

Markets are Trading Zones: On the Material, Situated and Cognitive Dimensions of Market Encounters

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| **1. Purpose**

In this paper, we apply the concept of trading zone to markets. We do so in order to highlight the multiple material, situated and cognitive dimensions of actors' marketing, trading, exchanging and selling work, which they often undertake to secure an exchange. Trading zones also highlight the multiple areas of conflict or incommensurability that may arise between buyers and sellers in markets. Drawing on extant descriptions of how different firms interact with customers, this paper aims to show the diversity of buyer-seller interactions that can underlie market exchanges.

A recent body of literature has re-focused marketing's attention on markets as socio-technological phenomena, rather than merely an abstract or institutionalized collection of buyers and sellers, explaining 'real-life' market exchanges through analysing actors' practices in connection with the objects involved therein. This stream of research into market studies considers markets as "bundles of practices including material arrangements that contribute to perform markets" (Araujo, Kjellberg and Spencer 2008, p. 8) and has suggested, for instance, that mundane material objects such as shopping carts can have a significant influence on how market actors act in market spaces (Cochoy 2008, 2009). In the same vein, Author and (2008) analyse how a business-to-business market exchange happens through a complex assemblage of agents, objects and modes of exchange.

While acknowledging boundary issues as products and services are transformed into goods in market spaces, and into useful things for their buyers, we argue that by emphasising *practices* this stream of research has somewhat neglected the cultural and cognitive elements of the exchange. We are especially interested in the differences between buyers and sellers in their respective thought worlds, mental models, vocabularies and expertise. These cultural and cognitive dimensions are particularly important as bases of misunderstandings, disputes and incommensurabilities, which are important characteristics of actors' encounters in markets with the potential of stimulating actors' imagination and creativity. We demonstrate that the concept of trading zone allows researchers and

market actors to explore such issues in markets while at the same time retaining the analytical strengths of the performative programme in market studies.

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2. What are Trading Zones?

Peter Galison (1997, 1999) introduced the concept of trading zones in his historical analysis of the development of physics into fragmented sub disciplines. Galison drew on the interactions and relationships of theoretical and experimental physicists in the Rad Labs of MIT in the 1940s, extending to include engineers in making instruments, to argue that physicists had formed subcultures. Members of these subcultures traded, and of particular relevance to our paper, worked out ways of trading that significantly were cognitive and linguistic. Borrowing from anthropologies of neighbouring ethnic subcultures, Galison defines trading zones as follows:

Anthropologists are familiar with different cultures encountering one another through trade, even when the significance of the objects traded – and of the trade itself – may be utterly different for the two sides. ... when we narrow our gaze to the peasant buying eggs in a landowner's shop we may see two people, perfectly harmoniously exchanging items. In fact, they depend on the exchange for survival. Out of the narrow view, however, are two vastly different symbolic and cultural systems, embedding two perfectly incompatible valuations and understandings of the objects exchanged. ... What is crucial is that in the highly local context of the trading zone, *despite* the differences in classification, significance, and standards of demonstration, the two groups can collaborate. (1999, p. 146; original emphasis).

Galison argues that physics and other sciences comprised subcultures, which are inter-dependent, quasi-autonomous and a little out of step with one another. He identifies two totalizing narratives in 1940s physics: of accumulations of evidence instigating periodizings of theories as logical positivism; and of theories identifying evidence, with comparable periodizings (that is, beginnings

and ends of domination by particular conceptual frameworks) being instigated by gestalt shifts in theories. In the context of the trading zone, however, the locus of trading zones replaces the globalism of logical positivism and relativism or constructivism. For example, theories (which may signify some subcultures) can gain or lose currency relative to one another because physicists (as members of a culture) can deploy crucial experiments (as members of a subculture) or established instruments (or another subculture) as bases for stable means of comparison. Plasticity in knowledge is abandoned, either in the form of facts changing theories, or theories acquiring facts. Rather, science is a culture of subcultures, which its participants negotiate through their interactions.

We draw upon trading zones in order to investigate how markets and their exchanges become organized, with varying degrees of collaboration and contest, especially where there are breaks in the material, objects and calculative milieu by which products and services can be transformed into goods and then into useable and useful things. Trading zones also imply, in a broad sense, cognition and language, as we expect actors to entertain rival but poorly articulated and vaguely represented plans, imaginings and expectations. Cognition sits uneasily with explanations drawn from communities of practice, performativity and actor networks (Lave 1988, Marshall 2009). Many cognitive theories are antagonistic to broadly communitarian ones because they prioritize individuals' minds as having powers in planning, controlling and reviewing that individual's and others' activities. Cognition has this power because it is a 'mental miser', making available to individuals succinct representations of an 'outside world', especially in the format of useful patterns that aid anticipation, planning and prediction. The controversy comes theoretically from the difficulty of individuals being, from the perspective of cognition, both in the world and acting on and with it so changing it, and simultaneously withdrawn from it for the purposes of thinking, or cognizing.

Empirically, Suchman (1987) and Hutchins (1995) have drawn attention to how people use tools, artefacts and concepts that are out in the world to assist in making and representing cognitions. Cognition, or at least spotting and articulating patterns, making provisions anticipating and predicting the outcomes of actions, would appear to be actions too, which can be inter-subjective

especially as individuals have recourse to codified or articulated concepts, tools and algorithms and to artefacts in which theories, concepts, instructions and rules of thumb can be inscribed. The emergence of situated cognition since the late 1980s suggests a dichotomy: either we opt for mentalist explanations of cognition, or we consider something like cognition to be an action alongside any other, as contextual and in which individuals often stumble across things that work, making sense in the form of conversations and communications with others. Lave's (1988) early distinction of class room and street maths is possibly not the best instance of this dilemma as the continuing debate seems to have focussed on 'which is best' and whether there is a discontinuity between two mathematics (Greiffenhagen and Sharrock, 2008; Carraher, 2008).

D'Andrade (1989) argues that cultural anthropology can uncover inter-subjective cultural models, which are mini models analogous to mental models. Marshall (2009) combines mentalist cognition with communities of practice versions of cognition through arranging and facilitating mental mapping exercises among project teams. Mouzas, Henneberg and Naude (2008) recommend that marketers in business settings also arrange mental mapping exercises in order that participants may acquire network insight across their dispersed, local learning. Author and Author (forthcoming) argue such sharing or inter-subjectivity spills over into that designed and local context of sharing, such as a strategy away day or mapping exercise.

Given our interest in trading zones in this paper, sharing cultural models, network pictures and local expertise is primarily organizational, in common with the explanations of trading zones adopted by Kellogg, Orlikowski and Yates (2007) and D'Adderio (2008). From this, we emphasize the (often vulnerable) continuity and materiality of sharing, as with artefacts, articulations and codifications of cognitions, as with drawing pictures and using software, such as Decision ExplorerTM. However, in applying the trading zones concept to exchanges in markets, our inquiry is in the opposite direction to these inquiries within organizations. An application of the twin concepts boundary objects and standards to market exchanges would probably suffice if we could assume a continuity of materiality across production, exchange and use situated in and around markets (Star and Griesemer, 1989; Law and Singleton, 2005; Author and Author, forthcoming).

We turn to trading zones because of the messiness of many but not all market exchanges. We are interested in those scenarios in which standards and other objects, and their material continuity, have yet to emerge, with actors discussing these, experimenting collaboratively with them and contesting them. So, we are interested in the processes by which actors in markets develop languages and means of communication as means of representing their activities pertinent to exchanges. Languages are of course inherently communicative, which is not exactly the same as being shared, although potential communicators require many rules and grammars of language. Further, languages are immediate and fairly flexible ways of uttering plans, speculations, descriptions and representations, and can cope with a scaling up from informal conversations to being written, stored and broadcast.

In a number of contributions, Gorman and colleagues (Gorman, 2002; 2005; and Collins, Evans and Gorman 2007) relate interactions between scientists and other professions in trading zones to their levels of expertise and their capacities to acquire power. Their overriding concern is of how two communities or subcultures can interact in a mutual beneficial manner (i.e. trade one thing for something that is equally valued), given some level of incommensurability between the groups or communities. In answer to this question, Gorman (2002; 2005) describes three types of trading zones, namely 1. Elite Control; 2. Approximate Parity; and 3. Shared Mental Models. While in State 1 trading zones, one group controls evolving exchanges through their unilateral expertise, State 3 trading zones are built on shared mental models stretching beyond individuals' expertise. Gorman acknowledges that in between these two extremes, State 2 trading zones cover the broadest ground, encompassing all interactions among groups with broadly equal if substantially different areas of expertise and ranging from attempts at dominating the exchange to truly democratic collaboration.

Building from this distinction, Collins, Evans and Gorman (2007) investigate trading zones as "the locus of incommensurability" (p. 657) where alongside an apparent material continuity (the exchange of a good), difficulties of communication and culture are negotiated and overcome. Depending on the extent to which power is acquired, formatted and used by one party to enforce the

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trade (axis 1), and on the extent to which trade leads to the emergence of a new culture (axis 2), they identify four types of trading zones, as depicted in Figure 1.

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‘Enforced’ trading zones – as a development of ‘Elite’ trading zones – are characterised by little attempt on both parts to engage in each other’s culture; the powerful party black-boxes its expertise to the non-expert trading partner; interchange of meanings is limited to the minimum level where the bargain can be understood by both parties. In Subversive trading zones, the powerful ‘expert’ party remains largely in control of the exchange, but this time endeavours, above and beyond the trade, to supplant the non-expert group’s culture and vocabulary with its own, leading to a homogeneous (if unilaterally shaped) new culture emerging from the continued exchange. There can be resistance against this process in this type of trading zone, but commonly this resistance only serves the ‘expert’ party to further reinforce its own vision of the exchange.

The two collaborative types of trading zones, representing the top half of Figure 1, are more reciprocal in nature. ‘Fractionated’ trading zones are characterised by approximate parity of expertise and an interaction of both groups’ cultures to make the exchange happen, even if cultures do not give rise to an ‘intercultural’ or inter-language zone. Fractionated trading zones fall into two different camps, depending on whether the trade is mediated by a primarily material or a mainly linguistic boundary agent (that is, the boundary object trading zone and the interactional expertise trading zone). Finally, inter-language trading zones are those that Galison described in his original work, where sustained interaction and an common interest in the trade gives rise to an inter-language in the form of a pidgin or a more durable creole and thus to a new homogeneous subculture.

Beyond providing a fine-grained description of different manners of exchange between groups or subcultures, Collins, Evans and Gorman’s classification also combines cognitive, socio-material and linguistic elements and can therefore serve as a valuable tool to study market practices. We suggest taking Gorman’s classification back into the ‘real life’ trading zones of business-to-

consumer markets by investigating buyer-seller exchanges from a cognitive as well as performative perspective, tracing if and how buyers and sellers interact, given vastly different expertise and cultures, to successfully trade in marketplaces. Where Kellogg, Orlikowski and Yates (2007) and D'Adderio (2008) explore the trading zone metaphor in work group interactions in 'heterarchical' organizations, we take the novel step in this paper of examining how applied science, interdisciplinary collaboration and commerce interact across many actors in business-to-consumer markets. By doing so, we enhance the performative programme through a cognitive and linguistic perspective that acknowledges the distributed agencies of market practices.

Our argument is that, as markets are generally performative, they can only approach simplified exchanges because of the diverse, situated, local and material practices of its participants. Hence, we claim markets are trading zones, and as such are complex places of interaction in which actors' attempts at calculation can smooth the path of exchanges, but can become objects of contention, and of spill over, and thus exposing the global incommensurability of market actors. Indeed, Baird and Cohen (1999) contend that in a commodity economy, trading zones exhibit instabilities that are not present in the 'gift economy' in which they see Galison's physicists operate.

To summarise our theoretical argument, we accept that markets are always in the making. By introducing the concept of trading zone, we can point to different ways in which they are in the making and in which actors in markets interact. Trading zones depict rich episodes of interaction rather than clean boundaries in between parties of an exchange. In the following section, we will discuss four previously documented cases of firm-customer interactions, using the above classification of trading zones to draw out the different elements of the exchanges.

3. How Buyers and Sellers Shape Exchanges in Trading Zones

Collins, Evans and Gorman (2007, p. 658) are clear in their statement that "not all trade is conducted in trading zones... . We define 'trading zones' as locations in which communities with a deep problem of communication manage to communicate. If there is no problem of communication there

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is simply ‘trade’ not a ‘trading zone’.” In relation to market exchanges between firms and their customers, this means that we are not considering ‘uncontentious’ exchanges in this paper, where buyers and sellers enter and exit the market as if strangers, and where calculative orders appear clean-cut, settled and uncontested (Callon, 1998a). While it could be argued that in those cases there is incommensurability too, market mechanisms work – perhaps because the objects of trade act as ‘perfect’ boundary objects and ‘cut the network’ completely, even if temporarily (Strathern, 1996). Instead, we are investigating cases where trade is dependent on boundary work or ‘zone work’ by either one or both parties, and where incommensurability could be exposed and thus impede successful trading.

3.1 The Enforced Trading Zone: Ryanair

“What part of no refund don’t you understand? You are not getting a refund so f**** off” (Michael O’Leary, CEO of Ryanair)

Can a market encounter be ‘enforced’ in a capitalist, non-monopolistic market? Collins, Evans and Gorman (2007) give the ideal-type example of Roman Galley Slaves for illustrating their ‘enforced’ TZ category. While our example of an ‘enforced’ trading zone in a b2c market may not quite rely on ‘brute physical repression’ (ibid. p. 659), it nonetheless represents a case where the constitution of the trading zone and its terms and conditions are governed by the controlling party and where those on the receiving end of this control “are obliged to change their practices ... but are not required to adopt the cultural viewpoint of the dominant group” (ibid). It is the case of the airline most people love to hate: Ryanair. Amply documented elsewhere (Brown, 2006; Calder, 2003; Creaton 2004; 2007), Ryanair has built a successful business model based on little respect shown for either suppliers or customers and on a merciless pursuit of its own low-cost-no-frills agenda at the potential expense of any of its stakeholders’. Yet, it is at the same time one of the most profitable airlines in the world, carrying 58 million passengers in the year 2008 with an average load factor of 81% per

plane and a 12-month profit of €480 million for year-end March 2008 (Ryanair 2008). So trade it does, with a large number of customers every year. However is there a trading zone, and if there is one, how is it constituted? Ryanair pioneered the low-cost aviation business model in Europe in the mid-nineties, shortly after EU deregulation of the industry.

Rather than simply providing an alternative to existing airlines, Ryanair taught its customers a new process of market exchange, consisting of low fares and frequent promotions in exchange for internet-only booking, a myriad of additional charges, baggage that should be carried on board rather than put in the hold, no allocated seating but instead an optional ‘priority pass’ at extra cost for avoiding queues, no refunds for no-shows or cancellations and no patience in waiting for late passengers. Everyone who has ever flown Ryanair knows how profoundly these innovative processes have changed passengers’ practices, with passengers forming orderly queues in the designated areas often hours before boarding, lugging cabin-sized trolleys into the planes, duly minimizing Ryanair’s offloading and turnaround time, and cleaning up their rubbish (after all, Ryanair has done away with back-of-seat storage facilities, so there is not much alternative to holding one’s rubbish until it can be handed over). Ryanair has continually justified these often uncomfortable changes by pointing out their necessity in order for the airline to fulfil its low-price promise and to “give passengers what they really need” (Ryanair Passenger Charter).

A plethora of anecdotes and litigation cases by disgruntled passengers challenging its market practices have not yet caused the airline to either change its market approach or indeed to be apologetic about its practices (Calder, 2003). Thus, while there have been numerous cases of customers attempting negotiations and of expressing to Ryanair their version of ‘what they really need’, so far the firm has remained unrelenting, pointing to the fact that these same passengers – albeit maybe begrudgingly – continue to trade with the firm. The terms of this trade are by now well understood by all concerned – low airfares for a minimum level of service – but in practice these are unilaterally formulated and enforced terms. Ryanair poses as the expert in devising a strategy that will deliver to customers ‘what they need’ and beyond citing passenger numbers it has chosen not to heed the passenger’s viewpoint of their needs. Cultural exchanges do not exist and are not

encouraged. The trading zone is contested, but it works because of the categorical ‘no negotiations’ stance of one party.

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3.2 The Subversive Trading Zone

“We changed the way people live their lives, what they do when they get up in the morning, how they reward themselves, and where they meet”. (Orin Smith, Starbucks CEO; quoted in Clark, 2007)

But why would anyone think having 14,000 stores around the world all being exactly the same be a good thing? (Blogger, Willamette Week Website)

Collins, Evans and Gorman (2007, p. 660) claim that “in a subversive trading zone it [authority] gradually supplants the alternatives until it becomes the socially appropriate response”. They speak of colonization by one party of both the language and the subculture of the (less powerful) second party, to a point where cultural hegemony is established and where the exchange offered is taken for granted as the default option. While alternatives may still exist, they are gradually written out of people’s cognitive scripts and thus never realized in practice. Their account of the subversive trading zone has many parallels in critical marketing and consumer research where some firms’ interaction with their customers are analysed in terms of their hegemonic influence on local subcultures (Firat and Venkatesh, 1995; Klein, 2001; Holt, 2002; Thompson and Arsel, 2004; Cromie and Ewing, 2009). In these reflections – and alongside other global corporations such as Microsoft, Coca Cola or McDonalds – the coffee shop chain Starbucks is an oft-quoted example of a firm whose claims to ‘cultural authority’ (Holt, 2002) over the coffee market has shaped consumers’ coffee consumption experiences in many parts of the world (Ponte, 2002). As of February 2008, after a decade of aggressive worldwide expansion, Starbucks boasted a presence in 43 countries outside of the US

through close to 2,000 company-operated and almost 3,000 licensed stores above and beyond owning over 7,000 and licensing another 4,000 stores in the US alone (Company Fact Sheet, 2008).

While aiming for a similar ‘total domination’ (Clark 2007) of its particular industry, Starbucks (unlike Ryanair) has always been at pains to be seen as a non-threatening trading partner to consumers and supply-chain partners alike¹. Part of its self-confessed guiding principles is to “develop enthusiastically satisfied customers at all times” and to “embrace diversity” in its trade dealings (Company Fact Sheet, 2008). Yet, as a myriad of websites such as www.ihatestarbucks.com, www.starbucked.com or www.delocator.net stand to witness, the brand is a prime target for antibrand movements. What many of these antibrand movements seem to protest against is the infiltration of local cultural meanings by the Starbucks mental model; as Thompson and Arsel (2004) put it, “a hegemonic brandscape provides a constellation of objectified meanings (i.e., discourses, material goods, and servicescape atmospherics) that consumers can incorporate into their worldviews and put to a wide variety of interpretive and identity-constructive uses.” One sign of the subversive change of meanings is evident in the language use. Starbucks has introduced an entirely new ‘coffee’ vocabulary where ordering a regular coffee becomes an adventure in creative Italian. Consumers are required to use this artificial language to trade in the Starbucks environment; corroborating the notion of a subversive rather than interactive trading zone such as those described by Galison (1997), Starbucks makes little attempt at mixing consumers’ habitual linguistic coffee conventions with its own argot into a ‘coffee creole’. Instead, Starbucks offers a type of translation service where for instance the new words for sizes to be learned (*tall*, *grande* and *venti*) are illustrated by a sample of coffee cups on the cash desk or where the often highly creative names of their coffee beverages are back-translated into colloquial English on the menu. Moreover, when repeating back the order to consumers, baristas habitually change whatever ‘old’ coffee speak was used into Starbucks’ own vocabulary. This is however the only overt sign for Starbucks’ strategy of cultural subversion; unlike Ryanair it is often at pains not to appear blatantly self-servicing.

¹ For an analysis on how global chains such as Starbucks have changed the coffee supply chain markets, see Ponte (2002).

Yet, in many consumers' and commentators' views it remains a prime example of 'cultural engineering'. Lured in by Starbucks' brandscape, inspired by its self-confessed 'third place' combination of material aspects of the public and the private space, and by its aggressive strategy of ubiquity, consumers are lulled into submissiveness and enticed to let their guards down. It has "shaped cultural expectations and ideals about what coffee shops should be" (Thompson and Arsel, 2004 p. 639) and thereby undermined local cultural differences: "In American metropolitan settings, a coffee shop is more or less like Starbucks in much the same way that a fast-food restaurant is more or less like McDonalds' or a theme park is more or less like Disney World" (ibid. p. 633). Characteristic of subversive trading zones, the cultural authority, which Starbucks has acquired and now represented, gives rise to resistance by some against being subverted (McGinnis and Gentry, 2009). For the majority of Starbucks' customers, however, its third place represents the easily accessible, safe and predictable 'default option', having successfully shaped our communal cognitive scripts of what a coffee shop visit entails.

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3.3 Fractionated Trading Zones

In Collins, Evans and Gorman's (2007) classification of trading zones, enforced trading zones are characterised by almost no cultural interchange and subversive trading zones operate by imposing one culture on another. By contrast, in fractionated trading zones, occupying the top right hand corner of Figure 1, participants within different cultures do interact selectively and often through the mediation of either a material or human boundary element. In this type of trading zone, the authors draw on a rich literature in organisational studies on boundary objects and boundary spanners, which is highly significant, in that actors are able to transform their zone into an assemblage of boundaries.

Star and Griesemer (1989) and Bowker and Star (2000), for instance, depict exchanges between otherwise independent groups as objects supporting two or more stable interpretations of use, meaning and value among different groups of actors. Mol (2002) and Law and Singleton (2005) argue that boundary objects imply an epistemic claim of what counts, and propose an ontological concept of how something comes to count. In the settings of markets, trading zones depict far from

clean boundaries for their market objects to act as boundary objects between buyers/users, producers/sellers, rival producers/sellers, regulators and other market actors. The implication is that the standards that can stabilize objects are still being written, and the language in which the standards are being written is still developing, in the market's fractionated trading zone. Hence, the clean boundary object remains to some as an aspiration, while actors grapple immediately with the 'messy objects' of rather ambiguous zones. Author and Author (forthcoming) give an example of a market exchange where two largely independent cultural groups – newspaper editors and newspaper readers - interact *qua* the boundary object – in their case a newspaper and DVD supplement.

Similar to the notion of boundary object, 'boundary spanning' implies that an actor can live and act in two or more settings, such as a key account manager who is embedded in a client's organization for much of their working week. The role implies that the skilled actor has mastered the subtleties and nuances of two communities and has become trusted and respected in both. Gorman (2002) and Ribeiro (2007) draw attention to the cognitive, artefactual and linguistic interactional expertise required of boundary spanners whose job it is to 'buffer' between two 'forms of life' (Ribeiro, 2007): "Its goal is to allow interaction between participants of two social worlds that present linguistic-cultural or conceptual discontinuities" (p. 577). Just as the boundary object in Star and Griesemer's (1989) case and the development of interlanguages in Galison's (1997) illustration, the boundary spanner thus represents a form of mediation between two otherwise independent cultures.

In the market realm, a prominent example of such a mediating role is that of the Financial Services Authority in the UK or similar bodies in other countries (Devlin, 2003). Based on the realisation that many consumers display limited knowledge and interest in financial services but are nonetheless frequently required to trade with financial services providers, these bodies have the mission of mediating between providers and their customers, often by translating financial jargon into more consumer-friendly language. The Irish Financial Regulator website www.itsyourmoney.ie, for instance, purports to provide "independent information on financial products in plain English" and includes a 'Jargon Buster'. Interestingly, research has indicated that consumers who are more

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literate in financial services products also have a higher propensity to purchase such products (Devlin, 2003). The mediation provided by the FSA and similar authorities is thus not only aimed at assisting the consumer but also the financial provider by facilitating trade in the first place. Above and beyond the facilitation of the exchange, the financial regulator also plays a second important role as a boundary agent; while there is a clear differential in expertise in benefit of the financial service provider in the exchange, the existence of the regulatory body prevents the provider from using its expertise to exert undue control on the trade. It is important to note that beyond the exchange (which may include a long-term element), the financial service provider and their customer often leave ‘as if strangers’, that is no cultural exchange is envisaged or achieved in many cases, and trade partners do not contribute to each others’ fields.

There are exceptions to this in the financial world. For instance, the community banks described by Fraering and Minor (2006) or many Islamic banking institutions (Choudhury and Hussain, 2005) engage in more enduring and culturally sensitive exchanges with consumers without attempting to exert overdue control on the trade. In these cases, the trading zone would move from a fractionated one to an interlanguage one, which will be considered next.

3.4 Interlanguage Zones

Often seen as the ‘original’ trading zone as described by Galison (1997), interlanguage zones are characterised by two independent groups moving toward a homogeneous platform through the development of an inter-language that borrows and combines elements of both cultures. Gorman (2002) observes that in these trading zones, there is approximate parity of expertise and no group attempts to take control over the exchange and contributions are made by both parties in light of a shared goal: in these zones “all actors in a network have high inclusion within a technological frame, including a shared mental model of what needs to be accomplished” (Gorman and Mehalik, 2002 p. 502). Despite potential global differences (for example of being producer and consumer), groups manage to erect a joint local platform to trade collaboratively. It is important to note that even in these groups, there is still *trade*. Groups remain as largely autonomous entities, and while boundaries

will blur, the groups will not be *in toto* subsumed into a larger social entity. This is the difference between the gift economy and a commodity economy: “Gift economies serve to bind people together” (Baird and Cohen, 1999 p. 246). Social ties move the exchange outside of the market, as is the case in open source software development, for instance (Zeitlyn, 2003). The explicit element of trade also distinguishes interlanguage zones from other kinds of communities such as communities of practice, which are similarly characterised by shared mental models and common language.

Within the market realm, interlanguage zones should not be confused with the rapid rise of brand or user communities of companies (for an example of a brand community in B2B see Andersen, 2005). Such communities are either customer-initiated or firm-sponsored, and while there may be some trading between the firm and its customers – for example loyalty traded against new product previews – and some shared mental model and language, there often is an absence of a common goal that can *only* be completed by close collaboration with the other party.

Within the broad umbrella of user communities, however, there are examples of veritable interlanguage trading zones, such as the customer co-design communities presented by Piller et al. (2005), communities of creation as discussed by Sanwehy and Prandelli (2000) and von Hippel (2001), or the value co-creation cases presented by Cova and Salle (2008) in the b2b realm. In these zones, customer expertise is utilised by firms in the design process of a product or service, facilitated by a ‘configurator’ or ‘configuration system’ which familiarise the customer with the socio-technical frame in place. Crucially, however, these systems themselves are malleable to customer input; in the case of the Lego user platform, for instance, users exchange new models with partly self-created software (Piller et al. 2005). The trade conducted in these communities is mutually beneficial; firms gain valuable insights into customer needs and input from customer expertise for free, customers gain social and psychological rewards from the co-design process as well as higher utility from commercial products that truly fit their needs (Jeppesen and Frederiksen, 2006). The Lego Factory platform, for instance, allows consumers to present their custom Lego creations, just like Youtube allows consumers to exhibit their personal videos; and in both cases other consumers can rate each other’s creations and comment. In the Lego case, however, the firm-initiated innovation community

goes beyond the representational function and Youtube’s ‘gift economy’ by trading as well as representing; not only can individuals order their own creations from Lego, but some creations are chosen for mass-manufacturing and sale by the company and can thus be bought by other users too. Likewise, the Lego Mindstorm product has spawned a multitude of communities centred on code writing and development of this commercial product as well as secondary markets for books and other community tools. Lego was willing to engage in co-production with their ‘hobbyist’ (Jeppesen and Frederiksen, 2006) but nonetheless expert customers and co-design both products and user platforms through a high level of user input. During its ten-year existence Lego Mindstorm has become a veritable joint product, owing its high user- and producer value to both parties adopting what Sanwehy and Prandelli (2000, p. 31) call a “new open and democratic regime of knowledge creation and idea sharing”.

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4. Discussion

The foregoing section has investigated further and in empirical settings the four ideal types of trading zones where trade between actors is contested (see Table 1). In all four trading zones, to use Callon and Muniesa’s (2005) words, the process of momentary detachment or singularisation of the exchange object has failed. By opening up the cultural, cognitive, socio-technical and linguistic characteristics of the exchanges for analysis, the trading zone concept allows us to draw out suggestions why singularizing has failed, and how, given this failure, trade can still proceed in these zones.

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In the enforced trading zone, for instance, the seller does not attempt to prepare the good for re-attachment to the buyer’s world; instead, he lays out his conditions for trade and otherwise adopts a stance of ‘take it or leave the exchange’. In the subversive trading zone, the seller ‘lures’ the buyer into the exchange, and then by using its cultural muscle, replaces the buyer’s former ways of calculating the value of the exchange with its own (this is, for instance, why Starbucks has managed the increase the price paid for a cup of coffee by 300% in relation to ‘comparable’ goods). In

fractionated trading zones, the seller does not know enough about the buyer's world to successfully engage in de- and re-attachment of a good. This results either in a 'blank' object capable of accommodating a range of 're-attachments', or else in the need for an interpreter who translates the qualities of the exchange good into the buyer's world. Finally, in the inter-language zone, buyers and sellers become entangled and therefore cannot leave the exchange 'as if strangers'; the object combines joint investments and becomes incapable of acting as a 'pure' market good. Yet, trade happens in all these situations.

The trading zone concept can be used for a broad range of exchange situations; while the examples used in this paper have stemmed from the b2c realm, the concepts can equally be utilised to investigate b2b exchanges, thus aiding researchers break down the consumer/ industrial market divide (Cova and Salle, 2008b). Indeed, its origin in science studies and its early adoption in organisational studies (Kellogg, Orlikowski and Yates, 2006) have demonstrated its potential for explaining 'trade' in many different intra- and interorganisational contexts. We would contend that by adopting the concept in a market context, the cultural, socio-material and linguistic elements of the exchange become even more acute as potential points of disruption/contention and thus foci of study than when utilised in contexts where broad cultural parameters may be more homogeneous.

In addition, the fractal and vectorial qualities of the concept allows researchers to investigate the same parameters of exchange at different levels of focus and from a processual perspective (Collins, Evans and Gorman, 2007). To use an example, in countries where Starbucks has been established for some time, trade may have 'settled down' and have become less contested. In Collins, Evans and Gorman's words, our Starbucks example may have thus 'fallen off' Figure 1 in a Westerly direction. However, if one sharpens the lens to a higher-level fractal, if in those countries Starbucks moves into a new neighbourhood and starts threatening the existence of the coffee culture existing at that local level, its hegemonic nature may be felt again. Thus, the trading zone concept not only allows researchers to zoom in and out of local exchanges and more aggregate market exchanges, but it also allows for evolution to be traced during repeated or prolonged exchanges.

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5. Contribution

Researchers have translated the concept of trading zone, like that of boundary object, from science and technology studies and the sociology of translation to organizational studies. We argue that trading zones can usefully be applied to our growing understanding of markets in the making; of market forms and marketing practices. We envisage three advantages in adapting and translating 'trading zones': (1) The concept helps us sort out different ways in which actors can promote and engage in markets; (2) It draws our attention to the cognitive, artefactual and linguistic activities of market actors as they try and develop contact languages, and perhaps more sophisticated pidgins and creoles. As actors develop languages, we can expect richer developments of that language, richer interactions among language user/developers, and relationships in which trust becomes important. (3) The trading zone can be noisy, or at least leave audible or readable trails that can allow researchers to track some developments, such as in instruction manuals or web sites devoted to customer support and user modification, and can allow others to gain some clues as to how to join the market in the making.

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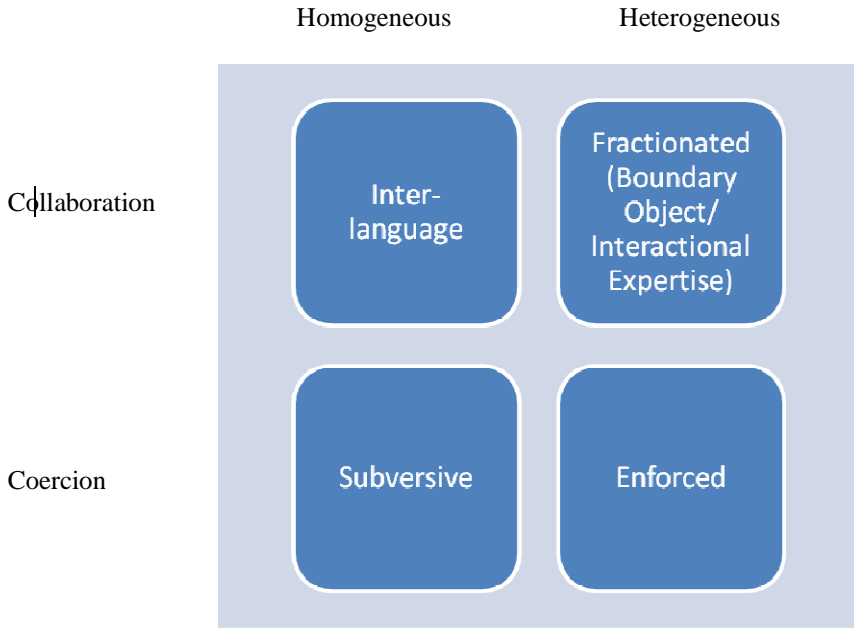
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| Figure 1



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Table 1

Trading Zone Type	Enforced	Subversive	Fractionated		Interlanguage
			Boundary Object	Interactional Expertise	
Example	Ryanair	Starbucks	Newspaper-DVDs	Financial Services Regulator	Lego
Cultural interaction	Minimal	High, one-way	Minimal	Minimal	High, two-way
Language use	Restricted to terms of trade	Hegemonic	Material aspect takes over	Interpreter	Creole
Control of interaction	Unilateral	Unilateral	Mediated	Mediated	Bilateral
Socio-technical apparatus mobilised	Rigidly structured website, airplane design, pricing structure	Retail space designed as mock 'third place, turning the unfamiliar into the familiar	Boundary object (DVD) speaks for itself, implies ties to producer and consumer	Translation aids such as websites and brochures	Interactive Website, flexible manufacturing system, network of users
Mental models of value exchanged	Remain separate	Imposed or 'taught'	Materialised – projected into object	Mediated	Jointly constructed
How is incommensurability overcome?	'We're not negotiating' Not overcome, but accepted as part of the trade	'we'll show you that our way it better' - Cultural muscle / submissiveness (but also resistance by fringe groups)	'see what you make out of this' - Blank object offered as a meaning vessel	'I understand you both' – Third party showing intimate knowledge of both fields	'Let's do it together' - Joint effort at creating shared mental model and value