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Beyond Orality and Literacy: Letters and Organizational Communication.

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Juin 2008

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Abstract:

We draw on communication theories to study organizational communication from a literacy perspective. We suggest that the current debate over the capability of new media to foster the sharing and development of ideas and allow the expression of emotions, which presupposes face-to-face communication as the ideal form of communication, disappears once we switch the focus from the medium to the modality – written versus oral communication. An analysis of personal and organizational letters illustrates the role played by written communication throughout human history, in exchanging ideas and supporting emotional bonds.

Key words:

-Orality and Literacy
- Online Interactions
- Communicative Practices
- Letters
- Organizational Communication

Résumé :

Prenant appui sur des théories de la communication, nous proposons la « literacy » comme une perspective pertinente pour étudier la communication organisationnelle. Nous suggérons que le débat actuel sur le développement des idées et l'expression des émotions qui présuppose que la communication face-à-face est une forme idéale, disparaît une fois le centre de l'analyse déplacé du medium à la modalité - l'écrit vs. l'oral. Une analyse de correspondances personnelles et organisationnelles illustre le rôle joué par la communication écrite tout au long de l'histoire humaine, en permettant l'échange d'idées et le développement de liens émotionnels.

Mots-clés :

-Oralité et Literacy
- Interactions en ligne
- Pratiques communicatives
- Lettres

JEL Classification : Z13

Beyond Orality and Literacy: Letters and Organizational Communication

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Abstract

We draw on communication theories to study organizational communication from a literacy perspective. We suggest that the current debate over the capability of new media to foster the sharing and development of ideas and allow the expression of emotions, which presupposes face-to-face communication as the ideal form of communication, disappears once we switch the focus from the medium to the modality – written versus oral communication. An analysis of personal and organizational letters illustrates the role played by written communication throughout human history, in exchanging ideas and supporting emotional bonds.

Keywords: orality and literacy; online interactions; communicative practices; letters; organizational communication.

Authors listed in alphabetical order. Both authors contributed equally to the paper.

Beyond Orality and Literacy: Letters and Organizational Communication

Communication has always been a central phenomenon in organizations, and even more today because of the proliferation of new forms of communication (Yates & Orlikowski, 1992), especially as organizations become more distributed (Fulk & DeSanctis, 1995). In this context, the capabilities of various media to support distant collaboration via idea sharing and emotional bonds have become a main area for research. For example, the success of large groups of software developers in developing complex products like the Linux operating system, while rarely seeing each other and interacting mostly via emails, has raised questions about the capabilities of written, computer-mediated communication to support the exchange and production of ideas, and to allow the development of emotional bonds among the members of these communities (O'Mahony & Ferraro, 2007; Moon & Sproull, 2002). Such an example questions the current tendency to use oral communication as the standard by which we analyze organizational communication and the capabilities of various media.

In order to understand what gets communicated – and what doesn't – when people are separated by large physical distances, researchers have tended to highlight the advantages of face-to-face communication. The findings of studies comparing face-to-face communication to mediated communication tend to support the view that computer-mediated communication leads to task-oriented, impersonal, and even hostile communication, which does not create a positive environment for idea sharing and emotional expression (e.g. Kraut, Steinfield, Chan, Butler, & Hoag, 1999; Sproull & Kiesler, 1986; Trevino, Daft, & Lengel, 1990). For several decades, researchers have held that face-to-face communication is the ideal, best, richest way to communicate, and possesses unique advantages when compared to other types of communication

for sharing and developing complex ideas or expressing emotions (Daft & Lengel, 1984, 1986; Olson, Teasly, Covi, & Olson, 2002; Short, Williams, & Christie, 1976).

Recently however, the notion of oral communication as ideal has been challenged by findings that demonstrate the capabilities of computer-mediated communication in fostering the sharing of ideas and the expression of emotions. For examples, studies have showed that computer-mediated communication can support the expression of emotions and warm relationships as well as lively exchanges of ideas (e.g. Rice & Love, 1987; Tidwell & Walther, 2002; Cummings, Schlosser, & Arrow, 1995). These findings show that in some conditions - time of use for example, or extra features - the richness of face-to-face communication can be reproduced in an online context. Despite such conflicting results, these studies share two important features with the studies highlighting the limits of computer-mediated communication: a narrow focus on the medium of communication – "online", "computer mediated" – and the assumption that the ideal, richest way to communicate is face-to-face, oral communication. In all these studies, regardless of their findings, writing is relegated to an inferior position as it is seen as allowing only impoverished interactions. Therefore, research on the impact of media on organizational communication relies on assumptions about the relationships between the two fundamental modalities of communication: the written and the oral.

The relationship between oral and written communication, and of the presupposed richness of oral communication, is an old question. Plato, who is considered the first philosopher to write, is a strong critic of writing and argues that written words on a page are dead things that cannot speak, answer questions or come to their own defence (e.g. *The Phaedrus* 275e). Plato's criticisms of writing bear a striking resemblance to current objections against mediated communication (for example, the lack of quick feedback) (Daft & Lengel, 1984, 1986). This

similarity suggests that the current debates about the capabilities of various media to convey ideas and emotions are but the latest instantiation of the deeper tension between the oral and the written.

Indeed, recent studies of organizational communication focus on the medium and ignore the fact that, despite the novelty of the medium, online interactions rely on a fundamental and very ancient modality: writing. Since the invention of writing and until very recently, whenever physical distance separated people (and even when people were proximate), i.e., whenever oral communication was not possible or desired, humanity has communicated in writing, and primarily via letters (Yates, 1989). For example, in the 17th and 18th centuries, scientific communities that spanned many countries flourished while communicating primarily via letters (Collins, 1998). Moreover, written documents such as letters, reports, and memos have played a central role in organizations (O'Leary, Orlikowski, & Yates, 2002; Yates, 1989). Written material such as letters have been used to develop theories and hypotheses, express ideas and feelings, build (and sometimes terminate) relationships, and manage complex organizations. The existence of communities that communicate mostly in writing (including the recent example of the open-source software communities), as well as the conflicting findings regarding the capabilities of mediated communication, lead us to ask: Could it be that the current debates over computer-mediated communication (and more largely mediated communication) are a new version of an older phenomenon, the long-standing debate between orality and literacy,[i] between the spoken and the written word?

We propose an alternate theoretical perspective on organizational communication, one that addresses the long-standing debates over the possibility of idea development and emotional bonds among faraway people. Drawing on communication and literacy theories (Bolter, 2001;

Goody, 1987; Havelock, 1963; Ong, 1982), we develop a literacy framework that highlights the advantages of writing. The literacy framework goes beyond considering face-to-face the gold standard against which the richness of new media is evaluated, and becomes a tool for analyzing mediated interactions and organizational communication. Based on the distinction between media and modalities, our perspective integrates off-line and online communication, and illuminates the recent developments in media of communication by situating them in the context of a deeper tension that has infused human communication since the invention of writing: the tension between orality and literacy.

We proceed as follows. After reviewing the main theories of organizational communication, we present a theory of literacy and propose four dimensions of writing as an analytical tool for studying organizational communication. Through the analysis of several correspondences among philosophers and scientists, as well as of organizational letters in two distributed organizations, we demonstrate that letters offer a "rich" medium of communication that allows the expression of subtle and complex ideas as well as of emotions. We then show how the literacy theory can be used to analyze and understand various aspects of organizational communication, especially online interactions.

COMMUNICATION MEDIA THEORIES AND THE EXPRESSION OF IDEAS AND EMOTIONS

Overview of media theories

The media richness theory (Daft & Lengel, 1984; 1986), the most prominent theory of communication media, indicates that the different media vary in terms of their "richness". It considers that communication media have different capacities for resolving ambiguity, negotiating varying interpretations, and facilitating understanding. Using four criteria - the

medium's capacity to provide immediate feedback, the number of cues and channels available, personalization (the degree to which it focuses on the recipient), and language variety (Daft, Lengel, & Trevino 1987; Daft & Wiginton, 1979) - the theory posits the different media on a continuum extending from rich to impoverished communication. The “richest” medium is face-to-face, and the other media are classified in a decreasing order: telephone, personalized letters, memos and emails, impersonal written documents, and numeric documents. This conceptualization leads Daft and Lengel (1984; 1986) to claim that for difficult, equivocal topics, managers (should) use face-to-face discussion, and reserve memos, bulletins, and reports - and emails, although they are only mentioned in later studies – for topics that are better understood and specific. The assumption is that only face-to-face communication can provide a wide array of cues and language usages that enable exchange partners to express themselves fully and form a sense of one another.

Although media richness theory implicitly refers to emotions and relationships, the main theory that has addressed this aspect of communication is social presence theory (Short, Williams, & Christie, 1976). Similar to media richness theorists, the proponents of social presence theory criticize computer-mediated communication for its poverty, arguing that a medium’s social effects are principally caused by the degree of social presence it affords users. “Social presence” is a communicator’s awareness of the presence of an interaction partner. The degree of social presence in an interaction is determined by the communication medium, which is characterized and ranked (implicitly) along the same continuum as the one suggested by media richness theory. Therefore, an email conveys less social presence than face-to-face (which provides the maximum social presence) because it misses non-verbal cues such as facial expressions, tone of voice, gestures, direction of gaze, and posture. Again, the assumption is that

writing cannot convey one's state of mind, context, emotional and ideational state, or one's questions, doubts, tribulations, hypotheses, conjectures, hopes.

In sum, the media richness and the social presence theories are built on strong assumptions about the capabilities of face-to-face interactions and the limitations of the written word. Some of these assumptions refer to the amount and type of information transmitted. The absence of physical presence is equated with the absence of information, or at least of relevant and sufficient information that would lead to meaningful, rich communication. Processes such as using previous knowledge about the interaction partner, or imagining her are not considered either. Furthermore, the presence of the interaction partner is always considered as positive, as providing social, contextual information, and other benefits. The possibility of the other's presence being disruptive or distracting is not considered, as if people always vie for closeness and as if distance does not have some positive aspects (such as the ability to think, to concentrate in an undisturbed manner). Consequently, writing is assumed to be an impoverished modality; it can only support a limited amount of information, and only certain types of information. These theories, therefore, indicate that because computer-mediated communication is task-oriented and impersonal, it does not foster idea sharing or support emotional expression and relationship development. However, as we show below, the empirical evidence for these claims is mixed.

Sharing and developing ideas

Most research on the capabilities of communication media to foster idea development seems to support the claim that collaboration requires proximity and cannot occur in distributed contexts (Olson et al., 2002). For example, McGrath and Hollingshead (1994) note that groups using computer-mediated communication lack nonverbal cues are never really sure why someone has not replied to a message, and that these limitations have a negative impact on

collaboration. Similarly, Kraut, Galegher, and Egido (1988) report that physical proximity, and the informal interactions it triggers, play a key role in scientific research and collaboration. They therefore argue that the technology to support scientific collaboration should be as rich as possible, i.e., as close as possible to face-to-face interaction.

Recently though, these findings have been challenged by studies demonstrating how online communities can excel at intellective tasks. For example, Cummings et al. (1995) found that computer-mediated groups produced essays with higher integrative complexity than those of face-to-face groups. Moreover, the open-source and cognitive science communities are two great examples of how computer-mediated communication can support idea production and exchange (Kogut & Metiu, 2001; Schunn, Crowley, & Okada, 2002)). Hence, studies on computer-mediated communication, idea sharing, and collaboration have produced conflicting results. Similar contradictory findings emerge from studies of the possibility of emotional expression through online interactions.

Expressing emotions

Studies informed by media theories question the possibility of relationship development in non face-to-face settings, as they consider that computer-mediated communication eliminates cues that individuals use to convey trust, warmth, and other types of interpersonal affect. For example, Sproull and Kiesler (1986) argue that when social context cues - including aspects of physical environment and nonverbal behaviours - are missing, more excited and uninhibited communication (such as flaming – i.e. the hostile and insulting interactions via emails or in online forums) can ensue. In a similar vein, Kraut et al. (1999) and Putnam (1995) argue that email and online forums do not support the creation and development of emotional bonds among people. Also, scholars have argued that trust may not be possible in global virtual teams (Handy,

1995).

At the same time, recent studies have shown that computer-mediated communication can support emotional communication (Johansen et al., 1978; Rice & Love, 1987), and that people may in fact engage in more intimate exchanges online than in face-to-face (Tidwell & Walther, 2002). On the basis of such studies, Walther (1996) has argued that mediated interactions can be "as rich as" face-to-face interactions. He developed the social information processing theory which claims that the limited bandwidth offered by computer-mediated communication (compared to face-to-face) can be overcome as people get acquainted to the medium and become familiar with their communication partners (Walther 1992, 1995, 1996). According to this theory, computer-mediated communication does not differ from face-to-face communication in terms of the capability of social information exchange, but rather in terms of a slower rate of transfer. Walther (1995) reports that computer-mediated groups become less formal and less task-oriented over time. Other empirical studies showed that trust in computer-mediated teams can reach levels comparable to those in face-to-face teams over time (Jarvenpaa & Leidner, 1999, Wilson, Straus, & McEvily, 2006). Furthermore, researchers have also found that online networks of electronic support groups offer intense emotional and practical support (Galegher, Sproull, and Kiesler, 1998). Thus, this stream of research has produced similar contradictory findings as the body of research on ideas sharing.

These conflicting findings point to the need "to embrace the contradictory evidence as a replicated finding" (Barley, 1996: 1) and seek for an alternative framework. Before turning to the presentation of such a theory, we point out that in spite of their differences, the theories and studies reviewed above share two main assumptions that limit their explanatory abilities: a focus

on the medium of communication and a belief that face-to-face is the "best" (richer, original) medium.

Limitations of Existing Theories of Communication Media

Narrow focus on the medium of communication. Media theorists mostly aim to develop media selection models in organizations (Fulk & Boyd, 1991; Markus, 1994) due to the underlying assumption that an optimal match between channels and organizational tasks could increase organizational performance (Rice, 1993; Steinfield, 1992). Thus, studies tend to focus on the attributes of channels, especially of electronic channels or "new media". When these theories take into account other aspects of organizational communication, their focus is still on how these other elements (e.g., experience, context) are shaped by, or influence the media characteristics.

At the same time, the emergence of new practices in the various communication media poses new challenges to theories positing an equivalence between a genre (e.g. email) and a medium (e.g. a computer) (Yates & Orlikowski, 1992). Take for example the case of Blackberries and their use, described by Mazmanian, Yates, and Orlikowski (2006) in a recent study. Although email is not a new communication medium, wireless devices such as Blackberries enable users to engage with emails in relatively new ways. Mazmanian et al. (2006) show that while some users respond as soon as they receive the email, as if they were in a face-to-face interaction, others treat the medium as an email and delay their replies to later when they have more emails, or when they are back at their desk. This example highlights a limitation of the media richness continuum; focusing on the medium and its features prevents an explanation of the variations in practice. According to the criteria of media richness theory, "chat" and "email" from a computer vary mainly in terms of immediate feedback. Thus, email from a

wireless device is “equivalent” to a chat. Thus, the media richness continuum does not allow us to take into account a change, and potential source of confusion: an email can be supported by different media – a computer, a wireless device such as a Blackberry, or a cell phone. A focus on the medium leads to lengthy discussions about media features and degrees of richness that do not address the interactants’ relationships or communicative practices.

Assumption of the superiority of face-to-face communication. Another feature shared by media theories is the assumption of the superiority of face-to-face communication. Even the scholars who have suggested that computer-mediated communication can have positive characteristics are presupposing that face-to-face is the ideal type of communication, and try to show that the limited bandwidth of computer-mediated communication can be overcome. For example, Walther (1992) claims that if more time is given, computer-mediated groups can develop similar or even better relationships than those formed in face-to-face settings.

In other words, existing research has taken the limitations of computer-mediated communication to be the limitations of the written word and implied that in order to be effective, computer-mediated communication needs to be supplemented and augmented by video or multi-media technologies that would make it closer to the ideal face-to-face (Daft, Lengel, & Trevino, 1987). Existing theories focus on the technology-mediated nature of the communication, and seem to forget that written communication in the form of letters has been for millennia the main way of communicating with distant others, and that dispersed communities have flourished since the invention of writing (Collins, 1998). The literacy theory provides a comprehensive, analytical framework for the study of organizational communication that explains these phenomena and surpasses the limitations of existing media theories.

ORALITY AND LITERACY

The literacy theory

While the importance of the spoken language for human interaction and development is widely acknowledged, the significance of writing is less well recognized. At the same time, as we showed above, most of the research on organizational communication is grounded on assumptions regarding the relationships between the written and the oral. Because these relationships are complex and often confused, we start by clarifying the interface between the written and the oral. Although we spend a lot of time typing on the computer, reading newspapers, books, papers, emails, searching the web, and in spite of the fact that many of our oral interactions are not face-to-face, but voice-to-voice (on the phone), we tend to perceive oral communication as “truer” and deeper, more authentic and more genuine. As previously noted, this tendency is similar to the criticisms of writing, which, since its invention, has been held to be inferior to the spoken word.

The numerous criticisms of writing formulated over time can be reduced to three main traditions, which all eventually consider written words as only dead signs on a page (for a detailed review, see Bazerman, 1988). The first criticism, dating back to Plato, argues that meaning lies in the primary referents, outside of the symbols used to clothe them in the texts, and that one can reach meaning only in the philosophical dialogue. The second criticism, developed by the sophists, structuralists, and deconstructionists, argues that the meaning of the text is enclosed entirely within the text, which is a sign system. References to objects, experiences, and ideas outside the text are only deceptive appearances. The third criticism, which is an extension of the second criticism, defines written language as an epiphenomenon, a pale reproduction of the living (spoken) language.

In reply to these criticisms, theories have been developed showing the impact of the written channel upon cultural systems, as well as upon individuals' cognitive abilities (Bazerman, 1988; Goody, 1977; Goody & Watt, 1963; Ong, 1982; Havelock, 1963). These types of studies are often described as theories of "literacy" (Goody and Watt, 1963), and refer to writing as a technology that has profoundly changed our cognitive abilities, our personal interactions, and the organization of society (e.g. Bolter, 2001; Goody, 1987; Havelock, 1963; Ong, 1982). For example, oral cultures do not have the "logic" of the philosophers (e.g. the syllogism) because the syllogism is intrinsically linked to writing (Goody, 1987).

Ong's book *Orality and Literacy* (1982) has been a watershed in reflections on these two fundamental modalities of communication. He builds on Havelock's (1963) work on the changes in human thought brought about by the shift from an oral to a written culture in Ancient Greece. Ong's main contribution – and the reason we are drawing heavily on his work – was to reshape the debate by switching from an assumption of the *superiority* of orality to that of the *primacy* of orality: "oral expression can exist and mostly has existed without any writing at all, writing never without orality" (1982: 8). This switch is particularly relevant in the context of the theories of organizational communication and media, which ground the media richness continuum on the assumption of the superiority of orality. Adopting Ong's stance on the relationship between orality and literacy can have powerful implications for understanding the impact of communication media on organizational communication.

Furthermore, Ong identifies the specific ways of thinking and communicating fostered by each – orality and literacy. For example, while oral expression is additive and redundant, written expression is more analytical. At the same time, writing has affected oral expression: "Without writing the literate mind would not and could not think as it does, not only when engaged in

writing but normally even when it is composing its thoughts in oral form. More than any other single invention, writing has transformed human consciousness." (Ong, 1982: 78). Nowadays the influence of literacy has deepened, as currently there are no more primarily oral cultures, and we are all literate (Ong, 1982). As Ong explains, the artificiality of writing as opposed to the naturalness of oral speech (all cultures develop oral speech) is not a condemnation but a praise of writing; to understand fully, people need distance as well as closeness.

While media richness theories praise oral communication for its closeness due to the multitude of channels – verbal and non-verbal – it affords, literacy theories shed light on the importance of the distancing process supported by writing for the development of human thought. For example, Plato's thoughts, including his critique of writing, were only made possible because of the dimensions of writing (Havelock, 1963). Indeed, Plato's dialogues are intrinsically literate, while the works of the sophists that he criticizes because they are written exhibit mostly oral dimensions (Chatelet, 1989). This example reveals the complexity of the relationship between orality and literacy, and suggests that writing has represented a major advance for the human mind. In the next section, we discuss the specific ways in which writing is distinct from oral speech.

Dimensions of Literacy

Literacy and orality can only be understood in relation to each other (Ong, 1982). Thus, the advantages of writing can only be analyzed in contrast with those of oral expression. Based on the work of major literacy scholars - Ong (1982), Bolter (2001), Bazerman (1988), and Goody (1987) - we distinguish four dimensions on which these fundamental modalities differ, in order to develop a framework for analyzing communication. While conceptually distinct, they are closely intertwined in practice.

Fixedness. Because sound is evanescent, oral thought and speech are hard to memorize (Bolter, 2001). Therefore, it has to be redundant or copious, often relying on mnemonic formulas in order to maintain the continuity of thought in case of distraction. Such repetition slows down thought (Ong, 1982). In contrast, one main advantage of writing is that it *has the power to fix ideas and hence to extend human memory* (Ong, 1982). Ong argues that thought requires some sort of continuity, which is provided by the "line" of the text; the line fixes ideas and provides a context that can be retrieved at any time. Notwithstanding arguments such as those expressed by Plato, writing allows one to access a wealth of knowledge that is preserved in writing. Furthermore, the mnemonic function of writing frees up the memory and enables the mind to speculate (Havelock, 1963). As research has shown, people can read and understand complex material much faster when it is written (Chaiken & Eagly, 1976). At the same time, fixedness allows communication among distantly located people, even though it may take time for them to read one another's replies. As Goody (1987: 54) remarked, the ability to record speech is revolutionary as it allows the transmission of cultural information across the generations, without face-to-face contract, and without the continual transformation occurring in oral cultures.

Fixedness might seem the most obvious dimension of writing and is often seen as an inherent feature of the medium (papyrus, clay, tablet, paper, electronic document). In fact, it is because of this fixedness that many critics of writing criticize it, describing it as a poor medium that does not allow dialogue and subtle interactions. Yet, as the literacy theorists have shown, by writing, our thoughts, ideas, and emotions become objectified, i.e. they become "objects" that the writer and her audience can share, discuss, and analyze. It is this objectification process, supported by the writing's fixedness, which supports the other main dimensions of writing: analytical precision, reflectivity, and fictionalization.

Analytical precision. A second main characteristic of writing is that *it creates analytical precision* (Ong, 1982). While oral thought and speech are additive and redundant, writing generates analytical thought. The writer, unable to use nonverbal gestures or intonation, and writing for "any possible reader in any possible situation," has to make her "language work as to come clear all by itself." (Ong, 1982: 103). This has important consequences for the development of analytical thinking. In discussing the relationship between writing and cognition, Goody (1977; 1987) argues that although oral cultures can add, they do not have mathematicians or mathematics; logic and mathematics emerged because of the development of writing and the analytical precision it provides. One can also be analytical and precise about one's own emotions and thus express them clearly and richly in writing. Therefore, while media theories argue that managers should not use written media for complex, difficult, equivocal topics (Daft & Lengel, 1984; 1986), the literacy theory suggests that writing, because it supports analytical precision, might be well-suited for the communication of complex and subtle ideas and emotions.

Reflectivity. Oral communication is anchored in the present, in the situational here-and-now of fleeting speech, uniting people in smaller or larger groups. Writing, however, is a largely asynchronous activity that *allows and fosters self-reflectivity* (Ong, 1982). Because thoughts and emotions are objectified through the writing process, the writer can reflect on them as external "objects", see their limitations, and develop them further. For example, when one writes, one can eliminate inconsistencies because one can choose between words with a reflective selectivity (Goody, 1977: 49-50). Similarly, writing "down" – an interesting expression which shows the importance of the objectification process - emotions allows people to articulate and in some ways to manage them. At the same time, the reader can reflect upon reading the written material, and thus develop a deeper understanding of her own thoughts and emotions. In Ong's view, the

reflective dimension of writing allowed increasingly articulate introspectivity, which in turn led to the birth of the major introspective religions, Buddhism, Judaism, Christianity, and Islam (Ong, 1982). The reflective dimension indicates that writing can support the expression, elaboration, and understanding of complex and nuanced ideas and emotions.

Fictionalization. One important way in which writing has transformed human consciousness is by internalizing the alter ego (Altman, 1982; Ong, 1982). In oral conversation, speakers (and audiences) are in physical presence and in an intense interplay, which limits the extent to which they have to imagine each other. However, in written exchanges they need to set up a role in which absent – and sometimes unknown – readers can be cast. Indeed in writing, *the writer and reader have to "fictionalize" each other*. While fictionalization occurs in any type of interaction (including face-to-face), it is stronger in the process of writing. Because they fictionalize the readers, writers can produce texts adapted to the readers' needs, emotions, and level of understanding; similarly, the readers interpret the written words based on their image of the writer. Yet, media theories all but ignore the fictionalization process among distant interactants; instead, they assume that face-to-face is superior to writing because its quick feedback and multiple channels produce a "complete picture" of one's interaction partner.

As we suggested above, the dimensions of writing are related. For example, fixedness provides a foundation for the other three dimensions. Also, the rhetorical anticipation of the audience and of the effects of the words provides opportunities for the writer to be more reflective and to clarify her thoughts (Bazerman, 2001).

The literacy theory and organizational communication

The literacy perspective provides a powerful analytical tool for the study of organizational communication because it switches the focus of the analysis from the medium to

the modality, and defines orality as primary or initial instead of superior to writing. Writing is radically different from the oral because it allows people – through fixedness, analytical precision, reflectivity, and the fictionalization of the other – to turn their experiences into a coherent discourse and to pursue thoughts they might not have arrived at in an oral discussion. The dimensions described above suggest that writing enables – and in some cases fosters – the expression of strong and subtle ideas and emotions. In part, this is due to the fact that writing is an activity that is at least partly removed from social circumstances. The isolation involved in the act of writing allows writers to focus on the articulation of their ideas and their emotions instead of having to manage, sometimes at the risk of being disrupted, the verbal and non-verbal reactions of the other person. The emotional and intellectual connection between writer and reader is also enabled by the fact that the person to whom one writes is always – explicitly or implicitly – present. Fictionalizing or imagining the other is central to writing, and this process, as we will see in the next section, becomes even more central in letters where the other is known and explicitly referred to. We illustrate the explanatory power of the literacy framework and dimensions through an analysis of personal and organizational letters.

A LITERACY PERSPECTIVE ON IDEA DEVELOPMENT AND EMOTIONAL EXPRESSION

Letters as an illustration of the literacy perspective

Since the invention of writing (about 5000 years ago[ii]) and until very recently (over 100 years ago, when the telephone was invented), letters were the only means of communication apart from face-to-face discussions. Therefore, we chose to study in more detail the dimensions of writing in the context of letter-writing practice. Certainly before the invention of printing, but also afterwards, letters provided a main means by which ideas were expressed and developed and

emotions were communicated and given shape. Letters played a crucial role in the formation of communities of scientists and philosophers at a time when there were no institutions (such as journals) for the dissemination of knowledge (Collins, 1998). Furthermore, they represented the foundation for the creation of journals of learned societies. For example, the earliest issues of the journal *Philosophical Transactions of the Royal Society* were largely a summary of the correspondence of Oldenburg (the secretary of the Royal Society) (Bazerman, 1988). Also, letters sent by families to the sailors, labourers, and tradesmen who were employees of distributed organizations such as the Hudson Bay Company are examples of intimate personal letters, where many times emotions are expressed in a most poignant way (Hudson Beattie & Buss, 2003).

Letters have a peculiar, unique status among written material: they are a perfect example of written communication, but they can also tolerate informal personal communication. While all writing is directed toward a distant other, in letters the phenomenon of fictionalization of the other is even stronger. There are always interactive conversations with an absent or distant other, marked by the subjectivity of the writer and the receiver, as well as by the intensity of their relationship.

The dimensions defined above for writing become even more important in letters, particularly in personal letters, but also to a certain extent in organizational letters. Through the analysis of several correspondences, we show how letters allow us to express and convey complex ideas and to articulate and share emotions. We chose to analyze two types of correspondences, personal letters by scientists and philosophers and organizational letters.

The letters by the scientists and philosophers provide rich examples of idea sharing and collaboration. We chose letter writers who lived in two historical epochs. Two of them lived

before the Industrial Revolution, and the third lived on the cusp of the current historical era. All of them shared an aspiration toward universality, and they deeply touched their fields of activity. Madame du Châtelet, René Descartes, and Albert Einstein were prominent intellectuals and active members of the scientific communities of their time. The extensive correspondences they carried with the members of these informal networks of scientists and philosophers provide an interesting parallel with today's online communities supporting scientific collaboration and idea sharing.[iii] Their letters also contain many expressions of emotions as the writers were involved in strong relationships with their correspondents. (Please refer to the Appendix for a brief biographical note and a description of these authors' correspondences).

We also analyze the correspondences of two companies that, for centuries, epitomized distributed organizations (O'Leary, Orlikowski & Yates, 2002): the Hudson Bay Company and the East India Company. These large, successful, long-lasting organizations in which letters represented the only means of communication among distant members, constitute an ideal setting for examining writing's power to foster idea sharing and collaboration at distance. We were additionally interested to see how much emotions were expressed in the context of traditional organizations. The Hudson's Bay Company, founded in 1670, had its headquarters in London, England, but most of its operations in North America. The London governor, deputy governor, and Committee members made decisions about the pursuit of the trade but rarely visited the North American continent where the trade occurred. The Honourable East India Company was an early joint-stock company which was granted an English Royal Charter by Elizabeth I on December 31, 1600. The headquarters were in London, but most of the operations were distributed over South East Asia and Africa. For both companies, the only interactions between

the headquarters and the different posts were letters. (Please see the Appendix for a more detailed description of these two companies' correspondences).

In the following section we illustrate the four dimensions of literacy with examples from these correspondences. Through these examples, we demonstrate the usefulness of the literacy framework for understanding how ideas can be exchanged and emotions expressed through writing. Table 1 offers additional examples of each of the dimensions both for members of informal networks as well as for those of formal organizations.

Fixedness

Writing is permanent, therefore leaving a trace that allows for an ongoing dialogue. One consequence of letters' fixedness is that they can be used as proofs of one's ideas. For example, in the development of scientific thinking, letters can be used to support scientists' claims. When her argument with Mairan, another scientist, becomes public, Madame du Châtelet turns to her scientific correspondence for support. On March 22, 1741 she writes to her friend, the famous scientist Maupertuis, "You are the only one who knows whether it is Mr. De Koenig or I who critiqued Mr. De Mairan's dissertation, because I wrote to you at St. Malo in 1738, long before I knew Koenig even existed, almost the same things about it that are in my book". Letters provide solid proof on one's thinking.

Letters are also important proof in distributed organizations whose employees have almost no face-to-face interactions and where trust might not be very high. The fact that a copy of each letter is kept and archived shows the importance of letters as proof. For example, individuals refer to them as proofs of their fairness:

"Gentlemen, as for explaining myself about the red and blue shirts or chequered, I cannot tell unless it be a mistake, for I have perused both the indents that was sent home by the Knights and Hudson's Bay frigate and I cannot perceive by their copies the mistake, unless it be where I

write for 6 dozen red stockin, 6 dozen blue ditto, and 6 dozen for you servants…"(HBC, L75[iv], p. 305).

In this justification, the fort commander refers to his perusal of several written documents sent to him by the Headquarters. In spite of his efforts, he "cannot perceive by their copies the mistake" that has been made. In the absence of letters from the Headquarters to objectify the words of the author, the recipient lacks the proof of the order, as the letter below illustrates:

"Whereas Mr Thoyts informs me that your honours have been pleased to appoint him to be an assistant to me, I find no such orders in your instructions, therefore shall continue with Mr Adams in that station till such time you are pleased to order otherwise" (HBC L31, p. 131.)

In this example, the recipient ignores the verbal "order" of taking Mr Thoyts as an assistant. Because such an order has not been written or objectified, it is not binding. The absence of the letter of appointment is a perfect (negative) example of the role of the letters as proof. In this case, the face-to-face conversation has no effects in the absence of a written order that would endorse it. On the contrary, it is the spoken word that is "dead" in terms of its effects; the only effect the oral words have is to generate a written letter that would ask for another written document that would have real effects. Because they objectify the topic discussed, letters enact a performative function in some cases. In the following example, the letter is the contract by which Ralph Johnson becomes HBC's representative in a particular negotiation:

"Mr Ralph Johnson, wee having contracted with the Owners of the ship Marrygold for a voyage to be made in the said ship for the premencioned port of Guiney & Coast of Coromondel &c. And what wee may at the retourne of the said ship have an Accompt rendered vnto vs of the severall perticulers hereafter exprest, wee have made choice of and enterteyned you to be the person whom wee doe Imploy in that negotiacion" (EIC, L2, p. 3).

Letters provide a trace. They allow multiple readings and thus facilitate understanding. In a letter dated May 21, 1643, Descartes writes to Princess Elisabeth of Bohemia, who was interested in his philosophy and with whom he had a lengthy correspondence: "and your mercy wanted to comfort me by leaving me the traces of your thought on a piece of paper, where I read

them several times, and in getting used to think about them, I am less astounded, but I have even more admiration…" Descartes here expresses clearly the idea that through several readings of the same letter(s), he arrives at a deeper understanding of his correspondent's thoughts. Because of the fixedness of writing, letters objectify ideas and allow intellectuals to develop and debate ideas, and members of distributed organizations to exchange ideas and explain the rationale for their actions to the headquarters.

The permanent aspect of letters also has important implications for their capability to express and convey emotions. Letters' fixedness allows the writer to objectify their feelings and thoughts, and therefore share them with the reader. In July 1645 Descartes writes to his friend Regius that he did not reply to one of his letters discussing his metaphysics, because he does "not like to be from a different opinion". Regius' theory is completely opposite to Descartes' metaphysical philosophy and Descartes feels betrayed by his friend. After taking some time to reflect and re-reading Regius' theory, Descartes writes another letter to Regius (also from July 1645) in which he strongly criticizes Regius and concludes by: "Please forgive me if I open my heart so freely as if you were my brother…". Descartes indicates here how through writing he is able to express his emotions in a transparent manner. The objectification process allows him to describe his feelings to his friend ("sorrow seized and overwhelmed me", "I am sincerely obliged that you showed me your book before publishing it; but you did not please me by teaching these things without my knowledge", Letter to Regius, July 1645) which he previously had difficulty expressing. This exchange shows how the fixedness of writing allows Descartes to both reflect on the theory and express his feelings about it. It also illustrates how fixedness enables reflectivity.

Because letters are fixed and hence retrievable, they can be used to try to build trust among members of dispersed organizations. In the following letter, the post commander tries to convince the management in London that they can trust him by sending them a "proof": "And let to your honours see the manner that I have proceeded therein I have sent enclosed in the packet a copy of the instructions that I give from time to time to Mr. Napper and Mr. White to be observed by them in my absence at the building" (HBC, L67, p. 268). The commanders of the posts also frequently refer to how obedient they are in following the orders of the Headquarters. The following letter illustrates this attempt to create trust:

> "We sent letters to Churchill the first of this summer by Indians that went from hence last June, but have received no answers as yet: a copy of which letter you will find here enclosed, likewise a copy of letter received from Mr Myatt last fall 1727, with a copy of the answer sent this summer by Indians; and shall continue sending to your honours copiers of all letters received, with the answers, whilst I am in your service, for I never had any clandestine dealings with any masters of your factories nor with your captains of ships nor with any tradesmen in England, for I dare them." (HBC, L32, p. 34)

In this letter, the author tries to reassure people in London that they can trust him, that he "never had any clandestine dealings"; his main tactic to support his claim is to share with Headquarters the copies of the letters he wrote to other posts. It is interesting to note that in this case, fixedness is intertwined with fictionalization: the writer, through the objectification process of writing, tries to create a context so that others fictionalize him as a faithful employee.

Mainly, the fixedness of writing objectifies ideas and emotions such that they can be shared and then further discussed (in writing) with others. Because text provides a trace, writing objectifies the ideas and emotions expressed. Furthermore, the written word is performative; i.e., it has important effects for those concerned. The trace left by the written word allows the writer to verify the accuracy of her understanding. Also, because the reader can always go back to check the written text, the recipients can re-read the letter and thus understand it better; the

reader can also repeat the experience of connecting to the writer. Recipients can also share the letters with third parties, in part or in their entirety, which has strong consequences for the formation of communities as well as for the dissemination and the further development of the ideas expressed in the letters. Thus, despite the absence of multiple channels in written communication, the modality does support the development of new ideas, which has crucial consequences for the development of human mind and of various knowledge domains. At the same time, in contrast with the evanescence of the spoken word, a letter has a materiality that can serve as scientific proof, as well as stand as a symbol for the relationship with an absent correspondent. For all these reasons, fixedness it is a key dimension for the expression and development of ideas and of emotions.

Analytical precision

A main challenge for writers is to make themselves understood in the absence of any "existential context" (Ong, 1982: 103). Since feedback such as gaze and facial expressions is not available, and the reader cannot immediately ask questions, many critics of writing argue that face-to-face is richer. Yet, this lack of existential context leads the author to anticipate and address audience questions and concerns, to carefully choose words and think out sentences. The result of such effort is precision, sharpened analysis, and the development of ideas. Letters' written and asynchronous character allows them to become scaffolding spaces in which scientists and philosophers can develop their thoughts and clarify their ideas via multiple drafts. For example, the scientific letters of Madame du Châtelet present an informal style and a sometimes chaotic flow, as well as numerous changes and corrections (Bonnel, 2000).

The analytic precision afforded by letters is probably most obvious in the case of scientific formulas that would be difficult if not impossible to state orally. Einstein's

correspondence with Cartan and with Born, for instance, is full of long and complex equations, and sometimes contains attached documents. Also, some of the letters between Elisabeth and Descartes include mathematical demonstrations that could not be done orally. The scientific and philosophical letters exchanged by Elisabeth and Descartes provide a propitious medium for articulating, formulating, and synthesizing knowledge; these letters contain philosophical arguments that are very well articulated, sometimes over nine pages. It would be difficult if not impossible to sustain such prolonged trains of thoughts in the absence of writing (Havelock, 1963; Goody & Watt, 1963).

The annual letters of the Hudson Bay Company also provide many examples of analytical precision. Instead of scientific formulas or philosophical arguments, they include long lists of names (men who are leaving, or whose contracts are renewed), or lists of products shipped to London (e.g. number of furs). As the annual letter is nearly the only means of communication with the Headquarters, HBC commanders write long and detailed letters in which they take pains to explain the decisions they made during the year, as illustrated in the following excerpt:

> "And I found the Governor when I came her for the same thing, and I told him my orders was to send them home… I told them I could not nor would not take any charge of them, which at last we did agree and came to a price… I bought all they had so you will be no loserts by it… All the guns as is bought, I have computed the charge with the locks and stocks and other mounter, will not stand me in above twelve shillings each, reckoning the armourer's wages to fix them…" (HBC, L6, p.35).

The correspondence from the East India Company provides similar examples of analytical precision: invoices, long lists of objects shipped to or from London and their values, tables listing the ships that were sent out at the end of a particular year (how many returned with cargo, were lost or broken, fallen into the hands of the Dutch, and how many were still in the Indies). The letters also provide detailed instructions to the receiver, as the following excerpt from a letter from London illustrates:

"But if it shall soe fall out, that you cannot dispose of this Cargazonne and procure its investment into Gold, to bee laden on our said ship, within a moneth or 5 weeks time, after her arriveall with you, in that case you are not to detayne her any longer vpon your coast, provided you have procured and laden aboard her to that amount of 150 or 160 Markes of Gould, that soe by the assistance in a seasonable time (…)" (EIC1, L1 p. 1).

Letter writing also provides correspondents with an opportunity to push each other to defend and develop their ideas. Many theories have been developed as a response to a query from knowledgeable correspondents. In this sense, letters constitute a realm for knowledge generation and development, a scaffolding space for the construction of new ideas and theories. For example, the whole correspondence between Princess Elisabeth and Descartes led him to develop his moral theory presented in *The Passions of the Soul*. As Descartes starts answering Elisabeth's questions about the nature of the soul, and clarifying his previous work, he develops an explanation and the correspondence becomes work. Hence, when the Queen Christine of Sweden asks him for his moral theory, he sent her his correspondence with Princess Elisabeth telling her that they were the draft of his book on ethics.

Einstein's correspondence also provides an excellent illustration of letters' capability to trigger thinking and new ideas. On Jan. 11, 1930 Cartan writes to Einstein: "*Cher et illustre maître*, I received your two letters and your card one after the other. I was just intending to write you a word when the last one arrived (…) When I read your letter, I said to myself: that's a question to be investigated…" As this excerpt illustrates, letter exchanges can trigger reflection and the exploration of new ideas.

The analytical precision supported by letters allows writers to develop long and complex arguments, to investigate new questions, and to provide detailed accounts of actions and lists of items. Yet, not only ideas, but also emotions can be more precisely articulated in letters. Counter to the commonly held belief that face-to-face encounters are needed for emotions to be fully and

correctly expressed and understood, letters can also express subtle and complex feelings. A letter-writer can take the time to explain the nuances of his emotions, and can draft the letters until the written words express what he really means. These emotions can be as simple as the satisfaction and pleasure of receiving news from a dear person. For example, Cartan writes to Einstein on May 24, 1932: “Your letter fills me with joy and embarrassment. Yet, I appreciate our little correspondence …”. The emotions can also be more complex and less positive as in the two letters of Descartes to Regius discussed earlier. The correspondence between Einstein and Born also contains emotional letters where their intellectual disagreement leads to emotional exchanges.

Organizational letters provide numerous examples of nuanced, complex emotions. For example, letters allow writers to express their emotions while also making sure not to annoy people in London by asking too much.

> “For I should bee verry unwilling to Remaine here, But I submite my selfe to your Honours willes, For I haue a great desire to serve you, though I haue had but poore Encouragments haueing beene twise frustrated of my Voyage, but I hope you will not Impute itt to any neglect of mine. God sparing mee health and life, I hope to lieu to doe you Better Seruice which God of his mercy grant.” (EIC1, L 12, p. 10)

In this excerpt, the writer expresses his desire to leave the fort, but does it in a very polite manner, adding a lot of phrases to express his respect - e.g. “But I submite my selfe to your Honours willes”, “though I haue had but poore Encouragments haueing beene twise frustrated of my Voyage”. This also illustrates the role of fictionalizing the other, as the letter’s recipient may be upset: “but I hope you will not Impute itt”.

Letter writers can be precise both about their own feelings, as well as those of their aids. This is how Thomas Roe writes to a factory captain on Dec. 18, 1617:

> “If Jaddowe's nephew cannot serve you I urge him not; but for a little time give him some hopes and encouragement, that he may write to his head here, whom I assure you takes extreme

pains, travails day and night, and (that I know) hath no reward. He followed me with two camels at his own cost. Now I am full of business and need him, I must content him. I stand upon many edges and shall need all kind of assistance." (EIC2, L 578, p. 232).

This letter objectifies the feelings of the employee's aid (Jaddowe's nephew) and urges the recipient to act such as not to hurt these feelings because they have been valuable to the company. It also expresses the feelings of the sender, who now needs this aid because of expanded activity. Through such nuanced analyses of his own and of others' feelings, as well as of the strategic implications of these emotions, the EIC employee could contribute to a smooth organizational functioning.

As the examples above show, writing's analytical precision allows the clear articulation and development of complex ideas and the nuanced expression of emotions. Because it is a solitary activity, writing permits more time to elaborate and change things than speech does. Thus, in contrast to the predictions of media theories, writing facilitates understanding and can clarify ambiguities by providing detailed explanations of actions and even of multiple, intertwined emotions. It also allows the expression of abstract thoughts and formulas, and therefore can support the development of complex ideas and theories. At the same time, letter-writing is interactive, and the correspondents can ask for clarifications and elaborations that extend the analytical preciseness of the letters. Writing, just as media richness theories purport, may not be able to provide as rich and as fast a feedback as oral communication. However, as we have shown, writing supports the transmission of rich information on both ideas and emotions. Furthermore, in situations requiring complex and abstract explanations writing can do even more than speech in terms of expressing and developing complex, subtle ideas, and emotions.

Reflectivity

Language plays a deep role in the formation of the self (Bazerman, 1988; 2001), and letters play a key role in the development of personally meaningful knowledge. Several traditions such as microinteractional sociology (Heritage, 1984) and activity theory (Engeström, 1989; Luria, 1981; Vygotsky, 1986) have stressed the relation of language development to the formation of social, communicative, active selves. Throughout their entire correspondence, Elisabeth asks Descartes many questions as she tries to make sense of his theory and assumptions, and she regularly thanks him for helping her understand and become more knowledgeable. The correspondence also helped Descartes clarify his ideas on the question of the union of the body and the soul as it led him to complement and deepen his theories. Einstein's correspondence, for example with Cartan, illustrates Eistein's attempt to rethink Cartan's suggestions, even if he makes mistakes. When, in December 1929, Cartan writes that there are several possibilities in the context of absolute parallel spaces, Einstein, who has in the meantime developed his version with 22 equations, tries to use Cartan's ideas to support his own (in this case faulty) theory. Both instances illustrate the power of the reflective dimension of writing. Indeed, reflectivity allows Descartes and Einstein to use the ideas from their correspondents to question their original ideas, advance them, and develop new theories.

Organizational letters also provide examples of reflectivity where organizational members explain the rationale for their decisions. In the following example, the commander explains to the management in London why he did not send a particular document with the previous ship.

"The reason why sent no particular indent the last time I wrote was because I did not know but the goods that came over then, with what remained in the country, would have made two years trade… For I could not divine to tell what my trade would be the summer following, but thought that after that was over, I might be the more capable to judge what goods I should

want, and did not doubt to have had an opportunity to have sent home an account thereof; but the ship not returning the last fall has put me by those measures I had taken and I'm sorry this unavoidable omission should fall out this year" (HBC, L1, p.7)

This excerpt shows how the commander reflects on his decision and the different elements that led him to choose not to send the indent with his last letter. He of course provides the rationale to the management, but he also reflects on his actions through the act of writing. Reflection requires time and the writers in some cases refer to the need to take some time before replying. For example, in the following letter, the sender refers to the need to reflect before sending a reply:

"wee have now also received your letters of 27 December and 20th January, with such other writings as were inlisted to accompany them, and shall God willing by our net ship give you answer vnto them, and in the meantime take into consideration these perticulers, wherewith you desire to be furnished" (EIC1, L 48, p. 41).

Reflectivity is needed to develop a meaningful exchange of ideas and to be able to answer the questions asked by the sender of the letter.

Letters also provide a space to develop one's identity, through the enactment of different ones. For example, Elisabeth takes the role of a princess, but also a student, and Descartes becomes alternately a philosopher, a mathematician, a tutor, and a personal adviser.

Even in organizational contexts letter-writers assume different identities. In some cases, commanders also refer to their everyday life identity: "For I was for above six weeks in a most miserable condition with it and could get no relief and am every now and then troubled with a relapse" (HBC L1, p. 10). Also, from time to time commanders step out of their roles of faithful employees in order to negotiate: "Gentlemen, if you send over ships yearly, a commander for the ship in the country, and men to defend the factory, I will continue in your service. But if not I will come home, God willing, with the next return of the ships." (HBC L2, p. 16). By taking on different roles, organizational members are better able to express their emotions in order to

influence the management in London, e.g. to make them realize how difficult their situation is and how frustrated they might be.

Much has been made of the ability of oral communication to provide immediate feedback and to give a sense of the other person (Daft & Lengel, 1986; Short et al., 1976). At the same time, the advantages of being alone in front of the page have been overlooked. In such circumstances, one can deepen her understanding of her own thoughts and emotions, and can pursue different trains of thought. As the above examples demonstrate, letter writing provides people with a space to reflect on their situation, to explore and express their roles in the relationship, to analyze their ideas and emotions, and to turn them into coherent accounts, thus developing a meaningful knowledge. At the same time, letter writing is not an isolated phenomenon, but a dialogue between the writer and the fictionalized other, through which the writer clarifies his thoughts and emotions for his reader.

Fictionalization of the other

As Ong writes, “Writing is a solipsistic operation (…) ‘the writer’s audience is always a fiction’” (Ong, 1977: 53-18). Letters exemplify the fictionalization of the distant other toward which the letter is directed. The fictionalization process is essential in supporting a continuous and lively dialogue. The letters of Descartes with Princess Elisabeth provide a striking example of such a dialogue (Beyssade & Beyssade, 1989). While Princess Elisabeth often refers to how she thinks Descartes will interpret her questions, Descartes often comments on how his replies might be understood by Princess Elisabeth. For example, on August 18, 1645, Descartes writes to Princess Elisabeth, explicitly imagining and referring to the time she will take to read his letter: “as [my letters] do not include any news that you need to read promptly, nothing will trigger you to read them when you have other things to”.

Fictionalization also allows the writer to explore new ideas. Thus, in her scientific letters, Madame du Châtelet fictionalizes the recipient as a "guinea pig" for her thought experiments (Bonnel, 2000). She sometimes imagines the questions of her correspondent and replies to them in the letter. This enables her operations that are forbidden in published treatises that only allow demonstrations: questions in a conditional mode and expression of intuitions.

At the same time, the reader must also fictionalize the writer. When the recipient reads the letter, the writer may be in an entirely different frame of mind from when he wrote it. Indeed, he may very well be dead. Without going to this extreme, Born's letter to Einstein illustrates how Born fictionalized Einstein while reading two of Einstein's letters:

> "Your letter of January 12th gave me pleasure and relieved me of the anxiety, which your last letter had caused me. Its tone was irritable and angry, as if you had regarded the difference of opinion between us as a personal attack. I am glad that you have now given me an objective reply, even if I by no means agree with your opinion and what's more, for reasons which are objective and completely 'dispassionate'" (Letter 111, 20 Jan 1954).

Born highlights how he had imagined Einstein's mood while reading his first letter, and his relief because the tone of the second letter suggests that Einstein is not angry with him.

In the Hudson Bay Company and East India Company letters, the fictionalization process is crucial for a simple reason: most managers in London have never been in the places where the writers are located. Moreover, because the Headquarters have only very limited interactions with the faraway workers, they need to be reassured and to be given as much context as possible to understand the decisions and requests made by their employees in Canada, East Asia, India, the Middle East, or on the Guinea Coast. Therefore, employees at remote sites have to help managers in London to imagine their context so that they can understand their issues and suggestions. The annual letters sent by the Hudson Bay Company post commanders provide a simple but highly illustrative example of the fictionalization process. They always start with an

acknowledgement of the reception of the letter sent by the Headquarters and a description of the current context (e.g. weather). The following excerpt is representative of the beginning of all the letters sent to London:

> "Honourable Sirs, Yours of the 28th of June by Captain Grimington I received in the winter the 17th of February from Gilpins' Island, although I had notice the 2nd of January of his arrival here, which was upon the 27th of September, by a letter that he sent overland by the young, carpenter Thomas MackLeish and two Indians that came along with him; (…) He could not fulfil your orders in touching here in the fall for what by bad weather, contrarywinds and withal so late in the season, it obliged him to put into Gilpin's Island. I'm heartily glad you received your cargo in good condition after so long and tedious a passage as I hear he had…" (HBC L 1. p. 5-6)

The commanders provide many detailed descriptions to the management in London to help them understand their decisions. For example, while London is asking them for rabbit furs, they explain that they don't send many because the Indians do not hunt rabbits that much: "As for sending you home any rabbit skins by this shipping it is impossible for to get one (...) I shall encourage the Indians for to bring what small furs they can." (HBC L 3, p. 26). They also give Headquarters a lot of details about the difficulties of everyday life: "The place as we are come to is nothing but a confused heap of old rotten houses without form or strength, nay not sufficient to secure your goods for the weather, not fit for men to live in without begin exposed to the frigid winter. My own place I have to live in this winter is not half so good as our cowhouse was in the Bottom of the Bay…" (HBC L 8, p. 38). They also fictionalize the management's reactions to the letter: "I have sent an indent home of what is wanting, peradventure your honours may think it large" (HBC L 9, p. 43).

The East India Company letters provide numerous examples of fictionalization as well. Letters sent from the Guinea Coast (by employees and managers of the East India Company) have a similar beginning with the Hudson Bay Company letters, providing background information - when the Headquarters letter arrived and with which boat. Several of them

illustrate how the expression of emotions implies the fictionalization of the other. For instance, employees fictionalize the managers' reactions to their letters and try to placate possible objections: "I could write much, and all truth, but I will forbear, lest suspicion of malice should breed me wrong, though not deserving." (EIC2, L 541 p. 103). At the same time, employees express their own emotions. For example, an employee expresses his strong anger and frustration at the wrongdoings he has witnessed while on post at Bantam:

> "… I have by as good observance and information known such palpable and gross injuries offered by some of the Worshipful Company themselves unto themselves that I doubt me that if a parcel of exceeding folly should so far possess me as to particular [ise?] any, I might as a worm be trodden all to pieces, and having my teeth struck out already for the like, the next would be my brains." (EIC2 L. 790 p. 10).

In order to convey the intensity of his emotions, the writer goes so far as to provide the vivid images of his body's disintegration were he to linger on any of his particular injuries. In this way, the recipients of his letter (the London-based managers) can understand his situation and his state of mind.

Both personal and organizational letters show that the fictionalization process is dual: the writer fictionalizes the recipient, and provides information to the recipient so that the latter can imagine and understand the context of the author. While existing theories of organizational communication assume that in the absence of face-to-face communication the sense of the communication partner is also absent, we show that the fictionalization process can go a long way in supplementing the absence of contextual information about the distant other. The fictionalization of the other helps articulate one's ideas and emotions because as one writes, one needs to anticipate the recipient's reactions and adjust her discourse to the audience she addresses. Through the fictionalization of the other, letters give writers the opportunity to create a "here-and-now" so that both the writer and the reader can be engaged in a dialogue. Instead of

being a page bearing dead signs, a letter can stand for the correspondent, and for their relationship.

THE LITERACY PERSPECTIVE: AN INTEGRATIVE FRAMEWORK "BEYOND" ORALITY AND LITERACY

Our analysis of letters shows that writing, long considered an impoverished modality, allows the sharing of complex ideas and the expression of subtle emotions both in intellectual communities and in distributed organizations. This finding demonstrates the literacy theory's ability to transcend the limitations of existing theories of organizational communication. Instead of presuming the superiority of face-to-face communication, the literacy theory shows that writing has certain advantages over oral interactions. Instead of focusing on the medium and its features, the literacy theory suggests analyzing communication at the deeper level of the modality: the oral and the written.

A main contribution of our study is the elaboration of the four dimensions of literacy -- fixedness, analytical precision, reflectivity and fictionalization – based on a careful analysis of literacy studies. We also illustrate their explanatory power in analyzing written communication and showing how writers can exchange and develop ideas and express emotions. Media richness and social presence theorists focus on the amount and type of information transmitted and claim that because oral communication relies on several channels (verbal and non-verbal), it allows partners to express themselves fully and hence form a sense of one another. They also claim that written communication is disembodied and inflexible, that it involves mostly simple and straightforward messages. In contrast, literacy studies and our analysis of letters show how the other in fact is never absent in written communication, and that written communication can support the sharing and development of complex ideas, and the expression of nuanced emotions.

Moreover, while media theories predict oral communication to be more efficient in negotiating interpretations, solving complex problems, and managing emotions (because of its multi-channel and responsive characteristics), the literacy perspective shows how the fixedness of writing objectifies ideas and emotions and allows the writer and the reader to take time to reflect and analyze. These characteristics are essential in the pursuit of idea development and of nuanced emotional expression, which are the building blocks for collaboration and the fostering of relationship between people at distance.

In light of the literacy theory and analysis, we can better interpret the contradictory results of studies on computer-mediated communication regarding the sharing of ideas and emotional expression. The finding that computer-composed essays were more complex than those composed in face-to-face settings is not surprising anymore (Cummings et al., 1995). Our examination of the literacy dimensions allows us to offer an explanation for the finding that people exchange more intimate information in computer-mediated interactions (Tidwell & Walther 2002). In this respect, the literacy theory explored in this paper meets the ideas advanced by the social processing theory. In fact, Walther defines computer-mediated communication as hyperpersonal when participants "construct and reciprocate representations of their partners and relations without the interference of environmental reality" (Walther, 1996: 33). Therefore, fictionalization seems to be a key dimension supporting the development of interpersonal exchanges in a computer-mediated context; thus, the literacy perspective addresses some of the current issues raised by new media in the realm of organizational communication.

Our analysis comes in the rich tradition of historical studies of organizational communication (Bazerman, 1988; O'Leary et al, 2002; Yates, 1989), and demonstrates the relevance of a historical perspective in developing a deep understanding of contemporary

phenomena. Documenting past communicative practices in letter writing allows us to better understand the processes underlying current communication practices, by illuminating the similarities between written communicative practices in the past and written communicative practices today -- despite differences in the technology used. Our study also shows that the literacy perspective explains communication in two very different types of settings, informal networks of scientists, and formal hierarchical organizations.

For all these reasons – focus on the deeper level of modalities, historical expanse, and types of organizations it can examine – the literacy perspective advanced in this study constitutes a general theory of communication that centers on the ways in which the modality of communication – written, oral – affects the relationship between the sender and the recipient. It can therefore be used to analyze a wide range of communication media, from the personal letters that have been important historically, to the newest forms of communication. Moreover, because it emphasizes the underlying (and constant) dimensions of the modality, the literacy perspective is better adapted to analyze the rapid rate of change of communication technologies and understand their implications for organizational communication.

In the following section we illustrate the explanatory power of the literacy perspective with respect to organizational communication, and especially online interactions, and we delineate some of the avenues for future research it opens.

A literacy perspective on online interactions

If writing is a technology (Bolter, 2001; Ong, 1982), online communication differs from letter writing primarily with respect to the medium of these interactions. Indeed, in spite of the astonishing proliferation of communication media, interactions are still either oral or written, and hence display all the dimensions of literacy analyzed above. While traditional theories focus on

the medium to distinguish different types of communication, the literacy theory suggests continuity between different types of written communications. We illustrate the explanatory power of the literacy framework with respect to three central issues in organizational communication.

The mix of oral and literate features in the use of new media. The emergence of new forms of communication that combine strong features of orality and literacy – e.g., emails on wireless devices – has prompted some scholars to envision a return to orality, such that email will be replaced by synchronous and asynchronous video (Bolter, 2001: 73). In our view, the literacy dimensions are crucial for the development of ideas and the expression of emotions. It is because of such features that letters, and nowadays, online interactions, can provide a scaffolding space for ideas and for the constitution of selves. Therefore, we suggest that what we witness today is not so much a return to orality, as it is an expansion of the in-between zone that mixes features of orality and literacy.

As noted earlier, because of their focus on the medium as a fixed set of features, the media richness and social presence theories cannot explain the communicative practices associated with such mixing of features. For example, the media richness continuum does not allow us to take into account a change, and a potential source of confusion stems from the fact that an email can be supported by different media – a computer, a wireless device such as a Blackberry, or a cell phone. At the same time, the theory of literacy, by switching the focus from the medium to the written modality, offers a framework to explain such new uses as emails on wireless devices. Let us reconsider the Blackberry example we discussed earlier.

Because of the interface (a track-wheel and thumb-operated keyboard), messages sent from a Blackberry (as well as text messages on cell phones) tend to be shorter, with little

relationship management, and a lot of abbreviations (from the "texting language") and emoticons. Similar communicative practices were already highlighted by studies of email and online forums (Galegher et al. 1998; Rice and Love, 1987; Yates and Orlikowski, 1992), but they are becoming prevalent with the use of wireless devices. The literacy perspective explains the factors underlying these practices, like the disappearance of some of the literacy dimensions. Although an email sent from a Blackberry is considered written according to the media richness theory (because it is typed), it misses three important dimensions of literacy: analytical precision, reflectivity, and fictionalization.

First, the physical constraints of the interface and often the context of use (e.g. a meeting, or riding the subway) do not support the analytical and reflective dimensions of writing. The message is often short, not analytical, and the writer does not spend time to reflect on the content of his message (nor on the original to which he replies). Moreover, people tend to interpret the interactions supported by the Blackberry as a telephone call (Mazmanian et al., 2006) – partly because of the fast pace of exchanges due to the increase of bandwidth. Thus, senders forget to fictionalize the recipient who may be receiving several short dry messages in a row. The shortness and curtness of the email – which reflects the lack of three literacy dimensions – can sometimes frustrate recipients who can perceive the email as rude: the sender "talks" while the recipient reads. The difficulty often arises when messages are perceived as written; while they are indeed fixed (i.e., archived and retrievable), they do not present the other dimensions (e.g. analytical precision or reflectivity).

This example suggests that what defines the nature of the interactions is not the modality - are we talking or are we writing/typing - but the dimensions and how they are enacted. This is what determines how *oral* or *literate* our interactions are. Therefore, a message on a Blackberry,

although typed, might be more oral than literate. While media theorists compare media characteristics to predict their effectiveness in supporting different tasks, we – along with proponents of the literacy theory – propose an explanation of the communicative practices of the sender and the recipient, an explanation which does not focus on the medium, but on the underlying dimensions of the modality. The literacy theory indicates the limits of comparative studies without a deep understanding of the context and of the practices, in a perspective similar to structuration approaches to organizational processes (Barley, 1986; DeSanctis & Poole, 1994; Orlikowski & Yates, 1994).

Therefore, future empirical studies within particular contexts should explore how different media support different dimensions of literacy, how they are interpreted by users, and what kind of practices they develop both in informal networks and formal organizations. For instance, in-depth analyses of exchanges in online forums – online scientific communities, or affinity communities such as adoption forums, or company intranets – would show how the literacy dimensions are enacted by members of modern forms of formal and informal organizations. Similarly, empirical investigations of the communicative practices using various media could help understand the limits of these new media (e.g. they don't support analytical reflection). Field investigations in the vein of the Mazmanian et al. (2006) study seem appropriate, as they allow researchers to investigate the literacy dimensions of communication contextually, and to explore the relationships between the two modalities of communication – oral and written – as they are enacted in various media.

Sharing ideas and collaborating. Since its beginnings, online communication has been used to link a community of scientists at the U.S. Department of Defense (the ARPANET) – not unlike the networks of correspondents to which Descartes, Madame du Châtelet, or Einstein

belonged. The modes of communication enabled by the net and then by the Internet were quickly adopted by other researchers, academics, and others who found them effective in exchanging information and building new knowledge.

As noted earlier, a dramatic change introduced by writing was the capability to keep a trace of stories, history, and scientific discoveries, to archive and share them. Written online interactions offer similar possibilities, yet with a different magnitude and speed. The ease with which email and forum exchanges are stored, searched for, retrieved, and shared (forwarded) partially or in their entirety with others (i.e., their fixedness), allows participants to easily find and categorize information using the traces left by the written threads. Many technical people praise email for its permanence and the capability to archive messages (Yates & Orlikowski, 1992).

Fixedness supports the distance collaboration enabled by computer-mediated technology because it objectifies the ideas and scientific formulae that can then be shared, discussed, and modified. The objectification process allows analytic precision, and it is this precision that enables software developers to develop complex products such as Linux and Apache almost exclusively via emails and forum exchanges (Kogut & Metiu, 2001; Moon & Sproull, 2002;von Hippel & van Krogh, 2003). The same dimension also helps explain the way some types of experimental biology (e.g., the Human Genome Project) are conducted: several labs working on distinct parts of the problem, with one lab generating an intermediate product (such as a cell line), and then sending it to another lab for further work (Walsh & Bayma, 1996). As in letters, ideas are thus objectified, such that other scientists can access them frequently, reflect on them, and build their own contributions more carefully than in a face-to-face situation (Hiemstra, 1982). While letter writers do not always keep a copy of the letters they send, online

communication offers writers the possibility to revisit their messages and posts. In that sense, online communication supports a higher level of objectification, which can enable collaborative scaffoldings.

The literacy perspective, therefore, explains some of the factors underlying the capability of computer-mediated communication, and of the Internet, to provide a propitious environment for distributed collaboration. While many studies note that online interactions can foster idea exchange, they explain it by the affordances of the medium, such as bandwidth, or archiving capacity. Without dismissing the impact of such technological advances on the speed and scope of sharing, our perspective draws attention to the fundamental dimensions of literacy that are enacted in the process of computer-mediated intellectual exchange. Proponents of media richness and social presence theories tend to explain that richer, more personal means of communication are generally more effective than leaner media, and therefore that idea sharing and collaboration can not be effectively supported by media such as emails and online forums (Kraut et al., 1988; Kraut et al, 1999; Olson et al., 2002). Such a perspective focuses on the processing of information, without taking into account the relational nature of communication. As we have shown, written communication involves an objectification process so that the meaning is expressed and shared with the recipient. Such an objectification also happens in oral communication but because of the evanescence of sound, it is less apparent. Yet, oral cultures developed strategies – repetitions, mnemonic formulas - to support the objectification process. The development of the technology of writing has made this objectification process easier and more explicit.

Building trust online. Numerous studies have highlighted the difficulty of building trust in virtual teams and distributed organizations (Nardy & Whiteaker, 2002; Olson et al., 2002;

Wiesenfeld, Raghuram, & Garud, 1999). Some recent studies claim that few communities exist purely online (Fayard & DeSanctis, 2007; Fiol & O'Connor, 2005; Griffith & Neale, 2001; O'Mahony & Ferraro, 2007), and they tend to explain their findings by maintaining that face-to-face communication is the ideal type of communication. While media richness and social presence theories posit face-to-face as a gold standard, and their critics show that over time, people get to know each other and develop practices that are "as good as" face-to-face interactions (e.g. Walther, 1992), we argue that the matter is not whether online communication can be as good as face-to-face interactions, but that online communication is just an occurrence of written communication, and as such exhibits dimensions that are different, yet complementary to the oral modality. Hence, the literacy theory can more richly explain the results of the various studies, rather than merely referencing intrinsic limitations of the medium such as the lack of social cues. The literacy theory suggests that the lack of fictionalization may explain, in part, the difficulty of building trust in online contexts.

While fictionalization is a key dimension in letter writing, it can be easily "forgotten" in virtual contexts: the increased speed and synchronicity of interactions make others seem less far, and therefore diminishes the fictionalization process. Yet, it is interesting to note that even in conditions of anonymity, online interactions are still directed towards a distant other whom one imagines and whose subjectivity one tries to reach. While participants in online communication employ a variety of strategies to establish their legitimacy and authority (Galegher et al., 1998), these strategies of self-presentation can be effective only when one has imagined the needs of the recipient and his level of understanding, in other words, when the writer has fictionalized the receiver(s).

The lack of fictionalization in mediated communication can also be explained by the absence of acquaintance between the members (who often have never met). Indeed, while fictionalization occurs in others' absence, it requires some contextual elements on the personality of the others and their environment (Cramton, 2002; Metiu, 2006). As studies have shown, technology-based teams that shared social information were able to create a shared context and promote swift trust, perceived similarity, and a sense of identity (Jarvenpaa & Leidner, 1999; Lea, Spears, & de Groot, 2001). According to the literacy framework, face-to-face communication is important because it provides elements that will help the fictionalization process, which will facilitate future interactions. As a recent study of a distributed team of software developers in the US and in India has shown, the only US engineer who went to Bangalore achieved a much richer understanding of his Indian colleagues, which he was then able to share with his colleagues in the US (Metiu, 2006). Face-to-face meetings therefore play an important role not only because they help build trust and create mutual expectations and tacit knowledge, but also because they create an opportunity for participants to fictionalize the others, once apart again. Yet, a question worth exploring is whether the face-to-face meeting provided the visitor with elements to fictionalize the distant collaborators, or on the contrary, that these interactions constrained the fictionalization process – e.g. limiting biases and prejudices. Future empirical studies need to explore the role of fictionalization in virtual teams and distributed organizations to understand better the importance of fictionalization in the development of trust, as well as the importance of contextual knowledge to support fictionalization.

The literacy perspective implies that people should provide strong, vivid images of themselves online in order to support the fictionalization process. While media richness and social presence theories assume that the absence of face-to-face communication leads to a

depersonalization of the interactions, the literacy perspective highlights how crucial the other person is in written communication. Writing always implies the fictionalization of the other as one always writes to someone. As in any relationship, the fictionalization of the other also takes place to a certain extent in oral communication; yet, because of the interactants' "closeness", it becomes less obvious. In this sense, the literacy perspective illuminates the importance of the relationship in the communication – whether oral or written. As the above discussion illustrates, the literacy perspective offers a powerful tool for analyzing organizational communication, new forms of communication, for interpreting their limitations and strengths, and for understanding the communicative practices associated with them.

Toward a literacy theory of organizational communication

The literacy perspective allows us to change the terms of the existing debate in organizational communication. Instead of focusing on the medium of communication, this perspective recognizes the unique characteristics of literacy, examines the modalities of communication (oral and written), and offers a way to describe the complex varieties of interactions enabled by the new media. This re-conceptualization allows us to question the assumption of face-to-face as the ideal way to communicate, and its attendant implication that mediated communication can be successful only by imitating this standard. In fact, the literacy approach highlights that oral communication requires some of processes involved in written communication. As noted earlier, a subtler, more tacit form of fictionalization takes place in oral communication. Moreover, by stating an idea or a feeling orally, people are already fixing it to a certain level. Once an individual tells a colleague that he does not trust her or that he disagrees with her, he is objectifying the relationship - even though it less noticeable than in a written context.

Therefore, the literacy perspective suggests that the gap between oral and written communication is not a matter of difference, but of degree. The media richness theory does place various media on a continuum, while also stressing the differences among these media, such as synchronicity and immediateness of feedback. The perspective advanced in this paper, though, highlights that some of the aspects present in written communication - objectifying, analyzing, reflecting, and fictionalizing the other - are in fact involved in any type of communication, while being stronger and more obvious in written contexts. Because of the fixed dimension and the related objectifying process, writing has unique advantages; it supports analytical precision, reflectivity, and a deeper fictionalization of the other.

Thus, while existing theories of organizational communicaiton are theories of the communication media (assessing their capability to provide instant feedback or multiple cues, for example), the literacy approach is a theory of the relationship between the people who communicate. Particularly, it describes the processes and mechanisms that allow and foster a relationship between communicators, thus providing a more integrative perspective on organizational communication in general, and on online communication, in particular.

[i] “Literacy” in this context is not used to refer to a specific level of accomplishment in the use of written words, but to the existence of a system of writing (including the written words, as well the teaching of this system).

[ii] Writing emerged in many different cultures and in numerous locations throughout the ancient world. It was not the creation of any one people. However, the Sumerians of ancient Mesopotamia, where Iraq now stands, are credited with inventing the earliest form of writing around 3500B.C.

[iii] A recent finding seems to point in this direction as well. In a recent article, Oliveira and Barabas (2005) present an analysis of Einstein and Darwin’s letters in terms of writing patterns (particularly the intervals between their receipt of a letter and their responses). They found that the delay followed a "power law," much like e-mail does today. The authors point out that the similarity in scaling laws between electronic and written correspondence points to a "fundamental pattern in human dynamics."

[iv] We designate letters exchanged by The Hudson Bay Company employees as HBC, followed by the letter's number and by the page number in which it appears in the volume. We designate letters exchanged by the employees of The East India Company as EIC, followed by the numbers 1 or 2 depending on the volume, by the number of the letter, and by the page number in which it appears in the volume.

Apendix 1 : The correspondences

René Descartes (1596-1650) was a highly influential French philosopher, mathematician and scientist. He is sometimes referred to as the "Founder of Modern Philosophy" and the "Father of Modern Mathematics". Much of subsequent Western philosophy is a reaction to his writings. His influence in mathematics is reflected in the Cartesian coordinate system used in plane geometry and algebra being named after him. He was one of the key figures in the Scientific Revolution. Out of 11 volumes of works, five contain his correspondence. The letters are not only appendices and annotations, but are actually part of the Cartesian philosophical enterprise. His correspondence with the Princess Elisabeth which triggered the writing of the *Passions of the Soul* illustrates perfectly the role of letters in the development of his work (Beyssade and Beyssade, 1989). We read the complete correspondence of René Descartes with Princess Elisabeth from May 16, 1643 to December 4, 1649, published in *Correspondance avec Elisabeth* (57 letters in total).

Emilie du Châtelet (1706-1749) was one of the first women scientists in Europe, a physicist, mathematician, translator and essayist whose greatest work was to translate from Latin to French, and to comment Newton's "Principia". Her extensive correspondence with Voltaire, Maupertuis, and many others served as laboratory for experimenting with ideas, hypotheses and theories (Bonnel, 2000).
Our analysis is based on excerpts of the scientific correspondence of Emilie du Châtelet as reproduced in Bonnel, 2000.

Albert Einstein (1879-1955) was a German-born theoretical physicist widely considered one of the greatest physicists of all time. He is best known for the theory of relativity, and was awarded the 1921 Nobel Prize for Physics. Einstein had a huge correspondence with many different recipients. He sent more than 14,500 letters, received more than 16,200, and responded to only a quarter of them (Oliveira and Barabas, 2005). An interesting example of the collaboration process and idea generation is the correspondence (1929-1932) with the French mathematician Cartan. We analysed the whole correspondence, which includes 39 letters. His correspondence with Max Born (who also contributed to the formation of modern physics) and Hedwig Born demonstrates their argument about the correct interpretation of atomic phenomena and shows how human, political and ideological problems are intermingled in this discussion. We read the complete correspondence, from 1916 to 1955 (116 letters).

The Hudson Bay Company is the oldest company in North America. It was incorporated on May 2, 1670, with a Royal Charter from Charles II. The company established the first permanent English settlements on the Canadian mainland by planting remote and almost monastic post on the shores of the inland. Before countries existed on this continent, the company was the effective ruler of an immense territory. The posts consisted of little groups of white men who carried out in wilderness those tasks upon which their masters' trade and their survival depended. Their only contact with the outside world was the ships, which sailed each year (if they were lucky) from the River Thames in May and anchored off Albany or York Fort in August. They uploaded her outward-bound cargo of trade goods and supplies and received in exchange the home home-bound cargo of fur. The ship bore home each year's general letter addressed to the company's London committee from the post to which she had been sent.
These letters include answers to the instructions or questions which the ships brought from London yearly and each post's story of the problems it was facing. The posts were also sending with their annual letter a fort journal (similar to a ship's captain log). All these documents had to be made out in duplicate, one copy for the post and one for London. We analyzed a selection of 50 letters from the 79 letters sent from the forts to the Headquarters Office in London from 1703 to 1740.

The Honourable East India Company: was founded as *The Company of Merchants of London Trading into the East Indies* by a coterie of enterprising and influential businessmen, who, in 1600, obtained the Crown's charter for exclusive permission to trade in the East Indies for a period of 21 years. The

headquarters were in London and they were communicating through letters with their various trading points. Until its dissolution in 1858, the company became the de facto ruler of India as it acquired military and governmental functions. The company also traded on the Guinean Coast (West Africa). These letters contain a wealth of information on a wide variety of topics: trade in the 17th century, national and international politics, including Anglo-Dutch wars; the difficulties of controlling the activities of merchant seamen and factors at overseas trading posts and of dealing with their disagreements; the society and government of the peoples of West Africa, India, and other regions; and the influence exercised by Europeans on those societies. The letters sent out by the Headquarters were copied at the time of writing into books. Incoming letters have survived only in part. In this paper we analyzed the letters exchanged by the London Headquarters and their trading posts in Guinea - a selection of 40 letters from the 131 sent between 1657 and 1666 and vol. VI of the letters (78 letters in total) received from the company from its employees in the East.

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TABLE 1
The dimensions of literacy: Illustrations from letters

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Dimensions of writing	Illustrations from letters	
	Personal letters in networks of intellectuals	**Organizational letters**
Fixedness - Extends memory - Writing is permanent: multiple readings are possible - They can be shared and read by others	*Cartan to Einstein* "Cher et illustre maitre, I received your two letters and your card one after the other. I was just intending to write you a word when the last one arrived (…) When I read your letter, I said to myself: that's a question to be investigated. And when the next day, I thought it over, I had completely forgotten that the quadratic terms need not appear on the left hand sides of the equations; to tell the truth, I did not even dream of referring back to your letter. Will you please forgive my thoughtlessness? …" (11 Jan. 1930) - In 1741, Madame du Chatelet is an argument with Koening as she claims that she wrote the critique of Mairan's critique long before she met Koenig. Voltaire confirms and writes to Mairan that he has the written proof: "I have the written proof of what I'm telling you. She started falter in her faith one year before meeting him (…)" (D2452)	*HBC L33, p. 36* "Your honours will find by invoice that there is gone home 130 white foxes, caught by your servants, and but two of any other colour." *HBC L67, p. 258* "And let to your honours see the manner that I have proceeded therein I have sent enclosed in the packet a copy of the instructions that I give from time to time to Mr. Napper and Mr. White to be observed by them in my absence at the building." *EIC1, L2, p. 4.* "Postcript As we have already verbally given you notice that wee are informed that there is put aboard the ship Marygold by the Owaners or some others, … soe that you may reteyne in memorie, wee doe here adjoyne it to your former Instruction" *EIC1 L10, p. 7* "Honorable, Constantine Castle 22 february 1657/58 Theise only serve to informe you of the Arrivall of your ship Mary Gold at this port yesterday; by Captain Connis I have received yours and the Guinea Company commaunds (…)
Analytical precision -Written words sharpen analysis - You need to foresee all possible meanings for any possible reader in any possible	*Born to Einstein:* "Dear Einstein, it was very nice of you to write to me again and to go into the details of my letter…"(Letter 107, Dec. 22, 1953). *Cartan to Einstein:* "Cher et illustre maitre, It will soon be more than three weeks since you left Paris and still I have shown no sign of life. It's not that I haven't been thinking deeply about the conversation	*HBC L61, p. 229* "P.S. the small furs of this year's trade consists of 122 bears 361 quickhatches 164 wolves…" *HBC L66 p.243 sq* "we received your honours' letters dated May the 18th 1738 which was immediately read before us, and have considered the several paragraphs in manner following :

situation -It has to be clear with no "existential context"	we had at Langevin's home. If I asked you questions of a mathematical or physical nature that may have appeared a bit naïve, it is because I wanted to start from a secure base and to be able to formulate your mathematical problem in a precise way. I enclose a brief account of the way in which I see the question; I apologize in advance for certain details that may seem a bit irrelevant, but this is because I want to help you understand my point of view; if I have taken the wrong road, I'd like you to tell me. I shall give you a few details of the theory of systems in involution which I discovered some thirty years ago that seems quite appropriate to your problem." (3 Dec 1929) *Madame du Chatelet* (17 July 1738) "As for the atoms, if there are matter, and as they are probably because a composite cannot be made of parts essentially different of itself, because, say I, they are matter, they must have a form. I know we can't see it, but we have and we can suppose it and I believe it is natural to suppose it to be a sphere (…)"	Paragraph 2nd We have referred to Mr Norton being a more proper judge 3rd Referred to ditto. 4th referred to ditto (…)" *EIC L9* "Mr Joans Abeeles, Since our last of 16th Currant (of which you acknowledge receipt) is come to our hands your sof 16/26 Instant, and 3d May, and in each of them a bill of Lading vizt One for 50 Chests of Shhetes, 2 Chests Homessen and 2 Fatts of Guiney nepten… (…)" *EIC L 48, p. 40* "wee therefore require you to vse all expercidition in the sale of the Cargazoone and to invest the same into Gold, which with what you shall have already provided, wee desire may amount vnto 140001,a nd as much more as can be procured and therewith to give here… and if the commander of the said ship shall require the assistance of your Blacks (…) if you can conveniently spare them, wee desire you that they maybe helpful vnto him as accsation shall require, and espetially in digging and bringing their Ballast abord their ship" v
Reflectivity - Writing gives us the space to turn our experience into coherent, reflective words -It allows you to explore different identities depending on your audience.	- *Madame du Chatelet to Maupertuis* (29 September 1738); she writes to the scientific adviser and to the colleague. - To the scientific advisor, she writes: "I could not believe that I was right against Mairan before reading you letter, but now I feel strong and you increase my courage (…) My goodness, how much darkness you have to dispel in my mind" - To the colleague, she writes that she's not going to follow all his opinions.	*HBC L33, p. 136* "I hope that such care will be taken so as will prevent the like for the future, for the natives are grown so politic in their way in trade, so as they are not to be dealt by as formerly, for they value not giving a skin or two more than what is common, provided the commodity be good and serviceable (…)" *HBC, L1, p. 7* "The reason why sent no particular indent the last time I wrote was because I did not know but the goods that came over then, with what remained in the country, would have made two years trade… For I could not divine to tell what my trade would be the summer following, but thought that after that was over, I might be the more capable to judge what goods I should want, and did not doubt to have had an opportunity to have sent home an account thereof; but the ship not returning the last fall has put me by those measures I had taken and I'm sorry this unavoidable omission should fall out this year"

		EIC1, L 10, Pp 8 "Considering the Necessity of dispatch of this ship in soe short a time, the Accanies being all vp in the Cuntrey at Wars as they… I prevailed with the Captain to goe up and aquaint the Merchants that I h [ave] now a ship arrived from our new company…" *EIC, L 48, p. 39* "The insolent behaviour of Nicholas Herrick in beating the Kinds sonn and other misdeameenors by him acted, wee perceive was the occasion of the breaking open our Warehowse dores, and the carrying away our goodes…"
Fictionalization of the other -Anticipating and addressing an audience -Leads to clarifying your thought and adjust your expression (anticipation of the effect of our words)	- *Elisabeth to Descartes* "But I am worried that your opinion on my understanding will change, and for a good reason, once you would realize that I don't understand how mercury forms." (August 1, 1644) - *Descartes replies in detail, discussing each point Elisabeth raises, and writing about his hopes that his letters* "are not more troublesome than the books you have in your book shelves." (August 18, 1645). - *Letters allows Mme du Chatelet a process that is forbidden with published treatises: questions in a conditional mode and expression of intuitions*. E.g she writes to Maupertuis: "I imagine that one will have to distinguish between force and movement, but I find this distinction extremely embarrassing, and as you call it in question, I hope you will shed light on it…."	*HBC, L1, p. 9- 10* "It was a very hard winter (for provision) all over the country, for abundance of the poor Indians perished and wer so hard (…) "For I was for above six weeks in a most miserable condition with it and could get no relief and am every now and then troubled with a relapse" *HBC L5, p. 28* This news put me into a great consternation as being very much afraid that he had met with some misfortune as having had no news of him …" (…) p. 29 "which was very joyful news to me after so much despair for I was afraid I should not heard of her [ship]" *EIC1, L 44, p. 36* "These may Informe your honers that the Cause of our not writing vnto you is because that wee have the pervsall of all the Letters that our principall Sends home vnto your honers: and in them hee doth write what possible wee Can thinke is necessary which is the resone that wee doe not write vnto your honers…" *EIC L 53, p. 44* "In several Clawses of your Letters, wee find you complaining against Interlopers and the damage which wee receive by their vnderselling their Comodities, By your letters sent you on the Truroe you will find what wee therein required your observance of some perticulers, in relation herevnto, to which wee referr you (…)"

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