions for further reflection, in order to identify the implications of this form of marketization.

5.1. *For market-agencements the market is marketization*

As pointed out above, in interface-markets the rationale for competition is the elimination of bilateral transactions and the power relations they imply. The design and qualification of goods are secondary. Interface-markets make up a world in which the concern is for agents, their autonomy, and their ability to take decisions and make choices, but in which the definition of goods is considered as purely instrumental and unproblematical.[6] Innovations are indeed produced and new goods offered, but that is not where the main interest of the market as a form of organization lies. In market agencing this view no longer holds. Activities are organized around a single rationale: the establishment, maintenance, and proliferation of bilateral transactions. The innovation process becomes central since, through progressive adaptations and transformations of goods (which become process-goods) and agents (which become identity trajectories), it allows singularization to take place. Product innovation, which is the prevailing form of competition, drives the development of market activities. Every new (individual) transaction can be seen as an extension of the market or more precisely as the construction of a new market. The analysis of the functioning of markets merges with that of the innovation process; that is, with that of the mechanisms resulting in the co-profiling of goods and agents, and in the property transfers in exchange for monetary compensation.

For this result to be reproducible, repeatedly and regularly, and for coordination to exist between the different entities involved, a specific organization is necessary. To ensure that the actors likely to be engaged in the innovation process – for example, researchers, financiers, salespersons, logisticians, production engineers, workers, jurists, and consumers with their formal and informal organizations, to mention but a few – do not move off in opposite directions and fail to produce the singularization required, their activities have to be coordinated. But coordination is not enough. It must be oriented towards a specific result: having a customer pay to acquire a singular good. It is the reason why the coordination needs to be organized. But it is not even enough to refer to the general notion of organization. One must explain how and why the collective action ends up with the establishment of commercial bilateral transactions. It was to meet this requirement that I put forward the notion of market-agencement. The term agencement denotes a form of arrangement that acts and at the same time imposes a certain format on the action. Saying that an agencement is a market-agencement (as opposed to agencements that can be, e.g. qualified as altruistic, political or scientific) means specifying that it is structured to direct the collective action towards the establishment of bilateral commercial transactions. This structuring of collective action is achieved through a series of specific framings, which contribute to giving collective action the specific format that it should have. In the case of market-agencements, I have identified five framings, briefly and (very) incompletely presented hereunder (Callon 2013).

• For a market transaction to take place, it is necessary first to have a divide between agencies capable of valuing the goods offered to them, and the goods to be valued. This divide, which appears fully during the transaction, is the result of a process starting in the first moments of design and consisting of two series of framings. The first is intended to passivate the entities that will be traded. It would moreover be preferable to talk of passiva(ct)ion to denote a process which: (a) detaches the good – or disentangles it, to use Thomas' (1991) terminology – from all those that have participated in its elaboration and profiling; (b) makes it able to instigate certain courses of action – which correspond to what is usually called its uses – and to contribute to their performance; and (c) ensures that its behaviour is to some extent controllable and predictable.[7] The investments required to achieve this passivaction become more costly and complex when the entities to transform into market goods are close to the living world or include living beings.

If certain agents are to agree to pay to acquire them, the goods have to have a value for them, one that is related to the courses of action that they make conceivable and implementable. The process of creating value, a result of the transformation of goods throughout the passivaction, therefore implies a second series of framings which activate agents that are formatted for operations of valuation. These agencies (which can be individuals or collective entities such as a firm) must have the adequate equipment (e.g. accounting tools, management tools, cost–benefit analysis methods), to be able to carry out their activities (Chapman, Cooper, and Miller 2009).

By assuming that the passivactivated goods and the valuing agencies are un-problematically available, the interface-market does not take their formatting into account. Conversely in concrete markets, passivactivating goods, making them valuable, and populating markets in all their upstream and downstream compartments with valuing agencies, participate directly in their functioning. They require the mobilization of considerable material and discursive means which, throughout the design, production, and commercialization process, ensure that the goods in their successive shapes do what they are supposed to do, and that the various agents engaged in the process of qualification have the tools and instruments to value them and to decide on the changes to make.

• It is not enough for goods to be passivactivated and for agencies to be empowered with valuating capacities. The operations of valuation must lead to certain agencies agreeing to pay to acquire the goods offered to them. Two additional series of framings contribute towards this result. The one series orchestrates the encounters between goods in all their (successive) forms and the many agencies involved in the qualification–singularization process. The other one organizes goods' attachment to the consumers so that they agree to pay.

The organization of market encounters requires devices that combine components of various kinds: technical material (such as matchmaking algorithms, a supermarket, a mall, a shop, a website, shop windows, directories, supermarket stalls, R&D and design platforms, and clinical trials), textual and audiovisual (advertising messages and clips, brochures), and human (salespersons, customer services, aftersales services, conferences, etc.). These devices are designed to progressively capture the potential customer's attention and to arouse their desires, cravings, and passions (Barrey, Cochoy, and Dubuisson-Quellier 2000; Cochoy 2004a). But they are not enough. We could imagine a framing of the encounters that arouses curiosity (Cochoy 2011), amplifies it, and transforms it into interest, but that finally fails to obtain the agreement to pay. This consent can be secured only if the attachment of the good to the customer, and the customer to the good, is achieved; that is, if the process of singularization has gone so far as to make the good and the agent constituent of each other and to affect consumers to the point they consider the possibility of paying in order to actualize this attachment (Trompette 2007). That is the purpose of the second series of framings. To carry out this work of incorporation and habituation, which prepares the consent to pay and which is better described in terms of passions, affects, and emotions, rather than of interests, usefulness, or needs, significant devices are once again required.

We cannot account for market competition if we disregard this essential component of market agencing (as interface-markets do when, without denying the reality of these activities, they consider them as having no impact on the logic of the functioning of markets).

• Once this agreement to pay has been obtained, a fifth and last framing remains to be performed, that of fixing the price of the good in the transaction. Setting the price, which is not automatically determined by the encounter of two blocs, that of the supply and that of the demand as in the interface-markets, stems from particular activities that I have proposed to call price formulation (Callon 2013). On the basis of quali-quantitative operations, price formulation connects the particular conditions of the (bilateral) transaction to more general (e)valuations. It thus contributes to the process of singularization in which the price becomes a variable that qualifies the good and contributes to its co-profiling (Muniesa 2007). It is enough to say here that these activities, in turn, necessitate specific devices that mobilize the competencies and know-how of a large number of actors and organize the application of sophisticated information search and calculation tools.

These five framings, with the commitments, investments, and implementation of devices that they imply, structure the various activities leading to the establishment of bilateral transactions. All together, they put in motion and organize the various activities that shape product innovations and contribute to feed the singularization process. They can be summed up in a series of actions (passivactivating goods, activating agencies capable of valuing these goods, organizing their encounter, ensuring the attachment of goods to agencies and obtaining their consent to pay, setting a price, and ensuring that payment is made), which are combined, in some cases with back-tracking and iterations. With market agencing, marketization is confused with market functioning. Any market marketizes, because the competitive mechanisms that they organize aim constantly at producing innovations and consequently at extending the sphere of bilateral commercial transactions. Indeed, the modalities of this marketization, as well as its effects, depend partially on the form taken by these framings and consequently on the conception of the many possible devices that enact them.

5.2. *Marketization and its implications*

With market-agencements and the view of marketization that they impose, new concerns arise. Unlike interface-markets, market-agencements draw no distinction or separation between static and dynamic, between market and marketization. The idea that markets may be contained or confined falls away, since they have no purpose other than to extend and thereby develop bilateral transactions and singularization of goods and identities. This change of perspective raises new questions.

• The first question that market agencing raises concerns precisely the priority that it gives to innovation and to its role, that is, the relentless exploration of individual identities and their transformation, through the establishment of bilateral transactions. Markets do not simply broaden choices for agents that are already there; they seek to transform those agents to varying degrees. Should this race forwards be continued? Would it not be wiser, as some are advocating, to devote most available resources to stabilizing existing identities and to keeping to tried-and-tested platform-goods corresponding to consolidated expectations, thereby introducing more justice into the access to these goods?

To answer these questions, it seems that we have to recognize the ambivalence of market-agencements. They appear to be devices that make the possession and fulfilment of desires the main motivation of human existence. For some, they tend to reduce human beings, their identity, what they are, to what they buy, that is, what they own, what they have. This critical view is not wrong, but it does not fully do justice to markets. Market-agencements constitute a highly efficient machine for exploring identities and demands, and never considering this quest as over. Why not take advantage of this force of investigation and renewal, while taming it and framing it? Market-agencements, correctly channelled by state action, could contribute to enhance the attention granted to individual trajectories and promote the consideration given to specific and singular problems, without bracketing off the issue of each one's access to this collective process. This is notably called for in the health sector, where such demands are starting to emerge (Rabeharisoa et al. 2014). More generally, it is the state's role that is concerned. The main aim of public policy could be to interfere with the mechanisms of definition of goods and of those they are intended for; in short, to intervene in innovation networks, rather than being limited to the regulation and surveillance of markets which are entrusted with allocating resources as efficiently as possible.

• The second question, on the modalities of qualification of goods, derives from the first one. In market-agencements, innovation and competition are closely connected. Competition frequently results in an accumulation of resources on the supply side, which does indeed collaborate with the demand but which simultaneously facilitates the development of profitable framings and asymmetries. These are accentuated by the alliances that the suppliers conclude between themselves, and which lead to the pooling of whole sections of the networks they mobilize (R&D, platforms to develop spare parts) in order to establish and preserve bilateral transactions. These asymmetries generally result in the ascendancy of the agents who, through their available means and the knowledge and know-how, or even infrastructures, they control, can frame, limit, and direct the other agents' behaviours, and are thus a driving force in the qualification of goods. The production of these asymmetries and the relations of domination that they establish raise the question of the modalities of participation and expression of the various agents, and especially of users in the establishment of bilateral transactions; in other words, more generally, in the process of qualification of goods and in the dynamics of innovation. Significant analysis and reflection is necessary to imagine what procedures and devices would be capable of countering these asymmetries. Imagining solutions is becoming inevitable as attested, for example, by the controversies on firms' unilateral use of databases containing users' personal information (in the case of e-commerce or personalized medicine), on the addictive nature of certain goods (such as mobile phones or cigarettes), or on the environmental or sanitary impacts of certain innovations, not to mention the denunciation of their futility. Arising from these debates there is a new conception of public policy and of the role it should play in the organization of balanced participation in the conception of goods. Creative destruction is not bad per se, but it needs to be organized!

• As competition intensifies within market-agencements, the pace of innovation accelerates. The notion of an intensive innovation regime has been proposed to characterize this growing movement (LeMasson, Weil, and Hatchuel 2006). This acceleration is accompanied by an upheaval in the forms of organization of the processes of design and exploration of supply and demand that can make difficult the opening up that some call for. In these conditions the solution is to slow down, to take the time for exploration, experimentation, consultation, and expression. The so decried precautionary principle can be used to reduce the pace – even though I prefer the notion of measured action consistently attentive to the effects it produces (Callon, Lascoumes and Barthe 2009).

• The competition associated with market-agencements implies and has the effect of generating, developing, and consolidating individual and singular trajectories. In the structuring of economic activities, interface-markets also rely on individuals (whether they are considered to be autonomous or caught in networks of interdependence), but on individuals whose identities are already there and who remain external to the goods proposed. Interface-markets do not act on identities whereas the logic of market-agencements is to reconfigure identities through the design of goods. In the former case, market activity takes from society what it needs to function; in the latter, it participates in producing the social. In the one, the question raised is on the reweaving of the social link: how can solidarity be rebuilt if not through non-market activities as antidotes? In the other, it is not relations that are lacking; on the contrary, as we have seen, singularization and bilateral transactions cause them to proliferate and abound, through innovation networks. But the problem, constantly revisited, is that of the right to difference and to the collective composition of singularities.

The example of health, with the upsurge of translational medicine and personalized medicine, is a fine illustration of this. Treatment is targeted and matches profiles (e.g. genetic) which are themselves partially defined by available molecules. The design and implementation of treatment mobilizes a wide diversity of actors, from fundamental research to patient organizations. This dynamics, associated with the emergence of biomedicine, enhances the costs of treatment and demands that choices be made: which profiles to favour, in the name of which criteria? It also leaves in the cold patients whose profile does not correspond to the targets attained by the molecules tested. What investigations and experiments should be prioritized? It is not so much a question of solidarity as one of equity that is raised, and through which the organization of collective life is at stake. This is no longer a matter of counterbalancing the market by the non-market. What is at stake here is the very structuring of market-agencements, their political engineering, that is, the way in which they organize the design of goods, profile innovations, shape identities, and format bilateral transactions. Politics plays out within markets and not outside of them, because markets produce the social rather than undoing it (Cochoy 2012; Geiger et al. 2015).

6. Conclusion

The marketization of society usually denotes a form of economization that expands the sphere of influence of markets and the reign of merchandise. It triggers endless debates on the implications of this trend. Some argue that marketization allows individuals to escape the tyranny and liberticidal constraints of social life. Others maintain that by extending the reign of merchandise, marketization leads, on the contrary, to the programmed disappearance of community life and solidarity behaviours; on the one hand, freedom, on the other, injustice and inequalities.

These contrasting standpoints are based on a common and seemingly obvious conception of the market. Yet this assumption does not hold for a second. The notion of a market is caught in language games, which compound its polysemy and thereby obscure the meaning of marketization. In this article, my reflection on the implications of marketization has not been intended to devise a (new) definition of a supposedly more precise and objective definition of market activities. The market concept is both shared by a large number of actors, whether specialists or practitioners, and used in diverse and irreconcilable ways. Rather than venturing onto the minefield of definitions and general classifications, I preferred to start out from the notion of competition, which is frequently associated with the idea of markets and which allows to go deeper in the exploration of pressing questions arising from the extension of markets.

How can market competition be described? Of all the possible approaches, I considered it relevant to compare two contrasting models of competition. In the first, that of interface-markets, competition makes innovation an avoidance strategy that leaves unanswered the question of the qualification of goods. In the second, that of market-agencement, product innovation is the very nature of competition. The challenge is then to articulate the collective process of design and qualification of goods, with the establishment of bilateral commercial transactions.

If we adopt the interface-market conception, marketization denotes a set of processes leading to an extension of market activities that exclude the question of goods and of mechanisms of mutual attachment of goods to people. Why these goods rather than others? This question is not dealt with by interface-markets. It is relegated to the political or moral spheres, which are supposed to (sometimes) debate and decide (or rather dictate) what can be bought and sold, as well as the (re)distribution of income. In these conditions, we can understand why the question of marketization is becoming so critical and so difficult to deal with, for it implies a powerful organization, outside of markets, capable of counterbalancing the market machinery.

In the market-agencement conception, there is no difference between market and marketization. The functioning of markets directly and simultaneously raises the question of goods and identities, which are coproduced through processes of attachment between the two. Thinking about marketization amounts to thinking about the architecture of markets and the organization of competition, that is, the mechanisms whereby goods are designed, the formatting of bilateral transactions, and the singularization that they imply. Political and moral reflection is at the heart of markets and not pushed out to their fringes.

Disclosure statement

No potential conflict of interest was reported by the author.

Notes

1. See Rodrik (2006, 973) on his summary of the Washington consensus as "stabilize, privatize, liberalize."
2. Rochet and Tirole (2002) show, for example, that a credit card can be analysed as a platform articulating several blocs: banks, traders, and card holders. He gives other examples such as gaming platforms. One of the aims of this type of approach is to study how prices are set. For instance, in the case of the press, the fact of being free of charge is but a possibility. The notion of a multisided market is a significant improvement, for it accounts more precisely for the complexity of the relations that *interface-markets* establish between goods, supplies, and demands.
3. Within this approach, the main objective of innovating firms is not to increase competition but to escape it by transforming an existing market-interface in another (different) one.
4. Malerba (2002, 2007) provides a comprehensive review of these studies that interrelate market structures (especially the imperfection of competition) and innovation strategies. He points out the lack of interest in innovation as a collective and conflictual process of product design. The only perspective of these analyses, he shows, is that of the relations between market-structures and innovations (with notably more attention granted to patenting strategies).
5. This led Schumpeter (1996, 985) to show the lack of realism of Cournot's analysis of paucilateral situations (with few agents), and particularly duopolies. He argued – and we cannot but agree – that these situations do not correspond to intermediate (or imperfect) configurations since monopoly and competition are not two opposite ends of a continuum (this critique could also be extended to the use of game theory). Despite all the partial interpretations that have been made of his work, Chamberlin (1933) showed insight when he spoke of monopolistic competition and not imperfect competition. We could moreover choose the notion of competitive monopoly to highlight the fact that monopoly constitutes the standard configuration. The only weakness in Chamberlin's thesis is that he

failed to integrate the establishment of bilateral transactions into his formal analysis of the functioning of markets. By maintaining the notion of bloc, he starts his analysis when the articulation between supply and demand is (successfully) completed.

6. One of the reasons for this casting aside of activities qualifying goods relates to the problems they pose in accounting for price levels (Callon 2013).
7. This neologism (*passivaction*) is intended to emphasize the fact that passivity is a modality of action. Goods are passive (they are controllable and predictable) and active (they instigate, and take part into, courses of action).

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