

Trading room telephones and the identification of counterparts

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Center on Organizational Innovation

Fabian Muniesa

*Centre de Sociologie de l'Innovation
Ecole des Mines de Paris
60 Boulevard Saint-Michel
75272 Paris cedex 06 France
fabian.muniesa@ensmp.fr*

Center on Organizational Innovation
Columbia University in the City of
New York
803 International Affairs, MC 3355
420 West 118th Street
New York, NY 10027
<http://www.coi.columbia.edu>

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Fabian Muniesa

*Centre de Sociologie de l'Innovation
Ecole des Mines de Paris
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75272 Paris cedex 06 France
fabian.muniesa@ensmp.fr*

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Abstract:

Although computers and electronic networks have become pervasive in contemporary financial markets, the telephone keeps playing a crucial role as a communication device in the trading rooms of investment banks and brokerage houses. The author examines this technology, its uses and the way in which it frames trade interactions in a number of empirical situations, with particular attention to the combinations of this tool with trading screens and other electronic media. Compared to other market technologies, the telephone emphasizes the identification of bilateral counterparts. The use of the telephone can thus help characterizing an important sociological feature of particular market configurations: namely, the extent to which trading practices are based on the recognition of individual counterparts.

Introduction

It is fairly widely admitted that there exist an ample variety of market forms. This variety does not only stem from the characteristics of market actors, the particularities of traded goods or the idiosyncrasies of regulation. The different technical mediations that allow transactions to be brought about are also of particular relevance in defining different market arrangements (e.g. Callon and Muniesa 2005). Financial markets provide telling evidence of the crucial role of exchange technologies in shaping transactions. Concerns about the quality of price formation and trade execution – which are particularly significant in finance – translate into increasing competition between different exchanges or exchange technology providers. The correspondence between specific trading protocols and specific price behaviors is abundantly studied in market microstructure research and experimental economics. Sociological research contributes also to the analysis of the implications of the various technologies that sustain transactions in financial markets (e.g. Beunza and Stark 2004; Knorr Cetina and Bruegger 2002; MacKenzie and Millo 2003; MacKenzie 2004; Godechot, Hassoun and Muniesa 2000; Lépinay and Hertz 2004; Preda 2003; Zaloom 2003).

In this paper I focus on one particular technology: the telephone. Research in conversation analysis and workplace studies (e.g. Boden 1994; Luff, Hindmarsh and Heath 2000; Hutchby 2001) has pointed out the relevance of this technology in work settings. Research on emerging repertoires of connectedness and availability in everyday life also emphasize the crucial role of telephonic uses and strategies (Licoppe 2004). Telephones are particularly pervasive in financial markets. The fact that computer screens have become a leitmotiv of financial culture does not preclude market actors for making an extensive use of telephonic devices. The phone call is an essential feature of many market interactions and telephony constitutes a non-negligible part of the exchange technology business. As I attempt to show in this paper, empirical investigation on the use of telephones in trading rooms points to a variety of telephonic practices, which do have an impact on the way transactions are shaped. Also, the sociological discussion on how economic transactions are embedded or not in social relations (Granovetter 1985) can find in such investigation an interesting source of evidence. It is obvious that OTC (over the counter) markets – especially in the case of complex, custom-made products designed for specific corporate

clients – are potentially more ‘socially embedded’, in Granovetter’s sense, than markets such as centralized, order-driven equity exchanges in where counterparts cannot choose each other bilaterally – especially in the case of automated, anonymous auction protocols. Although financial markets have provided good occasions for sociological analyses in terms of social networks (Baker 1984), they have also promoted a renewal of the sociological repertoire, precisely because technical mediations challenge classical notions of market networks (Knorr Cetina 2003). Telephonic practices themselves are useful indicators of the extent to which the identification of a counterpart relies on bilateral recognition or not in one particular market configuration.

But, perhaps more importantly – and slightly beyond the problem of social embeddedness –, a sociological investigation on the use of telephones in financial markets provides a fine occasion to deepen the contribution of science and technology studies to economic sociology. Instead of considering the telephone as a passive media, a mere instrument serving human interaction as a vehicle for voice, the research presented in this paper pays attention to the way in which this device’s technical features allow shaping action in particular ways and performing a number of effects that are relevant to the functioning of markets. The telephone – and dedicated trading room voice technologies in particular – allows configuring interlocutory relations in several ways, with variable degrees of privacy, and variable ways of making the market audible. This translates in variable ways of making trades and of making prices. The way the telephone is handled in financial markets can be thought of as a process of ‘co-construction’ of both users and technology (Oudshoorn and Pinch 2003). The device imposes its features and induces a ‘script’ (Akrich 1992), but traders also engage into creative uses and combine the telephone with other market technologies such as electronic trading systems. The way market counterparts address each other cannot be fully understood without an analysis of the technologies that allow organizing their encounter (Callon and Muniesa 2005).

In this paper I explore telephonic practices in a number of relevant financial settings. My empirical material comes from a set of fieldwork observations and interviews carried out between 2000 and 2002 in the trading rooms of several investment banks and brokerage houses in France.¹ In a first section I briefly describe professional telephony systems for financial trading rooms. In the three next sections I illustrate communicational usages

involving telephones in three different environments: a market-making environment, a stockbroker environment and a sales environment. For the market-making environment, I use the example of a bond trader trying to get a better price. For the stockbroker environment, I describe brokers' telephone strategies previous to the introduction of anonymity in an automated stock exchange. For the sales environment, I comment on new technological combinations aiming at enhancing the identification of clients. In the concluding section I address some sociological implications of the use of telephones in financial trading rooms.

Features of trading room telephony

Trading room telephones are highly sophisticated devices. Several specialized vendors such as IPC Information Systems, Syntegra (British Telecom) and Etrali (France Telecom) provide dedicated voice trading technology for financial trading rooms. These services include aspects such as specialized voice and data networks, recording technologies, and desk turrets.

Unlike more conventional telephony systems, trading room telephony systems allow to handle several simultaneous calls. All calls can be treated frontally, without queuing. Such systems allow users to manage several open lines with several interlocutors – up to 28 simultaneous calls, for instance, in the case of Etrali's most widespread system (Etradeal). In daily activity, a line may still be open even if interlocutors are not currently engaging into a conversation, so they can be immediately available to each other.

Most trading room telephone turrets include a board, often in the form of a touch screen interface, where the user can parameter several pre-defined contacts. Several color codes notify incoming calls or call status. Lines can be opened or closed with one touch – i.e. they do not need to be dialed, as communication is handled through specific digital voice and data networks. Some systems allow saving turret configurations in a personal card, so that a user can keep his private phone book and recover it in another desk. Incoming sound may be displayed through phone handsets, earplugs or speakers. The user can speak up through a phone handset or through a microphone (see figure 1).

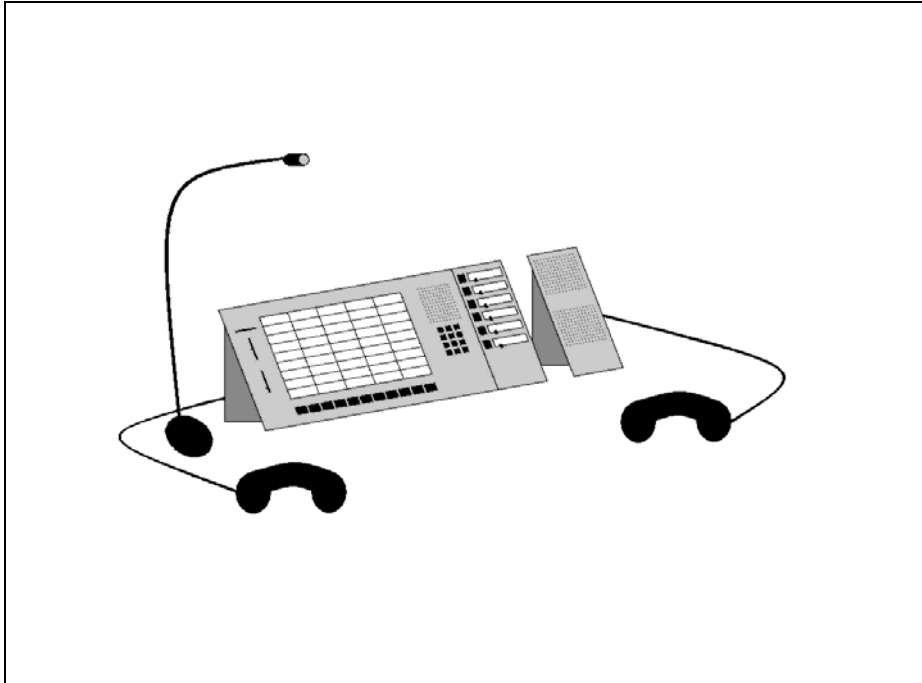


Figure 1. Schematic representation of a trading room telephone turret: a microphone, a touch screen, an interphone module ('the box', on the left side) and a couple of handsets.

Permanently open lines can be handled through a special interphone module, often alluded to as 'the box' (*la boîte*, in French), that allows traders to hold permanent lines with brokers or market makers. The 'box' is particularly relevant for market life:

"If you don't have your brokers in the box, you are not in the market!"
(Options trader and market maker at an investment bank, 07/2001)

This communicational environment allows for complex arrangements. It is not unusual to witness customized uses of telephones in trading rooms. A trader, for instance, can physically bend his desk microphone towards the interphone module (the 'box') in order to share with a client the morning analysis delivered on the phone, through the 'box', by a broker. The extent to which a call can be fully private is adjustable. User's availability is never straightforward, as the latter can deploy many strategies for allocating call handling priorities. The absence of automatic call queuing protocols gives the operator the possibility of recognizing incoming calls, of deciding which to take first, of discriminating them on the basis of heterogeneous strategies, and of managing them through a wide

variety of choices – pass the call to a colleague, handle simultaneously several calls, hold the line with or without sound, etc. It takes actually some time before a neophyte gets used to this technology. And mistakes – such as letting a client accidentally listen to a conversation with a broker – are not rare.

Real-time identification (and authentication) of the interlocutor is an essential feature of this kind of communication devices. All calls can also be tracked through specific back-office technologies. In contemporary trading rooms, telephone activity is always accompanied by recording technologies. All telephone conversations are recorded, time-stamped and saved on a secure server. In the case of trade dispute with a counterpart, or other controversial events, this memory allows for a rapid identification and audit of telephone interactions. Although it is not unusual to observe uses of mobile phones in trading rooms, the use of dedicated telephone turrets is commonly acknowledged – if not enforced – for most trade-sensitive, professional conversations. Recent technological developments including CTI (Computer Telephony Interface) are often oriented towards an enrichment of identification. For instance, some vendors such as Etrali allow coupling their telephone technology with CRM (Customer Relationship Management) software: a telephone event triggers a computer action such as the real-time display in a PC screen of relevant information about the interlocutor that is on the line.

Trading room telephone technology is flexible and permits diverse communicational arrangements. On the overall, an important feature qualifies it: the recognition of the counterpart. Although not always strictly private and bilateral, telephone interactions are primarily based on the identification of interlocutors and the deliberate engagement into conversations. In this respect, this particular exchange technology is quite different from other technologies such as centralized electronic trading systems that function on the bases of double auction protocols, now operating in many stock exchanges. As opposed to telephones, such exchange technologies are often compatible with – if not purposefully based upon – the anonymity of counterparts. Of course, as will be emphasized below, exchange technology alternatives are not fully exclusive. Telephones and screens may cohabit and combine.

Getting a better bid-ask spread

Our first empirical illustration of telephone practices in financial trading rooms deals with market-making environments. ‘Market-making’ is a particular, quite widespread way of organizing trade in financial markets. Generally speaking, in such environments exchange is handled through intermediaries called ‘market makers’ or ‘dealers’. In order to purchase or to sell a specific product – for her own account or on behalf of a client – a trader in an investment bank needs to get in touch with a market maker that is able to propose a selling or a buying price to her. Market makers publicize their bid-ask spread, i.e. the prices at which they are ready to trade, for the products they are specialized in. They trade for their own account and make economic profit out of the difference between the prices at which they sell and the prices at which they buy. Several market makers can compete in order to capture trades for a same product. Markets for which there is no such intermediaries and where trades are directly handled between bilateral counterparts are commonly referred to as ‘over the counter’ or OTC markets.

Bond markets often work on market-making basis, especially when the scale of the issuer, the liquidity perspectives and the stability of the product are considerable. In contemporary bond markets, market makers can publish their indicative quotes or indicative ‘bid-ask spread’ (i.e. the price at which they would be ready to buy or to sell a specific government or corporate bond) in specific dealing screen interfaces, developed by companies such as Bloomberg or Reuters for this particularly complex informational environment (Brière 2005). Typically, a trader can consult these publicly available indicative quotes and then make a phone call to the relevant market maker in order to close a transaction or to refine the price offer. But contemporary screen interfaces include also specific features that allows not only consulting these publicly available indicative quotes, but also to engage into electronic interaction with market makers (through an electronic messaging system) and ‘taking’ a specific price from the screen. However, and despite of the usefulness of these screen-based tools, exploratory and trading activity is still frequently handled through the telephone.

For instance, while exploring the market for a counterpart, this corporate bond trader will use the indicative quotes displayed on the Bloomberg interface, but not exclusively nor exhaustively:

“It’s not centralized. You have to go and compare yourself. Comparing between several electronic systems is not so used, because it’s quite new. But comparing on the telephone is a normal activity.” (Corporate bond trader at an investment bank, 11/2000)

This informant emphasizes the fact that comparison is an essential part of her activity. In this market-making environment, different competing prices might be available at the same time for a same financial product. It is quite remarkable that, despite the fact that screen interfaces can provide a sound comparative space, telephone interaction is often preferred. The telephone, of course, is not particularly helpful to aggregate information in a single metric space. The use of the telephone lies more on the issue of ‘price improvement’, i.e. on the capacity to mobilize close networks in order to obtain favorable conditions.

Telephone contact gives this trader the feeling of actually being negotiating, as opposed to trading in an order-driven platform. She compares these trading practices in corporate bond markets to French listed future contracts which are traded, in this case, on an electronic order-driven platform:

“For the future contracts [traded on an electronic platform] you don’t have any negotiation power. You can’t ask them for a better price. With the market-making system, you can say ‘Listen, you’re joking with such a price, try to get me a better one, I can find a better one elsewhere.’ You can get in touch with the salesperson or directly with the market maker if he’s at our own bank.” (Corporate bond trader at an investment bank, 11/2000)

This trader works in a large investment bank. For some products, she can use the services of a market maker working at the same bank, but not always. For many products, she needs to get in touch with a salesperson at another bank or brokerage house in order to obtain a suitable price.

This situation can lead to interesting interactions where the recognition of the counterpart is used to improve the quote for a particular transaction. Telephone practices are central to these interactions – and little flaws in the adjustment of the telephone sound parameters like the following give good evidence of this:

“If you call a salesperson, you ask for a price, and you say ‘Listen, could you get a better price for me?’, sometimes you can ear him talking to the market maker, if he keeps his box opened, ‘Hey! Could you give me a better price? It’s for [name of the bank].’” (Corporate bond trader at an investment bank, 11/2000)

On the overall, these communicational usages correspond to a market arrangement in where social networks play an important role in trade. Finding a trade counterpart is based more on the exploration of local networks (in the sense of close professional networks) than in exhaustive comparison for quote improvement. Within these networks, the identification of a counterpart cannot be easily separated from a series of business entanglements – starting with contractual duties and brokerage commissions (Ortiz 2005). A trader will also feel somewhat compelled to trade with the counterpart that provided analysis for that particular transaction:

“If an idea is coming from Morgan Stanley, it is quite fair to go and deal with Morgan Stanley. You see? It’s fair play. Because they pay for their research, in order to bring such ideas. They give you the idea, so you should deal with them. Well, they won’t try to find out if you dealt with JP Morgan instead, but... it’s a kind of a moral obligation. Of course, if their price is really bad, you go elsewhere. But it is not usual.” (Corporate bond trader at an investment bank, 11/2000)

These particular market arrangements are concomitant with the use of the telephone. To put it briefly, in a networked market the personal address book becomes a crucial trading tool. A trader will complain, for instance, if she is not allowed to customize the parameters of her telephone turret touch screen, or if she has lost the configuration of her turret. cursory observation of touch screen configuration in a trading room denotes extensive use of nicknames or first names (instead of full names, professional functions or bank names) in the identification of pre-defined contacts in turrets’ touch screens. A convenient

counterpoint to this kind of communicational market configuration is electronic trading or, more specifically, fully automated order-driven equity exchanges in where the identification of the counterpart is meant to be irrelevant.

Identifying a counterpart below the order book

Order-driven exchanges are often defined in opposition to market-making systems, the latter also being referred to as ‘quote-driven’ markets. The basic functioning principle of order-driven exchanges is the auction mechanism: the matching of buy and sell orders is not handled through a network of decentralized intermediaries but through direct confrontation in the typical form of a double auction – electronically or in an open outcry (Cohen, Maier, Schwartz and Whitcomb 1986; Lee 1998). A central feature of order-driven markets is the ‘order book’: the file in which standing buy and sell orders for an equity are queued and publicly displayed. A ‘market order’ is executed against the best available counterpart as soon as it reaches the market and a ‘limit order’ (i.e. an order with a price limit) is stored until a compatible counterpart is available. Other, more complex order types can also enter into play. In automated order-driven stock exchanges, such as the Paris Bourse (now Euronext), the counterpart to a trade is thus defined, in principle, through an automated allocation protocol.

Many equity exchanges are hybrid combinations of order-driven and quote-driven procedures. For instance, the New York Stock Exchange is often defined as a centralized order-driven market, but some intermediaries (the ‘specialists’) play a market-making role: they buy and sell for their own account in order to guarantee stock liquidity (see Abolafia 1996). Even fully automated order-driven exchanges can rely on some kind of intermediaries whose task is to guarantee liquidity for specific stocks. But, when they do exist, these intermediaries need to compete with a ‘public’, centralized order book.

The Paris Bourse is often presented as an extreme example of order-driven philosophy. The CAC system (*Cotation Assistée en Continu*), implemented in the late 1980s, allowed for a full computerization of price determination, order matching and shares allocation.² The NSC system (*Nouveau Système de Cotation*), introduced in the late 1990s, is based similar

principles and is the technological core of the Euronext market platform. Quotation is handled through a centralized double auction mechanism. Each stock is traded on a public, electronic order book: a single price is determined by an order matching algorithm. Market participants do not ‘trade’ against each other but against this ‘electronic auctioneer’. A clearinghouse facility allows for an aggregate settlement of all trades. However, bilateral contacts between counterparts are also possible at the Paris Bourse. Block orders (i.e. large size orders that could disrupt order book liquidity) can be traded on a parallel OTC platform called ACT, where trades are concluded on the basis of bilateral negotiation.³ Moreover, in some market segments such as the *Nouveau Marché* (a Paris Bourse section for technology stocks), some participants are authorized to develop market-making functions in order to activate market liquidity – but in compliance with the existence of a single, public order book for each stock (Revest 2001).

Let us focus on one particularly interesting combination of bilateral telephone communication and screen trading at the Paris Bourse. Trade-oriented telephone activity did not disappear from Parisian stockbrokers’ trading rooms with automation. During early automation in the 1980s, stockbrokers fought to embed into the electronic system some of the prerogatives they had in the open outcry market regime (Muniesa 2005). One was the ability to recognize each other’s identity in the screen display of the order book (as they did in the floor of the Paris Bourse before its dismantlement). The CAC system maintained the anonymity of investors, but it allowed stockbrokers (although only stockbrokers) to identify each other in the screen display of the electronic order book with an ‘agent code’, i.e. and identification number for each order hitting the electronic order book. As one of the architects of the Paris Bourse early automation puts it:

“We did not succeed in imposing anonymity. Why? Because during the CAC negotiations we did not succeed in saying ‘You stockbrokers will not be able to know who is there anymore, you will not know that this is this particular stockbroker and this is that other one.’ Stockbrokers were clearly saying ‘We want to keep this advantage, we know that this stockbroker works for this investor and we want to keep that information.’ [...] For and against anonymity: this is a question of power. Of power left to stockbrokers or to investors. In the end, we decided to favor stockbrokers.” (Engineer at the Paris Bourse during the automation process, 07/2000)

Full anonymity of the Paris Bourse's electronic order book was introduced much later, in 2001. Until then the identification of counterparts (at stockbrokers' level) was possible. Through the 'agent code' displayed on trading screens, traders could know the identity of the potential counterparts that were posting limit orders to the order book. This allowed for interesting practices involving telephone interaction. Traders could identify an interesting move in their screens, and then give a call to the corresponding agent in order to arrange a transaction 'below' the order book – for instance, through the block orders channel:

“You're in front of me, you are agent number 512. I am 521. I know you are willing to sell. I see it in the screen. You sell systematically. So I call you. And I tell you 'Ok, I'm a buyer for 100 000, what's your quantity?' You're going to tell me 'Listen, I sell 100 000.' 'So, mine.' We make a trade. It's done. We are not in the order book anymore. We do this on the ACT.” (Trader at a brokerage house, 10/2000)

The electronic order book can thus be used to make signals about potential trades. Traders can interpret its content in search for an opportunity for a block order. An agent posting recurrent small orders, hiding her global size while waiting for an interesting counterpart to come-up, will be contacted by an interested stockbroker. They can match their overall volume in the order book itself. If they want to avoid any risk of mismatching (due to the presence of third parties or 'intruders' in the order book), they can use the parallel OTC system for block orders (ACT).

The functional link between the electronic trading interface and the telephone is made explicit through cases like the following in where a broker developed some proprietary software that facilitated phone access (automatically matching the agent code on the screen with the identity and telephone number of the counterpart):

“Here, you see [showing the order book of a stock on the screen], you have the market maker's prices for this stock [at the *Nouveau Marché*, where some stockbrokers are officially entitled to perform market-making functions]. If you

want to give him a call, you just have to click, and his name and telephone number are displayed on the screen.” (Trader at a brokerage house, 02/2000)

This mixture between public activity on the order book and private telephone communication was quite usual in Parisian stockbrokers’ trading rooms until full anonymity was implemented in April 2001. Other informants explain that, even when the purpose of the phone call is not to trade immediately, it is good to be able to call:

“It’s good to see who does what. It’s important to be able to call the person that pops up into the order book. Even if the trade is already gone. It’s useful to call, just to check if he has some business left. Or just to make contacts, to show that you are there.” (Trader at a brokerage house, 07/2001)

But, since the implementation of Paris Bourse’s new Euronext market model (that involved the merger with several European exchanges), the disclosure of agent codes has been removed from the order book. From 23 April 2001, the market turned fully anonymous. The introduction of anonymity responded, in part, to the demand of big investors and big Anglo-American market actors of the brokerage and investment banking sector. In a context of increasing international competition between stock exchanges it seemed appropriate to favor the interest of important actors that were potentially interested in market configurations in where their actions could be less noticed. As mentioned above, the identification of counterparts at stockbrokers’ level could give modest brokers some clues about who was doing what in the market, which supposed a significant strategic advantage. Big actors that could originate important market movements had thus an interest in reducing this source of strategic information. As some informants commented unofficially, the introduction of anonymity at the Paris Bourse corresponded, in part, to efforts to retain these actors in a context of fierce competition.

How did Parisian stockbrokers react? The French financial media echoed some disagreement:

“The removal of the code identifying the intermediary placing orders on the order book, introduced yesterday with the new Euronext market model, has provoked some protests from several operators in the Parisian marketplace. It

will be more difficult indeed for small brokers to follow market trends. According to some market professionals, this will lower market liquidity and will represent a disadvantage for arbitrageurs. As [a risk arbitrage fund manager] puts it, ‘It was quite useful to know which brokers were at buy or sell side. It was possible to contact interested counterparts directly.’” (Translated excerpt from: “L’anonymat gêne les professionnels” [Anonymity disturbs professionals], *La Tribune*, 24 April 2001, p. 1)

A number of financial actors expressed their concern and emphasized the fact that many of them were seeking at the Paris Bourse precisely what was relatively rare in other stock exchanges: the identification of counterparts.⁴ However, the market did not suffer for a considerable disruption of liquidity and this technical reform did not impact significantly in trading levels. But, what is definitively sure is that it consistently transformed telephonic practices in Parisian stockbrokers’ trading rooms.

The transformation of telephone practices probably translated into reconfigurations of market networks. By suppressing resources for counterpart identification on the trading screen, the introduction of anonymity can potentially disrupt the development of a network-shaped market in the sense that it reduces the possibility of profitable telephone contact. How can social networks develop and play a role in trading activity if the identity of potential counterparts standing in the market is not public anymore? But anonymity can also trigger a somewhat opposite phenomenon: the development of an important network of counterparts among ‘big’ players that co-exists with a ‘public’ order book that no longer works as a device for signaling trade availability. In other words, anonymity would hinder the openness of market networks but would nonetheless protect established contacts between a few important brokers that are able to retain and direct an important part of order flow. Our data do not allow us to explore this hypothesis further. But it is interesting to observe that, in the months previous to anonymity, actors themselves were developing such kind of hypotheses:

“Anonymity will definitely help developing the electronic order book. But it will be very hard to get a counterpart, especially for market makers here at the *Nouveau Marché*. They won’t completely disappear, but they will need to have extended networks. They’ll need to be able to call here and there, without

relying on the screen as a point of reference. We'll not be able to say 'Look, here comes 512 selling'. If you are 512 you will get a call because you are in a network, not because you are seen." (Trader at a brokerage house, 10/2000)

Interestingly enough, some informants unofficially commented that some market participants were actually developing techniques for signaling counterpart identity through the trading screen anyway. In principle, the only information that one can post to an anonymous trading system is price and quantity. But it is possible, for instance, to 'disguise' an agent code into the quantity. The Parisian system allows traders to trade 'odd lots' (i.e. order lots that are not multiple of a determined 'board lot' of, say, 10, 50 or 100 shares). A trader can thus announce an order to buy 100 512 shares instead of just 100 000 in order to signify the presence of agent 512 and his willingness to get through the phone.⁵ This case thus shows the strategic implications of coupling the telephone with the screen.

Monitoring the client

Relevant uses of the telephone, often combined with the screen, can be observed in trading activity in several market configurations. Our two preceding examples focus on the trading side of financial operations: traders handling buy and sell orders for specific products need to match them against a counterpart (through a network of brokers and market makers or through an organized order-driven market, respectively). Other relevant uses of the telephone can be found, however, in the commercial side of financial operations, i.e. at the level of the salesperson (or sales trader). In a trading room, these uses are located at the sales desks, as opposed to the trading desks. A salesperson at a sales desk enters into interaction with corporate clients (corporate treasury departments, asset managers, etc.) in order to propose financial operations, which eventually translate into the origination of buy and sell orders on behalf of these clients. The salesperson then typically passes these orders for execution to a colleague in a trading desk or to a distant broker.

In this kind of activities, the telephone is a major tool. In sales desks, voice technology can coexist with computer developments. But, unlike in trading desks, those developments are often explicitly oriented towards an enhancement of the bilateral recognition of

counterparts, and rarely informed by principles such as anonymity or publicity. As mentioned above, CTI (Computer Telephony Interface) and CRM (Customer Relationship Management) technologies are coming to the forefront of telephony innovation in trading rooms: this is particularly true for sales desks. Many developments aim at identifying the client on the line in real time, so to automatically trigger the display of relevant information on the workstation's screen, in order to enrich the resources for commercial conversation.

The marketing arguments upon which these new customer relationship technologies rely are often based on knowledge relevance and real time: to know the customer, to focus on her precise needs, to optimize data availability within time constraints, to enhance proactive contact. In other words, it is a matter of refining the salesperson's response in a context where there exist a strong tension between relevance and urgency in the course of action.

A salesperson in a trading room usually handles a reduced number of clients:

“Each salesperson here will handle no more than twenty clients. If we only consider the good clients, the ones that are contacted on daily bases, we can talk about six or eight clients per salesperson.” (Sales desk manager at a Foreign Exchange dealing room, 01/2002)

“I have fifteen clients in my box. This is too much. The best would be to have three or four big clients, plus four or six less important.” (Fixed income salesperson at an investment bank, 12/2001)

The relation with a client is far from being distant. It is, in effect, in this commercial side of trading room activity that more ‘socially embedded’ market relations are to be found. A salesperson typically meets personally her client on regular bases. Close sociability is a generalized practice. Professional telephone conversations include all the sociological leitmotifs of personal closeness: asking news about holiday trips, scheduling time for going out together, knowing first names of the client's family members, etc.

However, closeness to (and rarefaction of) commercial counterparts do not always translate into an easy client monitoring. In order to capture business opportunities, a salesperson

needs to refine her knowledge of her client's interests and strategies, which is far from straightforward as the following testimony shows:

“He [a client] wanted to know what we were doing with [name of equity]. We know that there is a broker trying to sell at 3.24. My client just asked me to sell a big amount at 3.25. He asks me to sell, so I guess he has bought it somewhere else. Not with us, anyway. We cannot grasp his full strategy.” (Sales trader at a brokerage house, 11/2001)

Corporate clients – and especially large scale corporate clients (other investment banks, treasury departments of important companies, fund managers, etc.) – will usually distribute their strategy among several intermediaries. In many cases, it is virtually impossible for one salesperson to monitor the overall client's strategy. In order to propose relevant operations in a proactive manner (instead of just hoping that the client will call with a particular request) the salesperson will try to gain knowledge of the client mobilizing heterogeneous sources:

“A month ago, my client [treasury department of a large corporation] told me that he had an exposure in Argentina. Now, there are big disorders with the Argentinean currency. I can try to anticipate my client's needs and give him a few ideas about how to cover this currency risk. [...] I can also guess about his exposure in Argentina by other means. For instance, I can take a look at his firm's balance sheet, and look for subsidiaries in Argentina.” (Sales desk manager at a Foreign Exchange dealing room, 01/2002)

Proactive sequences often take place in the early morning: the salesperson will call her clients and report some relevant news, some information from her trading room's morning meeting, and some comments about possible trends and strategies. The possibility of customizing this kind of information will vary on the basis of several elements, including the salesperson knowledge about the client's needs and strategies. During the rest of the day, such proactive sequences become rarer. The salesperson will be waiting for her client's requests, and managing the subsequent deals with the trading team.

Many informants reported interest in any technical device that could help salespersons to keep a memory of the interests expressed by each particular client, to trigger an alert message when relevant market circumstances are met, or to get instant display of relevant information with incoming calls. The idea underpinning such CRM (Customer Relationship Management) technological developments is not just to recognize a client but to couple her identity with some heterogeneous information: market events associated to her interests, information about dealing activity, about the characteristics of the product sold, information about the client's account. Of course, this kind of information is available to the professional salesperson through her desk's various computer terminals. The issue at stake is its rapid connection to telephone events, i.e. to the commercial conversational situation. What recent developments in CTI (Computer Telephony Interface) confirm is the tendency to render explicit the functional connection, especially in the salesperson's environment, between the phone call and the screen.

The particularity of telephone-based interaction in a sales environment stems from the fact that corporate counterparts (i.e. the salesperson's interlocutors) are considered to be more demanding in terms of interlocutory attention than inter-bank counterparts (i.e. the trader's or the broker's interlocutors). The former are less likely to easily fit a streamlined treatment – often alluded to as STP (Straight Through Processing) – in part because of the prevalence of the telephone as a crucial media for sales interaction. Generally speaking, commercial interaction with corporate counterparts requires a more qualitative approach, thus more conversational. This is not only due to the idiosyncrasies of corporate clients' demands. In a sales environment, sound description of products is crucial, especially in the case of complex products whose properties and behavior need to be carefully explained to the client. The more 'mature' a product is – i.e. the more standardized becomes its description – the less crucial its conversational account will be.

Concluding discussion

The fact that conversations are a constitutive part of financial life is a sociological and historical evidence: this is not only related to sociability practices of ‘conversations-about-the-world’ but also to the financial matter of ‘conversations-qua-transactions’ (Preda 2001). It is true that, with the development of modern market technologies – especially electric and electronic technologies –, price display and commercial transactions partially abandon their conversational nature. The stock ticker and the price chart, for instance, consistently transform the way in which things are rendered public and discussed about in financial markets (Beunza and Muniesa 2005; Preda 2005). In contemporary markets, however, the financial conversation – as both ‘conversation-about-the-world’ and ‘conversation-qua-transaction’ – is far from being a pure remnant of more traditional practices. The pervasiveness and innovativeness of voice technologies in financial trading rooms give good evidence of this, despite of the ‘all-computerized’ syndrome that characterized financial mythology in the early 2000s. As a financial journalist puts it in 2003:

“A way of life whose days seemed numbered three years ago, because of the advance of dealing platforms that match buyers and sellers electronically, has not only survived, but flourished. Brokers who for a while put their faith in pure electronics have had to dust off their handsets.” (Excerpt from: “Voice squad”, *The Economist*, 11 January 2003, p. 69)

We also share the following analysis from this same journalist:

“So brokers these days use a mixture of voice and electronics. That said, they believe that more of the less complex trading will be carried out electronically; and the more liquid the instrument, the likelier it is that it will be traded on screens. For example, a few big spot Foreign Exchange trades are still done by telephone, but most, perhaps 70%, are done automatically on an electronic brokerage system, known as EBS [Electronic Brokerage System], built by big banks nine years ago. That leaves plenty of complex deals to be haggled over by brokers – say a credit-derivative transaction combined with an interest-rate swap and the purchase of bonds, involving several buyers and sellers.” (Excerpt from: “Voice squad”, *The Economist*, 11 January 2003, p. 69)

‘Mature’ markets (listed equities, spot markets), with a tendency to mass-trading and with decreasing arbitrage opportunities, conform more straightforwardly to liquidity-enhancement protocols such as public, anonymous auction mechanisms (or ‘screen markets’ at large). Conversely, trading activity accompanying complex derivative contracts – especially in the cases in which large amounts of money are involved – is likely to rely consistently on telephone interaction. The stability of the description of a product and the calibration of the engagement of commercial counterparts is clearly at stake in such transactions.

The issue of the identification of the counterpart is central to this shifting aspect of market configurations. By ‘identification’ of the counterpart, I mean the detection and recognition of a specific and singularized counterpart, with such specific characteristics as corporate identity, professional qualification and/or possible personal acquaintance. Although often corresponding to a physical person, a ‘counterpart’, a ‘client’, a ‘trader’ or a ‘broker’ are always engaged in trade as instances of moral persons such as a bank, a corporation or an investment fund. Identification applies here to any such elements of personality (physical or moral) indistinctively. In this context, the identification of the counterpart diverges from market arrangements characterized by anonymity, in where the counterpart is not identified bilaterally, i.e. trades are executed against an aggregate (and thus abstracted) counterpart.⁶

As the examples presented in this paper show, the use of the telephone is a good indicator of the intensity of the identification of counterparts in a particular market arrangement. Because of its technical qualities, the telephone constitutes a crucial tool for counterpart identification. Of course, the telephone as such also typically serves the conversational features of a particular market arrangement – although financial conversations can also be supported by open outcry architectures or by electronic messaging systems.⁷ My point, however, is restricted to the problem of identification and to its relation to telephones (I do not elaborate here on the conversational nature of the interaction). Also, I do not wish to claim that the telephone as such is the pivotal technology of counterpart identification. As observed above, electronic trading terminals can be also used for that purpose. My point is that telephone practices provide good indications of the concrete empirical arrangements that market actors may deploy for (or against) counterpart identification, and also, more

generally, that it is impossible to fully understand the structure and functioning of a market without a sociological analysis of the technologies that underpin it.

The widely accepted fact that social networks matter in market formations (Granovetter 2005) often translates into a rather straightforward claim: the fact that markets are ‘socially embedded’ means that (to variable degrees and depending on the circumstances) there is a point in trading with ‘known’ counterparts, especially with ‘personally known’ counterparts. But this is not always the case. An account of the concrete technologies that allows for an activation of such personal knowledge of the counterpart can significantly enrich this sort of sociological analysis. In a certain sense, this research direction is to explore the correspondences between what is usually known as ‘social networks’ (in the sense of the economic sociology tradition) and the material networks of communication or ‘technical networks’ that allows for a ‘tie’ to be expressed and articulated in a particular code and manner.

In this paper, I have provided a brief contribution to this perspective by focusing on the use of trading room telephony in three market circumstances: a situation involving interaction with market makers in bond markets, the strategic use of the telephone in an automated stock exchange before full anonymity, and client monitoring practices in sales desks.⁸ In all cases, telephony combines with other electronic media. In the first case, the telephone combines with screen display of prices in a network-shaped market configuration and gives traders the opportunity to activate resources for price improvement. In the second case, the telephone offers crucial resources for liquidity search, especially to small players that try to compete in an electronic market platform that is to censor the public identification of counterparts. In the third case, conversational attention to corporate clients is accompanied by attempts to enrichment electronically the relevance of the identification.

Although in the first and the third cases there is a point in trying to trade with ‘known’ counterparts (as a way to maintain a certain play of trust and fairness, for instance), the general concern in all three cases is rather about knowing which counterpart might be available and ready for a profitable trade, and getting in touch rapidly. In the three cases I have studied, telephone interaction is typically performed with eyes staring at a screen, often inspecting on the computer terminal (price display services, trading systems or

customer database facilities) an aspect of the counterpart that is on the line – a configuration that sharpens the sense of counterpart identification, in a kind of ‘I-hear-you-here-and-I-see-you-there’ schematic motto.

Different market configurations are characterized by different material arrangements. A trader with a telephone differs consistently from a trader without a telephone. Differences sharpen when we consider all the multiple functionalities of different telephony systems and all their possible combinations with other surrounding market technologies. When I talk about ‘differences’ I do not refer exclusively to a matter of trading room local material culture. This difference affects how transactions are shaped, how prices are set, how strategic actions are performed, and how connections between market counterparts are enacted.

Endnotes

¹ I conducted this research when I was working at the social sciences laboratory of France Telecom R&D, in Paris. Most of the empirical material corresponds to a research partnership with Etrali, a France Telecom company specialized in voice technology for financial markets. I had the opportunity to follow Etrali's innovation processes in the area of trading room telephony for one year. I visited ten different trading rooms (corresponding to five investment banks, four brokerage houses and one corporate treasury department) located in Paris and Ile-de-France and interviewed several operators at their work desks. These included both traders and salespersons working in a variety of markets (listed stocks and derivatives, bonds and currency markets). I also use material from the work carried out for my doctoral dissertation at the Ecole des Mines de Paris (Muniesa 2003). All interviews were carried out in French between 2000 and 2002 (excerpts provided in this paper are translated by myself). I would like to thank France Telecom R&D and Etrali for their support for this research. I would also like to thank Valérie Beaudouin, Daniel Beunza, Marie Brière, Michel Callon, Karin Knorr Cetina, Vincent-Antonin Lépinay, Olivier Godechot, Christian Licoppe, Anne-Sophie Marie, Alex Preda, Valérie Revest, David Stark and Pascal Zératès for helpful comments and suggestions. A preliminary version of this paper was presented at the New York Conference on the Social Studies of Finance (Columbia University, 3-4 May, 2002).

² The CAC system was developed on the basis of Toronto Stock Exchange's CATS (Computer Assisted Trading System). For a sociological analysis of the transition from open outcry to CAC, see Muniesa (2005).

³ In 1994, a block trading facility was introduced at the Paris Bourse, based on Nasdaq's ACT system (Automated Confirmation Transaction), later replaced by a new technology called TCS (Trade Confirmation System).

⁴ For an analysis of how this issue connects with the ambiguous notion of transparency, see Grossman, Luque and Muniesa (forthcoming). The identification of counterparts is compatible with a 'literal' notion of transparency. But the enforcement of anonymity can also be justified in terms of – a more 'abstract' notion of – transparency.

⁵ The literature on collusive bidding analyzes similar practices, for instance in the case of the FCC spectrum auctions (see Guala 2001).

⁶ See Millo, Muniesa, Panourgias and Scott (2005) for a study of the implications of central counterpart methods in financial markets.

⁷ See, for instance, Knorr Cetina and Bruegger (2002) for an analysis of screen-based conversational interactions in the Foreign Exchange spot market.

⁸ I do not provide in this paper proper social network analysis of these situations, mainly because of the impossibility of gaining access to exhaustive, quantitative data on telephone activity in one or several trading rooms. In different research conditions, interesting outcomes could be obtained using network analysis methodologies on telephone activity.

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