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Taking time: Reflections on innovation and [slow] writing

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Innovation has become a mantra for all – organizations and individuals alike. This need to innovate is portrayed as a race, with all the connotations of the term, particularly competition and speed. If they don't want to lose or die out, organizations and people working in them deem that they have to come up with new ideas, products and services at an ever-increasing pace.

An often proposed panacea to the challenge of fast and continuous innovation is a medley of brainstorming, intense face-to-face collaborations, images and videos. Oral communication, with its speed and immediate feedback, seems the ideal medium for generating new ideas. In contrast, writing seems obsolete. When an image is thought to be worth a thousand words, and when great thoughts should fit the format of a 140 characters tweet, few people are willing to read more than two pages on a particular topic. Thus, one-pagers or a couple of slides with images, or maybe a short video are preferred, if not mandated. Arguments developed in written documents or email exchanges are perceived to be slow, nuance-poor, and decontextualized, preventing the quick and rich flurry of creativity that takes place, many believe, only in oral communication[1].

The belief that the speed of oral communication fosters the rapid production of novel ideas is largely erroneous when it comes to nurturing innovation in organizations. There are two main reasons for our argument. The first is based on the established notion that innovation needs time. Ideas, including those initially generated during a face-to-face encounter, need time to mature and develop (Johnson, 2010; Arbesman, 2012). More often than not, time is crucial in the innovation process. To innovate, organizational actors need time to think, to express nuanced thoughts, or to take a break during which ideas ripen. Innovation and speed are thus often at odds.

The second argument is based on our research on the role of writing in organizations and distributed collaborations (Fayard & Metiu, 2013) that shows that both in the past and in current contexts, writing has played a key role in new knowledge creation. By writing, we don't mean only handwriting, but more broadly the act of communicating thoughts or feelings using a set of symbols on a visual medium (from papyrus and clay tablet to paper and digital media). Specifically, we found that four dimensions of the writing process – objectifying, contextualizing, specifying and reflecting – enable the articulation of detailed and complex thoughts and reflection both for individual creative thinking and for creative collaborations. For example,

1. This belief is shared by organizational actors and researchers alike. One can think of the famous media richness theory (Daft & Lengel, 1986) which defines face-to-face oral communication as an anchor to analyze and evaluate all forms of organizational communication. Moreover, several studies highlight the importance of informal face-to-face interactions for collaboration (Allen, 1977; Olson et al., 2002; Fayard & Weeks, 2007).

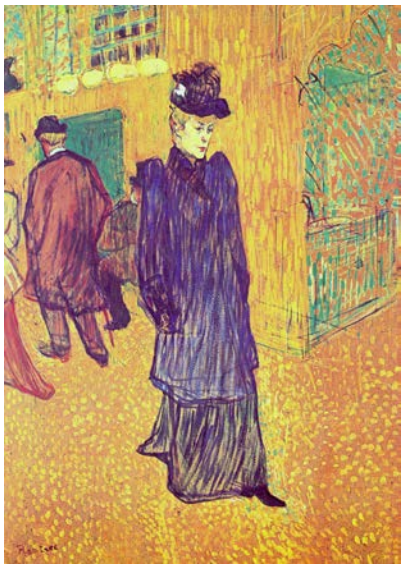
participants in crowdsourcing platforms for innovation and in citizen science projects rely mostly exclusively on writing to interact and to "think through" their ideas. Writing—we argue—may be slower than oral communication, but it can lead to full idea development and thus potentially to novel insights and innovative solutions.

There is even less time to think and to write in a world infused with multiple communication devices, in particular smartphones that impose immense pressures to provide instantaneous responses and solutions (Mazmanian et al., 2013). These devices are often used to type short messages rather than to communicate orally. However, the writing enacted continuously on a variety of communication media by both collocated and distant coworkers bears little resemblance with the full power of writing residing in its dimensions and thus impedes the potential of generating new ideas.

In this paper, we show the strong connection between writing and our creative and thinking capacities, at the individual and organizational levels, and explore the unintended consequences of contemporary communicative practices for new ideas generation and innovation. In particular, we argue that if one considers seriously the claim that writing when fully enacted (what we refer to as "slow writing") has been central for the development of ideas, theories and critical thinking in human history, changes in technology and media that increase the speed of writing and restrict the enactment of writing's dimensions might have consequences on our thinking and innovation capabilities.

Writing changed our brains and unleashed our creativity

Historically, the development of writing is associated with two parallel and dramatic changes. The effects of writing on human civilization were momentous: mathematics, science, philosophy, literature were all predicated upon the ability to write, as were law systems and large organized societies. At the same time, writing changed the human brain: analytical thinking and reflectivity, as well as the associated creative abilities, were grounded in the writing practice. As the classicist Havelock (1963) argued, the Greek alphabet (and the emergence of a comprehensive writing system) represented a psychological revolution in human history because it released the possibility of having novel thoughts. Liberated from the burden of remembering and memorizing, people learned to use writing more and more precisely to convey their thoughts and thus increased their capacity for producing abstract thoughts and novel ideas (Havelock, 1963; Goody, 1987; Ong, 2002). Similar arguments were developed by psychologists such as Vygotsky (1962) and Wolf (2008), who claimed that the development of the writing (and associated reading) created new pathways and circuits in the brain and thus provided the foundation for different ways of thinking. Wolf (2008) explained how the development of what she calls the reading brain (which is intrinsically connected to the writing brain), has also freed up the intellectual faculties of the reader: "*The act of putting spoken words and unspoken thoughts into written words releases and, in the process, changes the thoughts themselves*" (Wolf, 2008, pp. 65-66). Hence, research in history, psychology, and neuroscience suggests that our capacity for creative thinking is intrinsically connected to our ability to write and read.



Jane Avril quittant le Moulin rouge, Henri de Toulouse-Lautrec (1893)

Writing enabled the birth of organizations, successful distributed collaborations and the development of scientific knowledge

Writing played a key role in the birth and development of organizations and distributed collaborations both because it allowed information sharing, and because it supported creative and critical thinking. Sociologists, historians, and management and communication scholars have shown the importance of written communication in the development of organizations as we know them now (Weber, 1968; Yates, 1989a, 1989b; King & Frost, 2002; O'Leary et al., 2002). In our own research we examined the correspondence of the Hudson Bay Company, the oldest commercial corporation in North America, in continuous operation for over 340 years. We show how managers at the HBC London Headquarters and the employees in different trading posts in Canada coordinated the entire operation via one letter from each site per year (and when the boat from London got caught in ice early, via one letter every two years). Correspondents relied exclusively on these letters to come up with innovative solutions to the problems faced by far away post managers (Fayard & Metiu, 2013, 2014).

Successful collaborations supported almost exclusively by written communication also existed in the scientific domain. The role of writing in the development of science, academic journals, and learned societies is well established (Bazerman, 1988). A prominent example is the Republic of Letters which consisted in networks of philosophers and scientists spread throughout Europe and who, starting with the second half of the 16th century until the end of the 17th century, communicated their ideas mostly via letters. The ideas expressed, refined, and disseminated through the Republic of Letters have shaped Western thought for centuries to come (Crane, 1972; Goody, 1987; Bazerman, 1988; Collins, 1998; Fayard & Metiu, 2013). In yet another striking illustration of the role of writing in scientific collaboration, we showed how the physicist Einstein and the mathematician Cartan through a dense correspondence over three years (1929-1932) laid the foundation of a new theory, the Cartan-Einstein unification theory (Vargas & Torr, 1999). Through their letters the two scientists engaged in a fruitful dialogue where they generated and exchanged ideas, often challenged each other's ideas (*e.g.*, asking for clarification, challenging the premises of an idea), to finally refine and draft a theory – that will be fully developed by Vargas and Torr (1999).

The mechanisms of writing

Our in-depth analysis of various correspondences[2] led us to develop four key dimensions of writing, which we argue explain how the individuals involved in these distributed collaborations were able to generate and develop new ideas:

- Objectifying: the act of writing down the idea thus being able to share it and to refine it for ourselves and others,
- Contextualizing: one always writes for someone and thus needs to clarify things for the recipient of the message, imagining her questions or criticisms,
- Specifying: the line of the text forces us to be analytical and clarifies one's thoughts, and
- Reflecting: writing allows the writing to pause to articulate and develop one's idea and the reader to pause to understand.

2. We did a qualitative discourse analysis of several correspondences: the Hudson Bay Company, Virginia Woolf, Albert Einstein and Élie Cartan, Marin Mersenne and Madame du Châtelet, presented in Fayard & Metiu (2013)

Writing that enacts these dimensions may be slower than the fast writing we perform on our mobile devices, but it is a powerful support for creativity and innovation.

Writing matters more than ever in a world of media multiplicity and online communication

As we showed above, the notion that writing played a role in the development of new ideas in the past is well-established. However, the notion that it continues to do so even nowadays may seem more controversial: writing and its four dimensions might seem obsolete in today's world of high connectivity and media overabundance. However, our empirical investigation of contemporary settings reveals that writing and its four dimensions still matter; in fact, the current need for constant innovation makes them matter more than ever. Our research of writing in present-day context involves three successful online communities (an open source community, a public forum on knowledge management, and an open innovation for social innovation) as well as interviews with managers and professionals in various fields (media, architecture, telecommunication, management consulting, etc.) and continents (Europe, US and Asia)[3]. The sound finding is that both professionals and participants in the three communities consistently enacted writing's dimensions, and that this was crucial in enabling them to successfully develop new ideas.

3. For detailed analysis, see Fayard & Metiu (2013, chapter 8).

Consider for example Open IDEO, an open innovation community in the field of social innovation launched in August 2010 by IDEO, the international award winning design and innovation consultancy. OpenIDEO represents a vast community of distributed members (today more than 70 000 members across more than 170 countries) who collaborate through writing to develop creative and implementable ideas. OpenIDEO members are located all around the world and participate—completely voluntarily and with no prizes or awards—to challenges set by public and private organizations such as Water and Sanitation for the Urban Poor (WSUP), Oxfam, the Haas Center for Public Service at Stanford, Graamen Creative Lab, Unilever or Nokia. Through written posts and multiple comments, members of the OpenIDEO community actively and successfully collaborate to research and develop innovative solutions to complex social challenges.

The effective knowledge collaboration we observed in the online communities we studied echoes the knowledge collaboration enacted on Wikipedia and in various Citizen Science projects. In all cases, collaboration takes place, and knowledge is created through writing, suggesting that technology-mediated communication does not necessarily prevent the enactment of writing's mechanisms.

While some of our findings show that writing's dimensions can still be enacted with new media, our interviewees all noted that a major impediment was the pressure for almost synchronous communication imposed by increased connectivity and mobile devices. This dual pressure for fast thinking and fast writing prevents them from devoting sufficient time to thinking and developing new ideas.

What is at stake if we lose the skills grounded in our writing/reading brain?

The managers and professionals we interviewed were painfully aware of the negative consequences of not being able to enact writing's dimensions in their everyday work. Their complaints echoed some negative effects—lack of autonomy, pressure to reply immediately—highlighted by Mazmanian et al. (2013). They also stressed a sense of

not being able to think and be creative. One challenge they mentioned repeatedly was related to the use of PowerPoint and the tendency to "cut and paste" to create "new" documents. Hence, rather than creating new knowledge, people saw themselves as curators, rather than creators of novel ideas.

For example, the CEO of a NYC innovation consultancy explained to us that in her current work and past work as a management consultant, she had noticed how very few new ideas were generated in companies; instead, people kept duplicating and tweaking "decks" rather than pausing, starting from scratch, reflecting, and writing up a new idea. This type of testimony from professionals is corroborated by recent studies by psychologists and neuroscientists who showed the impact of new media on our brain. These studies show that if our brains are getting better at visual-spatial skills, such as browsing, surfing, scanning and multitasking, it is at the cost of a weakening of deep processing that underpins mindful knowledge acquisition, inductive analysis, critical thinking, imagination and reflection (Wolf, 2008; Carr, 2010). Our informants all stressed that they felt they did not have the time to think, partly because of the perceived obligation to be always on and reply in the shortest delays. This lack of time was often associated with the impossibility to write "properly" – *i.e.* taking the time to let their mind wander, articulate their ideas, and refine them if needed – although as we will see below, some developed tricks to be able to enact what we might call, "slow writing".

What matters, in fact, is not only writing *per se*, but the states of mind often associated with writing, *e.g.* daydreaming or contemplating. Research in neuroscience (Baird et al. 2012; Kaplan, 2012) has shown the importance of reflection and "off-times" for the emergence of new ideas. "Eureka" moments[4] often happen during these "off-times" where the brain starts organizing various pieces of information: connecting what happened during the day with old memories, linking things in surprising ways, arriving at new insights, generating novel ideas. In short, writing affords the possibility to reflect, which is essential to the generation of novel ideas.

4. In fact, the very notion of Eureka moments is contested by some researchers such as Johnson (2010) and Birkinshaw et al. (2011).

Some practices developed to counter the effects of the loss of reflectivity

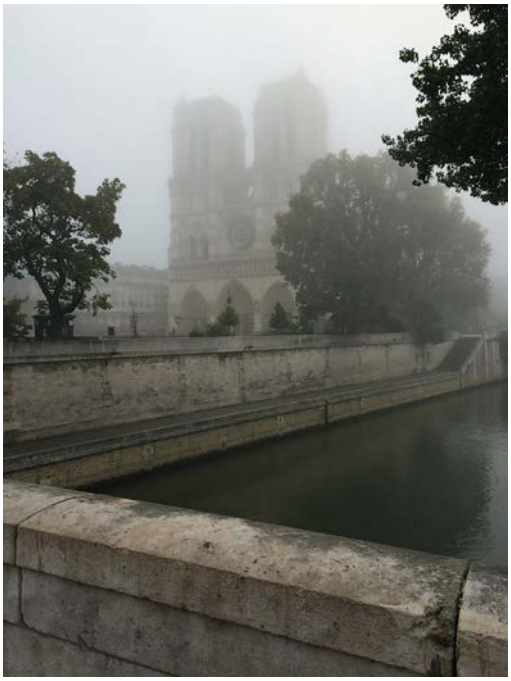
Perhaps not surprisingly, all professionals we studied declared having developed specific practices to address the dual challenge of innovation and speed. Thus, many would use their smartphones to only read messages and answer short ones, while waiting to be seated at their laptops in order to formulate complex, nuanced, full-fledged responses. Several also insisted on the importance of drafting messages that they may not even send: the simple act of writing down their thoughts helps them clarify their ideas. All engaged in long, nuanced online correspondences when working with a few collaborators and partners on a project and they felt that this was when they developed their new ideas. At the same time, organizations such as business schools or architecture practices have (re)introduced writing courses for people entering professional careers as they perceive "slow" writing as a crucial, yet disappearing, ability.

Written and oral communication complement each other

While we do not claim that writing is superior to face-to-face and oral communication, we do believe that organizations and their people can benefit from being reminded of the importance of writing in supporting innovation. A close look at the innovation process in highly successful innovation and design consultancies such as IDEO,

?WhatIf! Innovation, or Frog Design reveals that while these organizations are famous for their intense brainstorming sessions and their reliance on visual representations (e.g. sketches, photos), they also make intense use of writing: during the brainstorming sessions, all ideas are posted on the walls; after each session, ideas generated are written down and shared; the written ideas and the stories developed from designers' field research are kept for inspiration. Similarly, though in a different context, all our interviewees noted that while meetings (face-to-face or via teleconference) play a role in the development of new ideas, writing is essential in presenting evidence and in articulating, sharing, and developing ideas and knowledge further. Future research should explore further the intertwinning of oral and written communication in innovation projects to illuminate the role of both modes of communication in the generation of new ideas.

Taking the time to write



Notre-Dame,
27 octobre 2014 (8h35)

Great ideas take time to develop; they rarely spring out of "nowhere", overnight, and they do not occur fully formed. They come after deep reflection, through a process usually involving the combination of several ideas, multiple trials and errors, and continual nuancing. Many stages of this process involve writing, which also takes time: time to objectify one's idea on a piece of paper or in a soft document, time to create a trace that can be shared with others, time to reflect upon it, to modify and nuance so it becomes specific, time to adapt it to its intended audience and context. The innovation process and the associated writing both require time, and impose on us a rhythm that is at odds with the one imposed by instantaneous communication and constant connectivity. Time pressure and speed do not allow such thinking processes that often rest upon lengthy incubation and upon what can be called serendipity of the mind.

The problem with the new media is that while we still write a lot (text messages, emails, blogs, online forums, etc.), the increased connectivity (i.e. pressure to be "always on") and the features of the new interfaces (small screens and keyboards) make it difficult to enact writing's dimensions. At the same time, new media and what we've called slow writing are not incompatible. Indeed, our studies of successful innovative written-based distributed collaborations (Fayard & Metiu, 2013) have shown how writing can be successfully and productively enacted in online contexts. Though successful, these cases are not the majority and the complaints of our interviewees (along with the results of other studies) point to a real problem. Thus, we join recent calls by other researchers – the psychologist Maryanne Wolf (2008), the technology writer Nicholas Carr (2010), and the sociologist Sherry Turkle (2011) – that we resist the negative consequences of technology on our ability to write, think and innovate. Writing is a way of thinking with our hands, similar to the way engineers or designers think with their hands when they sketch or build a prototype. Nowadays, whether planning a pitch, storyboarding a video, sketching a scenario, or putting together a PowerPoint presentation, we still rely on writing's mechanisms – objectifying, reflecting, specifying and contextualizing – because they support the development of new ideas, the building of a strong argument and of a compelling story ■

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