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The place of affect in the design of information systems: The problem of serious gaming.

By Edouard Pignot

Thesis
Submitted to the University of Warwick
For the degree of Doctor of Philosophy

Doctor of Philosophy

Department of Business
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You're going to lose your innocence about the sexuality of technology, Mister Young Engineer. And I’m going to take advantage of the opportunity by writing a little commentary, a little sociology manual to make your work easier. You’re to read it in addition to the books on this list; they’re all in the school library.


Chance is conquered word by word.

**Stéphane Mallarmé** in ‘Le Mystère dans les Lettres’, 1896.

Game design can be such a pure interaction. I mean, many games are just interaction. There’s very little behind them. You’re just in the flow of touching something and it moves. It gives you some pleasure and there’s a little bit of frustration or stress and you want to overcome this thing. Not all games are like this, but many are. And that skill set… designing that and understanding it and optimizing it so that it feels really good… getting it right, where people have this pure pleasure from it… can be applied to a lot of things. We can see how powerful this iterative process is. I don’t know if you get addicted to games, but I certainly have… and I know a lot of people who have.

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Abstract
Recent research in social and political theory has turned its attention towards the development of a so-called ‘ontology of lack’ in the social sciences, with a greater importance ascribed to the affective component of agency over structure (e. g. Glynos and Stavrakakis, 2010; Fotaki and Kenny, 2014; Simon and Bendelow, 1998). This thesis explores this affective turn, and it responds to the deficit of subjective and biographical explanations in the study of organizations and information systems (Thompson, 2012).

In particular, the gamification phenomenon is investigated because its implications beyond the marketing hype remain vague and problematic: how can scientific, business or medical activity be designed for fun? Are we not crossing a line? Is this innocent? Many studies show that the design of technologies presides over the control of organizational practices (Braverman, 1974; Edwards, 1979; Markus, 1983; Markus and Pfeffer, 1983 etc.) but the importance of lack and affect in this process is underestimated. Through three ethnographic studies of computer game developers, I argue that we need to look at IS phenomena (adoption, diffusion, acceptance etc.) not only with economic, institutional or technical lenses, but also through the ideological and affective dimension carried by discourse.

This study’s three key contributions are first (1) to borrow from the poststructuralist corpus the ‘materiality of the signifier’, a notion which highlights the inseparability of the affective and the political in how users and designers engage with technology and systems. Second, I draw (2) on the theory of hegemony to show that, in current times, the production of consent at work is no longer secured by disciplinary or coercive processes, but by the affective and ideological apparatus of gamification. Thirdly, this study exemplifies (3) the need to define the outline of a subject theory and to open a future avenue towards subject-based studies as an alternative to existing practice-based studies (e. g. Nicolini, 2010) for the study of technology in organizations.
Introduction
**Aims of the study**

Is it a symptom of our liberal-capitalist times that the enthusiasm of crowds is not devoted to inspiring leaders, but increasingly to the functionalities of technology itself? A well-known example is Foldit, an online puzzle video game about protein folding. Non-scientists get involved in producing predictions of protein structures, and their intuitive, three-dimensional pattern-matching abilities have been shown to outperform the best known computational methods (Cooper et al. 2010). According to Seth Cooper, the lead designer of the project:

> They are motivated by the sense of purpose of contributing to science. It’s a game, but you’re not just playing a game. Something can come out of it, and we’ve shown that scientific results actually do come out of the game-play. A lot of the players, top players even, don’t have much background in biochemistry, and they’re still able to do well and solve interesting problems.

(American scientists, 2015)

This statement led scientists to find ways of systematically harnessing the skills of the human volunteers, involving the inclusion of gaming elements to make Foldit appealing and engaging to the general public. Players may collaborate in teams, tracking progress, comparing their scores, joining groups and sharing puzzle solutions.

Technology or, in our jargon, information systems, truly function when people enjoy using them – and this excitement has nothing to do with automation and technical support. For example, information systems such as Second Life, Airbnb or online community forums only function because users invest their energy into, and enjoy themselves using, these tools by engaging in social interaction through rituals such as hospitality or by providing biographical data. How and why does *enjoyment* come to be central in technology implementation today? Is it new, or has this always been the case? Ethnographic studies of human-computer interaction or IT design are now a well-established field, yet organizational culture is frequently associated with symbolic processes, and its affective grounding is overlooked. Emergent studies have grown dramatically in number in IS (e. g. Barley, 1986; Orlikowski,
1996), where causal agency derives neither from technology nor organizations, but unpredictably from complex social interactions (Markus and Robey, 1988). From this perspective, situated practice is seen as a privileged level of analysis (Hutchins, Lave, Suchman, and Nicolini). Yet there is a lack of studies that question the emerging role of subjectivity in this process, and which take seriously the self-interpretations of individuals.

Thus, the affordance of this thesis is that we need to understand IS phenomena such as IT diffusion, adoption or acceptance, not only in a technical, calculative or institutional way, but also through the ideological and affective dimension carried by discourse. This thesis explores the affective turn (e.g. Fotaki and Kenny, 2014; Stavrakakis, 1999; Stavrakakis, 2010; Stavrakakis and Glynos, 2008) and the still relatively-unexplored place of subjective and identity-related issues in IS phenomena (Thompson, 2012). I will therefore propose an affective theory of ideology, drawing on Lacanian theory and post-Lacanian political theory, essentially the Essex school of Discourse Analysis (Laclau, Glynos and Howarth) and the French tradition of political philosophy (Althusser, Badiou). Looking more specifically at the design of computer games through three ethnographic studies, I will follow the trajectory of computer game design from the game engine to the end-users. I will retroductively work back and forth to and from the following research questions: Why do game developers aim at producing enjoyment in the workplace- is this innocent? How do they decide on a right way to enjoy- through exclusion or inclusion of certain affects? How do they imagine the users' feeling and when does the design practice resist their imagination?

The following is a summary of the aims of this thesis:

- To highlight the role of identity, subjectivity and affect in the adoption and acceptance of computer technologies.
- To detect the social, political and fantasmatic logics in the discourse of designers and users of a game engine through a framework known as ‘logics of critical explanations’ (LCE).
• To draw out the meaning of the affects experienced in the design phase of a new game technology.

**Subject theory and the study of work and technology**

**Lacan, psychodynamic and organization studies**

This thesis will look at computer game design as a paradigmatic case to demonstrate why notions such as affect and discourse make a difference in the study of technology, work and organizations. Theoretically, I will elaborate on, and propose, a subject theory, drawing on Lacanian theory and the post-Lacanian corpus including continental philosophy (Badiou, Zizek), American post-structuralism (Butler, Pluth) and Essex political and discourse theorists (Laclau, Stavrakakis, Glynos). I will articulate this subject-based ontology with the theory of ideology (Althusser, Laclau, Glynos and Howarth) to address how collective subjectivities play out in technological matters. While there is no unified theory of the subject, the dominant place of Lacanian theory in this thesis and, more broadly, of psychoanalytic theory is hard to deny. The eminent body of authors cited above has in common the use of certain key notions derived from Lacanian clinical work and their application to various fields, from the clinic, naturally, to the social sciences in a broader way. Methodologically, this work innovates by conducting ethnographic work derived from the poststructuralist corpus and by seeking to render the *science of the subject* amenable to empirical observation.

Although the incursion of Lacanian theory into IS research is still negligible, there already exists an established research area of ‘psychoanalysis and organization studies’. In the Anglo-Saxon world, a major influence on the field of organization studies stems from the body of work produced by the Essex Discourse Group (Laclau, Mouffe, Stavrakakis, Howarth, and Glynos) in political theory. While the work of the Essex group is indeed valuable and helpful, numerous other authors have drawn upon Lacan’s work in order to
understand organizational dynamics and processes. Suitable places to start might be the recent Organization Studies special issue on Psychoanalysis in Organization Studies, the recent ‘Lacan and Organization’ book, the S.I. in Organization on ‘Lacan and Work’, among others, including Fotaki, Hoedemaekers, Driver, Scrivener and Kenny, etc. A growing body of analyses is currently drawing academic attention to the power of fantasy in structuring the motivations underpinning workplace practices (e.g. Cederström and Grassman, 2008; Kenny, 2012; Sköld, 2009; 2010).

Beyond Lacanian theory, an emblematic version of the psychosocial study of work is the British Tavistock tradition of social research. As Fotaki et al. (2012) recall in their review, the Tavistock Institute of Human Relations played a crucial role in introducing psychoanalysis into the study of organizations and settings outside the clinic through its socio-technical systems approach (Trist and Bamforth, 1951; Trist and Emery, 1965 and Miller, 1993). In this vein, following the tradition of Klein’s psychoanalysis, specifically known as object relations theory (Klein, 1952, 1959), a generation in the 1950’s and 1960’s creatively adapted this work to the field of organizational analysis and consultancy (Jacques, 1951; Lewin, 1951; Bion, 1961; Menzies, 1960). This work was extended to an investigation into the unconscious dynamics and neurotic aspects of leadership in the work of authors such as Abraham Zaleznik (1977, 1989), Manfred Ket de Vries (Ket de Vries & Miller, 1984; Kets de Vries, 1993, 1996) and Yannis Gabriel (1999), Mark Stein and Michael Maccoby (2003, 2007a, 2007b).

In France, another crucial work is that of Christophe Dejours, psychiatrist and founder of the psychodynamic of work at the Conservatoire National des Arts et Métiers (CNAM) in Paris. Dejours highlighted the central role of sexuality at work. According to Dejours, work involves a fundamental enjoyment, a mix of pain and pleasure, or a certain state when pain becomes pleasurable, otherwise it does not work. This leads him to redefine work from a
psychodynamic perspective through the distinction between prescribed work and real work i.e. between the task (what is expected to be done) and the actual activity of performing the task (Dejours, 1980, 1998, 2009a, 2009b). The idea is that if the gap between the ideal of work (e.g. prescription, total quality) and actual work is too large, people need to lie, to cheat and to defraud in order to meet administrative expectations. If the gap is too large between the realm and the prescription, people are depressed, feeling that the system does not work or is corrupted: hence the risk of decompensation as sudden as the fall of the USSR or the spate of suicides at France Telecom (2009, Bègue and Dejours).

**Intended contributions**

The adoption of gaming technologies in highly prestigious institutions raises some spontaneous questions: is this just a fashion? Or is work, as we know it, becoming obsolete? This leads us immediately to another set of questions. What counts as work? What does it mean? Who has the authority to label a set of skills as work? There is little doubt that a psychologist and an economist from the European Central Bank would offer different answers. The confusion is that, most of the time, organizational scholars speak only about what is measurable, and one cannot measure work but only, at best, the outcome of work (Dejours, 2009a). Let us think about the black market in Greece. A plumber repairs the sink of a neighbour tax-free. This is work, certainly involving time, know-how, and even craftsmanship, and it is experienced as such by the client who pays and by the plumber who works. However, there will be no trace of it, nor will there be any accounting records. Furthermore, can people making money out of Airbnb or Uber be called workers? This debate also takes place within institutions such as the Organisation for Economic Co-operation and Development (OECD) when considering recognizing prostitution and drug dealing as part of the GDP, or within feminist circles when discussing whether or not to abolish sexual work.
My attempt to respond precisely to these questions will lead me to contribute topically to the literature of technology in organizations. My contributions are three-fold:

- **Topically**, I will add a study to the field of IT design, and more specifically to the research territory located at the intersection of the large IT design literature, as well as the corpus on affect/emotions in IS studies and computer game studies. In particular, this will lead me to criticize the technological determinism regarding affect assumed by the design science literature (Malone) and positivist motivational studies (Davis, Venkatesh, Bagozzi), including the Technology Acceptance Model, from which the growing body of gamification literature (Deterding, Mollick and Rothbard) originates historically.

- **Theoretically**, this work will contribute to the Marxist and post-Marxist approaches to the study of work and industrial relations, also known as the capitalist labour process or deskilling literature (e.g. Braverman, Burawoy). More precisely, I will reinvigorate the theory of ideology, and provide it with a novel illustration derived from the study of work and information systems. I will show that the production of consent nowadays takes soft forms, and that making people work harder in modern times equates to gamifying their practices and leading them to forget that they are actually working or providing data.

- **More fundamentally**, the paradigmatic contribution of this thesis will be to contribute to the interpretive constructivist literature on information systems, by offering a subject theory and Glynos’ and Howarth’s Logics of Critical Explanations (LCE) to the study of technology in organizations. By doing so, I will also provide post-structural studies with a novel incursion into the field of technology design and information systems, an area which is still largely underexplored by this field’s literature.

**The content and structure of the thesis**

The structure of the thesis is organized as follows. The next chapter reviews the literature on information systems, technology and organization studies in order to set the scene for the
dissertation and to problematize the relationship between technology and our ways of organizing. Chapter 2 introduces the theoretical foundations of my work. In particular, I examine how a subject-based ontology can provide new insights into the underexplored materiality of affects, rituals and social interaction. This then leads us to identify the centrality of sexuality and discourse in technology matters. Chapter 3 is also theoretical and switches from the individual to the collective act of identification, by introducing a material conceptualization of ideology which draws heavily on my subject-based ontology. In Chapter 4, I begin to posit the research questions, and I justify the choice of the context of this study. I explain why, based on the above, game design is the best place to consider the agency of affects in technological matters. Chapter 5 introduces the methodology and the set of methods used to apply my subject-based ontology to the analysis of social and organizational phenomena. Chapters 6, 7 and 8 are devoted to the empirics of the thesis, and will follow the trajectory of game design. Thus, Chapter 6 considers more specifically the adoption of the game engine. In particular, I will look at the process through which Unity3D, one of the major actors in the market, has been widely adopted and mainstreamed. In Chapter 7, I will address how game designers deal with the problem of the acceptance of video-game technologies by looking at a case of a medical game designed for elderly people. In Chapter 8, I seek to ascertain how ideology is inscribed in the technology, and I specifically examine the role that the notion of genre plays in this process. I want to establish why it is not innocent to name a practice a ‘game’ or not, and what the implications are for programmers and clients. Chapter 9 discusses the main findings and contributions of the research, comments on implications for practice, highlights the limitations of this research and proposes avenues for futures studies.
**Word of thanks**

I would like to express my special appreciation and thanks to my supervisor Professor Davide Nicolini, you have been a tremendous mentor for me. I would like to thank you for encouraging my research and for allowing me to grow as a research scientist. In a more practical matter, thank you as well for your help at obtaining the funding for this PhD but also for visiting oversea institution in good conditions. Your advice and informal support on my thesis have been priceless. Finally, I would like to thank you for your sense of humour, and unshakeable faith in your work, which was of great reassurance in my moments of doubt.

I would also like to thank my second supervisor Joe Nandhakumar for adding his experience as an engineer and specialist of ethnographic work on computer games and have the patience and intellectual curiosity to be immersed into a theoretical journey which was new for him. I also would like to thank here Alessia Contu, who was originally my second supervisor before leaving to Boston University. Thank you Alessia for your sharp advice on the Lacanian side of my work.

I would like to thank scholars I met during my work, not only in the organizational sector, because their advice and feedback were invaluable to help me improve this work. These include Jason Glynos, Johannes Angermuller, Mark Thompson, Eric Fay, Marianna Fotaki, Alessia Contu, Anne-Laure Fayard, Michel Anteby and more particularly Natalia Levina, for her sharp feedbacks at Warwick Business School but also for very kindly welcoming me during her 5-months seminar at New York University.

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A final thanks to my family and friends. Words cannot express how grateful I am to my mother, my father, my brother Eric, and friend Gaspard, for all of the sacrifices that you have made on my behalf. Your encouragement for me was what sustained me thus far.
Chapter 1: Setting the scene for the dissertation
In this chapter, my aim is to set the scene for the dissertation by reviewing the literature which deals with the interaction between our ways of organizing and technology. In particular, I will exemplify this relationship with the emergence of game design, so that the challenge is altogether empirical (can we identify an ideology sustaining the growing importance of computer games) and theoretical (what does the case of computer games reveal about the missing reflection about affectivity in the IS interpretive literature). Thus, notions of the organizational, the ideal, or the discursive are often opposed with notions of the material, the technological and the non-discursive. While recent approaches have led our field to transcend the materialist-idealist dualism, the direction taken by this evolution needs clarification. The core contribution of this section will be to highlight the ambiguity of the notion of materiality in the literature, which is especially visible in discussion such as whether to consider discourse *and* or discourse *as* materiality. Finally, I will try to demonstrate that one way to address this conceptual muddle is to take seriously the place of affect in information systems research.

**Turning work into play**

Where does it come from? What is the history of the notion? Is it just a marketing fashion, a buzzword or a profound intellectual project? I will address three milestones in the gamification discourse, namely the tradition of Design Science; the models derived from applied psychology such as the Technology Acceptance Model.

**Design science**

The notion of design itself became established as an academic discipline, most notably in 1969, when Herbert Simon published the first version of his seminal work, *The science of the artificial*. The project of this book is to overcome a traditional and historical divide between the science disciplines teaching about natural things – how they are and how they function –
and professional disciplines teaching about artificial things – how they ought to be in order to achieve goals:

The intellectual activity that produces material artifacts is no different fundamentally from the one that prescribes remedies for a sick patient or the one that devises a new sales plan for a company or a social welfare policy for a state. Design, so construed, is the core of all professional training; it is the principal mark that distinguishes the professions from the sciences. Schools of engineering, as well as schools of architecture, business, education, law, and medicine, are all centrally concerned with the process of design.

Simon’s project was therefore is to provide the so-called artificial sciences with a new academic and institutional legitimacy, beyond existing intellectually-soft, informal and cookbooky account. In other words, his project was the establishment of design theory, the knowledge underlying the creation of artifacts, as theory. Simon describes his book as a call to action, inciting professional schools to move towards analytic, partly formalizable, partly empirical, teachable research on the process of design. Thus, engineering schools start to move towards design research in the 1970’s; for instance, the Carnegie Mellon University opens a Design Research Center which contributes to develop the science and practice of design as well as the elements of a theory of design. The introduction of computers to aid the design process is absolutely central to this process, drawing upon the tools of artificial intelligence and operations research in computer science, engineering and architecture departments, and in operations research groups in business schools.

Computer games became very early on a research paradigm at the intersection of applied psychology and design science. Thomas Malone, a psychologist from the Xerox Palo Alto Research Center, who were specifically exploring the motivation of technology users, draw typically lessons from Computer Games. The intent here is clearly to identify the features that make computers games so captivating and to apply them to other spheres such as systems’ users’ interface or more broadly learning – especially learning through computers. Malone
wrote a ‘What makes things fun to learn? A study of intrinsically motivating computer games’ which hinges on experiments in the classroom with a video game including one called Darts designed to address math problems:

In the version of the game used, three balloons appear at random places on a number line on the screen and players try to guess the positions of the balloons (see Figure 1). They guess by typing in mixed numbers (whole numbers and/or fractions), and after each guess an arrow shoots across the screen to the position specified. If the guess is right, the arrow pops the balloon. If wrong, the arrow remains on the screen and the player gets to keep shooting until all the balloons are popped. Circus music is played at the beginning of the game and if all three balloons in a round are popped in four tries or fewer, a short song is played after the round.

Eight versions of the Darts game were constructed and their appeal tested with students, by each time taking out, one at a time, characteristics that were presumably motivational. The features included the music, the scorekeeping, the graphic representation, the fantasy of arrows popping balloons, and constructive or performance feedback.

**Technology Acceptance Model**

A decisive milestone in foregrounding computer games was the Technology Acceptance Model (Davis 1989; Davis et al. 1989) which was derived from Malone’s work as well as the social psychology theory of reasoned action (TRA). Do people adopt and use computers and software at work because they are useful, or because they are enjoyable?

The TAM model explains user acceptance of technology as being based on the user’s perceptions. Thus, Davis et al. (1989) propose that variables such as attitudes, subjective norms and behavioural beliefs framed as *perceive usefulness* (U) and *perceive ease of use* (EOU) preside over individual intentions to use a technology. In TAM, the effect of external variables on intentions, such as the design characteristics of the system, are mediated by these two key beliefs. Perceived ease of use is the extent to which a person believes that using a technology will be free of effort. Perceived usefulness can be understood as the extent to which a person believes that using a technology will enhance his/her productivity.
The TAM later incorporated a motivation-oriented perspective to predict technology acceptance and usage behaviour. Thus, Davis et al. (1992) made a key addendum to the model by introducing the notion of perceived enjoyment, which can be defined as ‘the extent to which the activity of using the computer is perceived to be enjoyable in its own right, apart from any performance consequences that may be anticipated’. While usefulness is connected with the performance outcomes associated with using a system, enjoyment is connected with the process of using the system. Davies et al. (1992) demonstrated through two studies that people’s intentions to use computers in the workplace are influenced primarily by perceptions of the usefulness of computers to improve their job performance, and secondarily by the degree of enjoyment they experience in using computers per se. Their findings suggest that an increased pleasure in using a system enhances the acceptability of a useful system, but is less effective as regards the acceptance of useless systems, as it may encourage the unproductive and frivolous overuse of said system. For these authors, enjoyment and usefulness together represent a powerful explanation of what influences computer usage intentions. Enjoyment operates in combination with usefulness, and it still depends on productivity in order to operate.

Venkatesh (1999) applied the TAM model to the context of software training. According to Brody (1992), systems are not necessarily built from the ‘joy angle’, whereas people increasingly expect their time spent on computers and the internet to be entertaining and pleasurable. Venkatesh makes the following assertion, that ‘current and future forms of computer technology will be used for both work and fun, causing a reduced distinction between work and play’. Venkatesh also measures the effect of game-based learning on

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1 Davis et al. (1992) mobilize the motivation literature (e.g., Calder & Staw, 1975; Deci, 1971, 1972; Pinder, 1976; Porac & Meindl, 1982; Scott, Farh & Podsakoff, 1988). These authors found intrinsic and extrinsic motivation to be key drivers of behavioural intention to use IT. ‘Intrinsic motivation’ refers to the pleasure and inherent satisfaction derived from a specific activity, while ‘extrinsic motivation’ emphasizes performing a behaviour in order to achieve a specific goal, such as a reward.
perceived usefulness (extrinsic motivation) to account for the case where users would dismiss game-based learning as being ‘just a game’. This observation leads Venkatesh to formulate and verify that the perceived ease of use (EOU) is more important among users in game-based training intervention (an internet-based fantasy role-playing game, MUD) than it is for users in traditional training.

Venkatesh et al. (2012) attempt to integrate this notion of hedonic motivation beyond mere systems in order to understand consumers’ acceptance of information technologies (such as the IPhone…). Sherry (1990b, p. 180) describes the consumers’ apparent ‘oscillation . . . between homo economicus and homo ludens.’ To understand better this notion of enjoyment, IS researchers have also drawn on consumer research literature in marketing (e.g. Hirschman 1983; Babin et al. 1994), and have borrowed from it the notion of hedonic pleasure, and connected it to the notion of perceived enjoyment. According to these authors, hedonically valuable experience is characterized by increased arousal, heightened involvement, perceived freedom, fantasy fulfilment and escapism (Bloch and Richins 1983b; Hirschman 1983). For example, shopping has been characterized by marketing researchers as performing an act which is both utilitarian and hedonic, a trying to ‘get something’ as well as something we do because ‘we love it’ (Triandis, 1977). Shopping is described as an experience or an adventure sometimes, which is in itself more exciting and self-fulfilling than the strict acquisition of the product.

However, the TAM model has been criticized by Bagozzi (2007), who underscores the reliance on naïve and over-simplified notions of affect or emotions. The role of emotions in technology acceptance has been treated in a rather ad hoc way in the extensions of TAM; notions such as intrinsic motivation, affect or anxiety towards performing a behaviour have been proposed as being indirect determinants of intentions (Venkatesh, 2000; Venkatesh et al., 2003). Yet other promising roles for emotions in explaining technology acceptance can be
identified, such as the role of social identity through affective commitment in influencing desire and intentions (Bagozzi, 2007). As Bagozzi states (2007), such models are *overly individualistic* and hold an individualistic conception of intentions; nevertheless, affect also has socio-political implications.

Furthermore, the notion of hedonic motivation attempts to understand the relation between affect and intention, but in a way which is theoretically and methodologically unsatisfactory. Van der Heijden invited researchers to identify the hedonic nature of a system by scrutinizing the tactics that system developers employ to encourage us, such as the inclusion of hedonic content, animated images, a focus on colours, sounds and aesthetically-appealing visual layouts (2004). More processual psychosocial methods such as ethnography or ethnographic interviewing are ignored by these authors. IS researchers have used questionnaire-based empirical studies to measure enjoyment (e. g. Davis et al., 1992; Koufaris, 2002). For example, Davis et al. (1992) measured enjoyment through 7-point questionnaires, asking questions such as: ‘I find using Write One to be enjoyable (likely/unlikely)’ or ‘I have fun using Write One (likely/unlikely).’ Such an account demonstrates a cognitive fallacy, and it ignores the non-intentional element of affectivity, that is, the fact that affect is very often experienced by social actors in the context of doing, and not in the context of knowing.

In sum, deterministic models and methods carry with them a logical and temporal flaw, as well as an illusion of control over subjectivity and affect; contrastingly, novelty by definition is a one-off, and can neither be predicted nor re-produced in a laboratory.

**Ideology at work**

At this stage, we might be tempted to see gamification as a new managerial ideology. But what do we know about ideology at work? The study of managerial ideology addresses typically the relationship between regime and practice, between the rhetorics and their actual
application. In this section, I will address classic studies of ideology and technology before presenting a view beyond idealist-materialist divide.

**Making people work harder**

In this section, I will show that the critic of ideology of automation and technology implantation has been attempted but criticized because of its presupposed idealism. This view can be said radical as it finds explanations at the *roots* of technology design.

The *idea* of turning work into play, for which I have dedicated a description in the last chapter, can be designated not merely as a research tradition, originating from the design science, but more fundamentally as a managerial ideology. In their historical study of American managerial discourse, Barley and Kunda (1992) define ideology as a stream of discourse which promulgates, yet unwittingly, a set of assumptions about the nature of the objects with which it deals with, would it be managers, corporations, employees, and their means. For Barley and Kunda, the progressist idea that the history of management would be characterized by a shift from rational towards normative control is wrong and underplay events that happen in the later 19th century and after World War 2. For these authors, we actually observe a less linearly evolution and managerial discourse appears to have alternated repeatedly between ideologies of normative and rational control. Moreover, the relationship between ideology and practices is unclear. Some authors assert that practices have remained stable in spite of change in rhetorics (Braverman, 1974). Others state that ideologies are fad which affect practices only at the margin, in large corporations exclusively (Edwards, 1979). Licht refuse any generalization based on these ideologies (1991) while Barley and Kunda explains that, while managers have not always apply ideologies they have preached, it is still important to study the link with practices to understand the organizational culture at a specific time. In sum, few authors have really interrogated the link between managerial regime and effective practices.
The succession of Managerial Ideologies since 1870

<table>
<thead>
<tr>
<th>Ideology</th>
<th>Era of ascent</th>
<th>Tenor</th>
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<tbody>
<tr>
<td>Industrial betterment</td>
<td>1870-1900</td>
<td>Normative</td>
</tr>
<tr>
<td>Scientific management</td>
<td>1900-1923</td>
<td>Rational</td>
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<tr>
<td>Welfare capitalism/ Human relations</td>
<td>1923-1955</td>
<td>Normative</td>
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<td>Systems rationalism</td>
<td>1955-1980</td>
<td>Rational</td>
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<td>Organizational culture</td>
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With the growing social importance of information technologies, the question of materiality and politics are becoming central. A specific debate in the 1970’s addressed the way numerically controlled (NC) machine had deskill machinists. Deskilling theorists argued that technology does not necessarily increase human agency but reify a specific rapport-the-force which may benefit one dominant group over another. In Labor and Monopoloy Capitalism, Braverman (1973) argues that technologies deskill workers because, all else being equal, managers and staff choose designs and labour processes which divorce work from it execution. Braverman illustrates his claim by demonstrating how NC altered the skills and autonomy of an army of scheduling clerks, inventory clerks, timekeepers, machine tenders, machine repairers, stock chasers etc. The NC enables the programmers to address the cognitive aspects of machining, which forced and relegated the skilled machinists into the role of ‘machine tenders’:

Each of these workers is required to know and understand not more than did the single worker of before, but much less. The skilled machinist is, by this innovation, deliberately rendered as obsolete as the glassblower or Morse code telegrapher

This in fact is the inevitable outcome of a dominant managerial ideology rooted in Babbage’s principle of division of labour in the early 19th century and Taylor’s so-called
Scientific Management. Braverman identifies historically and geographically a discourse of scientific management which praises, as a condition for productivity, the concentration of all engineering knowledge in a few specialists and the subsequent ignorance of the masses of workers. As a result, the more machinery is designed as an aid to workers, the more workers become servant to machinery.

Taylor had a huge impact on his peers and managed to erect institutionally the discourse of scientific management as a ‘science’ of management- giving rise to the birth of business schools. Taylor crafted the management scientific discourse to promote the engineering movement while contesting the underpinnings of industrial betterment. Braverman’s core ideological critique here is that scientific management is not so much a science of work but in fact the science of the management of others’ work under capitalist relations. What is presented as a science is in fact the promotion of the subjective interests of the capitalists:

It starts, despite occasional protestations to the contrary, not from the human point of view but from the capitalist point of view, from the point of view of the management of a refractory work force in a setting of antagonistic social relations. It does not attempt to discover and confront the cause of this condition, but accepts it as an inexorable given, a ‘natural’ condition. It investigates not labour in general, but the adaptation of labour to the needs of capital. It enters the workplace not as the representative of science, but as the representative of management masquerading in the trappings of science.

In other words, Braverman attempts a historical genealogy of the ideology of work management, which once embedded in work organization, has silently deskilled employees and impoverished their agency. Thus, his work discloses the dark side of technical revolution and innovation.

Braverman’s study was so emblematic that NC became the most well researched technology in the history of organization studies (Orlikowski and Barley, 2001). This is maybe ironical, as the kernel of his work probably resides not so much on the technology
under study but rather on the critic of an ideology and its subsequent material effects. In other terms, Braverman was a Marxian structuralist who adopted an orthodox objective approach to Marxist theory (Burrel and Morgan). However, what is absent from Braverman is an account on how and why consent is achieved. Later studies cast doubt on the ubiquity of the deskilling process and criticized Braverman for underestimating the agency of the machine ‘tenders’. From this perspective, the deskilling theorists underplay the possibility that workers are never fully deprived of agency.

In the next section, I will therefore explore how the study of ideology in organizations have addressed the process through which machinists accept the ideology of work they are subjected to.

**Producing consent at work**

Another classic industrial sociologists Burawoy in *Manufacturing consent: Changes in the Labor Process under Monopoly Capitalism* raises the central question of consent at work.

Paradoxically, deskilling theorists tend to substantiate the belief in automation which underlies their conceptualization of technology. Thus, a debate occurred in the end of the 1970’s restoring the considerable formal and informal power of the machinists on the shop-floor (Aaronowitz, 1978; Burawoy, 1979). The success of machining processes shows the importance of the skills of the machinists and their formal and informal power: the ‘tenders’ of the machine are even more important when an organization is automated. Introducing effective machines will progressively emptied their work of its characteristics, rendering it less painful, less tiring, less demanding… yet the machine tenders’ performances are not enhanced and, ironically, better technologies may lead to demotivation and under-performance. In fact, numerous examples of resistance occur either at a conscious (sabotage, whistleblowing, call centres do not work if employees do not play the game) or an unconscious level (the contemporary psycho-pathological literature of work (Dejours) is
littered with examples of where it does not work, such as burnouts, suicides at the workplace, work accidents, epileptic crises…)

In particular, Burawoy is concerned with the following question: why people work as hard as they do? What do they accept the prescriptions of management? Some transgressions are needed and even orchestrated by the management to generate consent and games turn out to be one of these more efficient tactics.

Why should workers push themselves to advance the interests of the company? Why cooperate with and sometimes even exceed the expectations of those “people upstairs” who “will do anything to squeeze another piece out of you”? But it wasn’t long before I too was breaking my back to make out, to make the quota, to discover a new angle, and to run two jobs at once-risking life and limb for that extra piece. What was driving me to increase Allied’s profits? Why was I actively participating in the intensification of my own exploitation and even losing my temper when I couldn’t? That is the problem I pose.

Not only do they consent to provide their energy to the ‘people upstairs’ but they sometimes do excessively. In other terms, management extracts surplus value from workers, beyond economic or rational motivation, and this surplus sustains and increases his productivity even more. Capitalist management organizes the refractory dimension of the workforce through games.

Thus, Burawoy comes to describe the labour process as an informal game, which arise from workers’ autonomous initiative, illustrating this idea through the specific practice of making-out, which means making an acceptable percentage output, one that was not higher than 140% and not lower than 125%. Altogether operators, auxiliary workers and shop floor supervisors understood and accepted the rules. Burawoy describes ‘making’ out as the pivotal practice which connects individual to the rationality of the capitalist ideology: it is through this informal game that individuals are subjected. As a result individual violation of rules leads to ritual punishments which ironically reinforce the consent-producing consequences.
and strengthen the rules. Burawoy gives the example of operators at Allied complaining about ‘being screwed’. Their complaint is not so much a self-awareness on their exploited status but rather a concern that the rules of the informal practice of making out are violated by management (e. g. the blueprint has disappeared or the drills have burned up). By accusing the management of cheating, the operators in fact unconsciously reinforce the legitimacy of the rules to which they are subjected.

From this perspective, games at work are not subversive reaction oriented against managers, but rather has the effect to reinforce the oppressive system with which they cease to identify with:

- just as playing a game generates consent to its rules, so participating in the choices capitalism forces us to make also generates consent to its rules, its norms. It is by constituting our lives as a series of games, a set of limited choices, that capitalist relations not only become objects of consent but are taken as given and immutable.

The game metaphor is therefore used explicitly as a ‘critical tool’ to understand not only the practice of making out but also the functioning of capitalism. The game aims at the satisfaction of needs defined by making out and which are presented by the game as natural and inevitable. The key contribution of Burawoy is to question Braverman’s account of agency and the ignorance of the workers

Fundamentally, participation in the game differs from routine and requires an element of uncertainty, without which making out loses his value as a game. In other words, although

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2 This is in fact, a classic debate in the social sciences. Laclau and Mouffe also interestingly use the metaphor of sport: kicking a spherical object in the street is physically equivalent to, but does not mean the same thing as, playing a football game on a dedicated pitch (1987). The game metaphor is reminiscent of another social theorist, Bourdieu, who also conceptualized the illusion at stake when playing sport – in particular, tennis. When we play the game, are we really aware of it? Are we not precisely forgetting the meaning of our actions? Is this forgetting not even the very definition of a game? Is the notion of discourse relevant to capturing the sense of urgency that makes a game function? There is here a clear divide between Marxist authors contesting the consciousness of the actors (Braverman, Bourdieu) and post-Marxist authors who, while accounting for the non-intentional element of social actors immersed in everyday practices, also foregrounds their agency and capacity to attribute practice with new meaning.
Burawoy does not frame it that way, various affects are associated with the engagement with the game. When the chances of winning are too high, the game degenerated into boredom but when the uncertainty is too big, the game generates frustration. To function effectively and absorb the operators without diminishing returns, making out needs to keep their excitement intact, otherwise making out fall into a motivation or legitimation crisis.

Burawoy reminds us that we never obey directly to procedures and rules, and that even apparently senseless tasks or prescriptions require their subjective integration by the employees who execute them.

**Language and materiality**

As we have seen, technology (or its design and use) is not merely a tool but also the product and subject of language. Thus, debates on the relationship between discourse and materiality highlight the plenum of agencies associated with technology.

As a response to deterministic positivist studies conferring materiality with a strong causal force³, interpretive studies emerged in the 1970’s and 1980’s with a different agenda, focusing more attentively on social dynamics, the social context and human aspects, and on why people and organizations respond differently to computers. Language and materiality become typically the two poles of these debates. After the linguistic turn which occurred in the social science, with the influence of Wittgenstein, the structuralist linguist Saussure or later Derrida, linguistic methods have progressively addressed organization studies (Alvesson & Karreman, 2000) in response to the hegemony of positivist and deterministic studies in management research. Organizational scholarships tend to study issues such as communication or discourse for themselves as distinct from materiality.

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³ Deterministic approaches typically argue that social effects automatically follow from the introduction of a new technology. For instance in the tradition of contingency theory, technology transforms our institutions, organizations and ways of organizing. In his study of U.S. hospitals, Perrow (1967) quoted the saying: ‘technology is an independent variable, and structure... a dependent variable.’ In other words, the social is expected to adapt to the technical.
However, communicative, discursive or linguistic explanations are said to exaggerate the muscle of symbolism (Ashcraft et al. 2009). At the other side of the spectrum, neo-materialists thinkers such as Latour, in open polemic with the linguistic turn (1991), accuses this linguistic idealism also known as postmodernism of having marginalized objects. Latour is the architect of the hybridation of the social, the discursive and the material. A way for him to cut the Gordian knot between the three was to coin the hybrid notion of ‘quasi-objects’, drawing on the work of Michel Serres. Such studies progressively cohered and paved the way for the theoretical movement of social constructivism in the 1990s which can be divided into two streams. The sociology of scientific knowledge (SSK), which examined the social processes during the design and development process (Callon, 1986; Klein and Kleinman, 2002; Latour, 1987; Pinch and Bijker, 1984 etc.) The second, in the field of organizational studies, studied technology implementation in organizational contexts, drawing heavily on Giddens’ structuration theory (Orlikowski, 1992; DeSanctis and Poole, 1994; Jones and Karsten, 2008).

Materiality at work

In this section, my aim is to overcome the conflict between the linguistic and the materialist tradition in interpretive IS studies. I will seek to propose a radical approach, by which I mean a subject-based approach. Thus I will demonstrate that affect is a notion which is neglected in the study of technology in organizations. More importantly, this neglect is a pity as this notion would enable to re-materialize the linguistic approach to organizations, addressing issues including organizational discourse, communication and ideology, in a way which is more aligned with its subject-based roots.
Practice as unit of analysis

What about the materiality of work? How was the notion applied to the context of work? Some researchers have attempted to connect discourse and materiality, to materialize organizational communication through a practice lens.

Thus, IS and organizational scholars have coined the notion of sociomateriality to address the significant neglect of technology in the interpretive information systems literature. Thus, Jones (2014) counted 140 articles published since 2007 that have referred to sociomateriality, and almost all cite the work of Orlikowski as the originator of the concept (Orlikowski, 2007, 2010; Orlikowski and Scott, 2008). Thus, sociomateriality emphasizes the ontological inseparability of objects from their context, which means that there is no social action that does not entail material means. As Orlikowski and Scott argue (2008: 456): ‘Any distinction between humans and technologies is analytical only, and done with the recognition that these entities necessarily entail each other in practice.’ In other terms, a sociomaterial ontology highlights the constitutive entanglement between the social and the material:

The socio-material view asserts that materiality is integral to organizing, positing that the social and the material are constitutively entangled in everyday life. A position of constitutive entanglement does not privilege either humans or technology… Instead, the social and the material are inextricably related – there is no social that is not also material, and no material that is not also social (2007: 1437)

The restoration of materiality leads Orlikowski, in the second stage of her research, to switch from an appropriation perspective – where designers structure the users’ field of actions – to an enactment perspective (2000) – where designers and users are both symmetric actors within networks of humans and non-humans. Whereas appropriation researchers focus on patterns of deviation and conformity, enactment researchers look at practices and how people concretely use technology when carrying out their work:
rather than starting with the technology and examining how actors appropriate its embodies structures, this view starts with human action and examines how it enacts emergent structures through recurrent interaction with the technology at hand. (Orlikowski, 2000: 407)

Enactment researchers recognize the role of designers and implementers in shaping the social order. However, they constitute only one among many forces, including networks of users, regulators, marketers, modders or hackers who actually contribute to modifying, improving or damaging technologies.

Thus, work researchers within the practice turn have a performative view of social and organizational phenomena such as knowledge, human activity and sociality: ‘our world is increasingly in flux and interconnected, a world where social entities appear as the result of ongoing work and complex machinations’ (Nicolini, 2012: 2). This leads Orlikowski to coin the notion of technology-in-practice, which captures the ‘particular structures of technology use that users enact when engaging recurrently with a technology’. Technologies are constructed with particular material properties (hardware, software, techniques) and are inscribed with the developer’s assumptions at a particular point in time. Thus, Orlikowski et al. (1995) underscore the role of images, descriptions, rhetoric, ideologies carried by intermediaries such as translators, vendors, journalists, consultants, champions, trainers and managers. However, it is only when technologies are used repetitively and are instantiated in social practices that they can be said to partake in the ongoing process of the structuration of social actions. From this perspective, technologies-in-practice are also types of institutions and their enactment is the engine of institutionalization.

Technology and work: an impossible fusion

As Nicolini (2011) put it, the notion of practice is primitive and foundational, and it can be understood as the texture from/against which epistemic objects emerge, theories become intelligible and the existence of a relationship between a knower and knowing is rendered possible.
Borrowing a notion from Schatzki, Nicolini develops the thesis that practice can be viewed as the *site* of knowing: he illustrates this point through the example of a nurse conducting a call constituting a choreography in which material and discursive aspects blend with each other. He illustrates this by demonstrating that part of knowing, in the context of healthcare telecommunications, depends on how the recorder is positioned and whether the nurse is capable or not of hearing what is recorded (*Ibid*). Furthermore, Nicolini et al. (2011) suggest that we may be able to understand the role of the object through the metaphor of the actor: objects are given a role and follow a trajectory or career (Engeström and Blackler, 2005). From a practice-based perspective, objects can *act*. In addition, they perform specific functions before disappearing behind the scenes until the plot requires them to re-enter the stage. From this perspective, objects organize the relationships around them.

Thus, Rheinberger sheds light on the power of material objects, arguing that objects are ‘open-ended’ and operates as a source of interest and motivation by virtue of their ‘opacity, their surplus, their material transcendence’, which is ‘what arouses interest in them and keeps them alive as targets of research’ (Rheinberger, 2005: 406). The power of objects has also been analysed by Knorr Cetina (1997, 1999) who asserts that the source of this power stems from the subject’s lack of completeness which generates energy and emotional investment on the part of the developers. The attempt to ‘fill this void fuels the attachment for the object but also paradoxically specifies ever further issues and the sense of lack, so that the process is self-fuelling’ (Nicolini et al., 2011). While it is interesting to understand how an epistemic object operates, these object-centred approaches fail to provide an in-depth account of why their users is absorbed by their power.

Consequently, they tend to anthropomorphize properties of the object- it is not clear whether the surplus belongs to the objects or to the perception of their users. I call anthropomorphic the tendency of researchers to attribute human properties to non-human
entities. Typically, Actor Network Theorists have metaphorically let the objects talk, liberated and translated their speech, and provided them with the legitimacy which they had historically lost in modern times. ANT is anthropomorphic in his attempt to provide objects not only with speech, but also with a ‘parliament of things’ (Latour, 1991). In that perspective, if I had to extend Latour’s metaphor, the sociologist would not merely be a puppeteer, but also a ventriloquist (this image is also used by Cooren, 2012). Yet it is not clear what it is that speaks; what instance fundamentally mediates the technology’s words and claims.

Orlikowski and Scott invite us to theorize the ‘fusion’ of technology, work and organizations. Is this constant interpenetration between the human and material so desirable? For example, Leonardi defines material agency as the ‘capacity for non-human entities to act on their own, apart from human intervention’ (2011). Leonardi accurately reflects the divide, and it seeks to respond to the ‘provocative claim in actor-network theory that material agency is equivalent, in semiotic terms, to the agency of humans’. He offers the metaphor of imbrication rather than Latour’s hybridicity in order to understand the relationship between the human and the material. While in Latour, human and non-human are hybrid, qua quasi-objects, in Leonardi they are imbricated and the distinction is maintained: ‘people have agency and technologies have agency, but ultimately, people decide how they will respond to a technology’ (Leonardi, 2011). However, Leonardi never discusses his own ontological assumptions about materiality. In a very Lacanian way, one might ask whether this provocation is not, in its very excess, the kernel of sociomateriality, altogether its strength and its limitation?

There is in fact a major debate amongst researchers who inspired the sociomaterial sensitivity about the degree of symmetry to be ascribed to the relationship between the social and the material. Callon (1986) talks about ‘generalized symmetry’, arguing that there should
be no *a priori* distinction between human and non-human, and that both should be analysed in the same terms, whereas Suchman argues that ‘persons and artifacts do not constitute each other in the same way’ (2007: 269). Latour’s provocative post-humanist claim does not constitute an actual threat to the humanist spirit, but the ethical awareness of the environmental issue and the danger of technology for the human species\(^4\). That a machine can have natural effects which escape human will (a nuclear plant can explode and destroys its environment), is very easy to understand. But that a machine *acts* – this should always involves an audience, a theatre (such as a parliament whose etymology, *parler* in French means ‘to speak’)? In other terms, acting involves a politics. Even the software that our machine learning specialists program to translate foreign languages always face the problem of translating idioms, cultural specificity and jokes – precisely because programmers who design the tools are never fully aware of all the subtleties of language.

In sum, is there not an *impossibility* of any social science to address material phenomena that are beyond meaning, extra-discursive and things-in-themselves? In order to be agent themselves, objects would need to act independently from signification, our attempt to interpret the world. Is this assumption plausible? Even if this really were the case, that objects had their own rationality, the autonomous worlds of robots and AI that fuel the sci-fi imaginary could no longer be the territory of the social sciences. As far as we social scientists are concerned, we have no other option but to consider this second life as an extension of the first. In contrast with the imbrication lens, which views material agency *neutrally*, the view adopted here stresses the impossibility of such neutrality, which is always blended with power and affect.

\(^4\) Latour frequently highlights the question of climate change and the contestation of scientific institutions to this end. There we face the problem of a scientific truth or claim not being accepted by the population. How is that possible? In fact, many populist politicians in Europe (for example, Claude Allègre) and the US contest the scientific legitimacy of this claim and its institution. Here we can see that even crucial technological issues cannot bypass the need to mobilize and motivate people behind a collective cause.
An interrogation of sociomateriality

There has been a general lack of attention to power and affect in the study of the relationships between artifacts/objects and human activity among IS scholars. This is also the case with the sociomateriality movement in which materiality matters, but affect much less so.

In the organizational field, recent sociomaterial discussions about the materiality of objects have not addressed the role of bodies in sociomaterial entanglement. The problem is well posited by Jones:

These accounts, however, employ several different terms, sometimes interchangeably, to characterize the nature of this entanglement, such as inseparability, interpenetration, relationality, and embodiment, and to refer to what is entangled, for example the social and the material, humans and technology, work and technology. While such variation may be justified on aesthetic or stylistic grounds, treating these terms as synonyms may be seen as conflating different ontological claims.

In particular, the sociomateriality literature uses the materiality of the body and that of technology interchangeably and overlooks dimension of practices such as specifically the significance of body. In Althusser’s terms, it ignores the different modalities of materiality by focusing exclusively on technology. While bodies and embodied actions are arguably neglected in accounts of sociomateriality, the place of embodiment is yet recognized more broadly among agential humanists. For instance, Suchman talks about embodied competencies, action, practices – say the nurses’ dexterity in performing tasks. In Schatzki, cognitive capacities, activities and understandings are all identified as embodied (Schatzki et al., 2001). Alternative body-sensitive definitions of practice do exist, such as Reckwitz’s definition: ‘forms of bodily activities, forms of mental activities, “things” and their use, a background knowledge in the form of understanding, know-how, states of emotion and motivational knowledge.’ As Pickering says, ‘every practice contains a certain practice
emotionality’ such for examples the compassion or relational support of a nurse caring for patients.

The materiality of the body and associated aspects of organizational practices including affects and sexuality also lead us to address questions of power relations and domination. This issue raise the problem of the articulation of the material and the discursive. This is regarded by certain practice theorists as a promising research avenue (Contu and Willmott, 2003; Jones, 2014). Here we should bear in mind that the body is not only the locus of agency and affective response, but also the target of power and normalization (Nicolini, 2012). For example, Nicolini calls for further research exploring the relationship between siteness, knowing in practice and power:

the idea that the site of knowing is always a specifically organized arrangement of practices
reminds us that looking at knowing in practice necessarily requires addressing issues of interests, conflict, and power. This, in turn, necessitates being attentive to (…) how deviance and resistance manifests themselves and are dealt with, and how normalcy is pursued through the attempt at making these differences disappear through material and discursive practices of hegemonic closure and ‘suturing’. (Nicolini, 2011: 616)

Specific knowing regimes are thus produced and performed in practice and through practice. However, the use of the word material in Nicolini’s sentence is ambiguous, as it bears very different ontological presuppositions in Laclau’s theory of subjectivity (see Laclau and Mouffe, 1987) and in object studies drawing on ANT. In his overview of practice theories (Nicolini, 2012), Nicolini indeed distinguishes between two groups of authors in term of the prominence conferred to discursivity- a distinction which reproduces the humanist/realist divide. On the one hand, authors belonging to the so-called contemporary Heideggerian and Wittgensteinian tradition, including Schatzki, Rose, Pickering and… Laclau and Mouffe postulate that intelligibility presides over the functioning of practice; on the other hand, other authors such as Giddens, Bourdieu, Barad or Latour are much more sceptical, for various
reasons, regarding the potentiality of human intentionality. In fact, Nicolini’s scholarship does address affect and subjectivity only *in passim*. He does not draw the ontological consequences of the link between the material and the discursive and relegates notions of collective representation or ideology to an old structuralist tradition where the horizon of intelligibility was the causal motor of conduct and the trigger of emotions.

As a result, the subjective properties of innovation are underestimated, as is typically the case in Nicolini’s studies of medical innovation. Typically, in the following extract, Nicolini seeks to demystify the use by entrepreneurs of the first person:

> It predisposes us to believing the heroic narratives that entrepreneurs often use in describing themselves. Entrepreneurs will necessarily be tempted to narrate themselves in first person because that reinforces their role as spokesperson for the network which sustains them. In other words, the narrative told by entrepreneurs is often politically informed and aimed at reinforcing their position by reinterpreting their genealogies, not unlike the powerful historical figures who hired poets who should celebrate the direct lineage from some divinity. (2009: 1023)

Are poetics and heroism not the subjective qualities par excellence? For Nicolini, however, their role appears to be reduced to that of an ornamental and imaginary account of the self. In other words, Nicolini denies their epistemological veracity. This account ignores the material dimension of subjectivity, how the subject makes a difference in any entrepreneurial project, and the fact that any innovative project also persists largely (and maybe nearly all) thanks to the charisma of its creators.

Thus, the social and political outcomes of more deeply-rooted psychological dimensions such as affect or biographical identity need to be further explored. Hence, some authors have criticized the subjective stance of the sociomaterial ontology. According to Thompson, no studies have carefully examined the *non-cognitively experienced, subjectively emergent structures* (2012) operating in performative organizations. Thompson explicitly calls for a
rebalancing of the debate in the IS research community involving a greater acknowledgement of the role of subjective and biographical explanations:

The concept of ‘sociomateriality’ (e.g. Orlikowski, 2007) is currently attracting growing interest within the IS research community, a formulation that, whilst not explicitly conflating social and subjective, often uses these concepts interchangeably. This is perhaps unsurprising, given the term’s dyadic formulation comprising ‘social’ and ‘material’, a formulation in which explicit acknowledgement of the subjective is absent. From the standpoint of this paper, there is an attendant danger that any dyadic formulation comprising exclusively ‘social’ and ‘material’ dimensions risks downplaying or even overlooking latent subjective structures, yielding accounts of social reality that remain primarily cognitive in orientation, with the results for IS studies, in particular, that were outlined during the review of the literature in section one. From this perspective, it is perhaps a shame that the word ‘sociomateriality’ works so much more seductively in an etymological sense than any alternative formulation attempting to incorporate the materially-implicated nature of two types of (social and biographical) latent structure. (Thompson, 2012: 204)

In other terms, not only is materiality over-simplified but the social and the subjective have been altogether conflated as well. In a later stage of his work, Thompson proposes an affect-based ontology of practice, drawing on the Essex Lacanian school, that surfaces the influence and significance of invisible ‘structures’ (social and psychoanalytical) upon empirically observable ‘actions’. From this Laclauian perspective, social practices are primarily characterized by a state of ‘radical contingency’ or, in Lacanian terms, ‘lack in the Other’, hence the notion of *ontology of lack*. The purpose of such an analysis is therefore to disclose this ontological contingency and to surface how it is significant in shaping the ‘ontic’ register. Central to the dialectic between the ontic and ontological is the actors’ ‘ongoing affective identification with practices’ (Thompson and Willmott, 2015: 2) and the way their behaviours reproduce, contest or restore these. These subjective acts *materialize* the ‘trace of contingency within the structure’ (Laclau, 1993: 435)
As we have seen, pluralistic approaches, known as practice theories, have highlighted the sociomaterial ontology and the inseparability of the material and the social. Nevertheless, the role of subjectivity and embodiment, the affective relationship with machines, needs to be further explored. What if technology and systems have been granted too much importance over their users? Why has so much power been accorded to artifacts? Computer-based technologies are constantly reduced to their functional or socio-material dimension, whereas it is increasingly clear that they encode subjective and ideological ambitions. What about a study which would explore and demonstrate the unavowed intimacy of designers, the values embedded in technology design? This has nothing to do with profound psychology or digging imaginary layers; instead, it requires a rigorous conceptual toolkit to trace the materiality of the subject – because one way of defining the material is that it exists out there, and this can be demonstrated empirically.

Affect is a notion which is neglected in the study of technology in organizations. More importantly, this neglect is a pity as this notion would enable to re-materialize the linguistic approach to organizations, addressing issues including organizational discourse, communication and ideology, in a way which is more aligned with its subject-based roots. Therefore, endorsing an affective turn is necessary for any radical approach to organizations, namely any approach which addresses the roots of IS phenomenon (adoption, acceptance, etc.), which is conformed with the Latin etymology of the word (radix means root).

Constructionism has attempted to move beyond dualism and to articulate the discursive and the material under the banner of socio-materiality. Yet the place of ‘contingency within the structure’, identity performances and embodied forces motivating the ritualization of everyday practice, are under-theorized in IS. How can this affective turn enrich our understanding of how people organize, and are organized by, their relationship with machines? Is this project feasible under the scope of the sociomaterial ontology.
A radical approach: Ideological materiality

In this section, I will draw on the labour-process literature to reframe materiality at work. To achieve this objective, it is crucial to deconstruct, contest and re-signify existing formulations of matter in IS, by shedding light on the outright omission of the ‘materiality’ of signification and affectivity.

The study of ideology is typically divided between idealist who consider that change arose from tensions endogenous to the system of ideas itself (Sutton et al. 1956; Gramsci, 1957) and materialists claiming that exogenous events such as wars, immigration, climatic shifts are responsible (Marx, 1977; Harris, 1979). A symptomatic element is that the existing constructivist literature in IS (Orlikowski and Barley, 2001; Leonardi and Barley, 2010) tend to classify deskilling theorists as altogether deterministic and idealist. This is perhaps unfair given that the critical (and even revolutionary ambition of Marxist theory) has a very concrete transformative ambition. According to Orlikowski and Barley:

unlike a strict materialist, he argued that American management’s ideology of control determined which designs were commissioned and deployed (…) Braverman told a decidedly deterministic story of NC tools’ effects and his analysis, in retrospect, unwittingly hinged on the technical specifics of the type of NC tools used at the time he wrote. (2001: 150)

Thus, based on the above, Braverman would tell a ‘deterministic story’. There is a common misunderstanding of criticality in the constructivist literature which often too immediately views deconstruction and construction as antagonistic. In fact, deconstruction is the necessary step which precedes construction, it is the necessary opening up of a new space of possibility, in which the new can emerge. Braverman is engaged in a process of deconstruction of the ideology of scientific management and from this perspective, his attempt is not deterministic but rather seeks to render visible the contingency behind a certain taken-for-granted practice of work organization.
The second argument is that Braverman would not be a ‘strict materialist’ and the trap of the exercise of Marxist critique is indeed to fall into conspiracy theory which means to overemphasize the intentionality behind action, to make connections without evidence. Prolonging the Marxist discussion on the material reproduction of the conditions of production, Althusser argues that this involves not only the reproduction of the means of production (the machines), but also the reproduction of labour-power (the people). The crucial point to us is that reproduction is not automatic and always relies on ‘living labour’ (Marx, 1973: 263) which means the possibility for labour-power to accept or contest the injunction to work. Althusser’s view rematerializes the notion of ideology and goes beyond the Marxist criticism of Hegelian idealism by radically rejecting Marx’s assumption that ideology is a ‘false consciousness’ which has no history (Ibid, 1971):

An ideology always exist in an apparatus, and its practices, or practices. This existence is material. Of course, the material existence of the ideology in an apparatus and its practices does not have the same modality as the material existence of a paving-stone or a rifle. But a the risk of being taken for a Neo-Aristotelician (NB Marx had a very high regard for Aristotle), I shall say that ‘matter is discussed in many sense’, or rather that it exists in different modalities, all rooted in the last instance on ‘physical’ matter. (Althusser, 1971: 40)

In fact, the crucial point of his theory of ideology is not to invert the traditional divide between the ideal and the material, but that the notion of idea itself disappears from his framework. The notions of subject, consciousness, belief and action remain. In addition, the new terms of ‘practices’, ‘rituals’ and ‘ideological apparatus’ emerge. Consciousness itself becomes material, like in the psychotherapeutic procedure where the patient materializes loudly his consciousness.

In particular, the determination of identity occurs through the interpellation of the subject by dominant discourses, metaphorically like a police officer, embodying the Law, who interpellates a man in the street (Althusser, 1971). Althusser’s performative chain of
determination of the subject can read thus: the material ideological apparatus prescribes the material practices governed by a material ritual, practices which exist in the material actions of a subject acting in all consciousness according to his beliefs (Ibid, 1971). From this perspective, Althusser is more concerned with the ‘organization of thought’, through ideological apparatus, rather than ‘thinking about organizations’ by essentializing this notion (Chia, 1996). In other terms, Althusser sees ideology as an organization of signifying practices whose function is to turn individuals into subjects, and thereby provides them with a social and political identity.

To criticize an ideology, it is not enough to criticize a discourse and to stay at the level of intentionality; we need to comprehend ideology not as cognitive process but rather as affective cement or a glue (Glynos, 2001). At the time of Burawoy, the site of the antagonism between labour and capital happened to be the factory floor:

People do not carry ideologies around in their heads. They carry theories, knowledge, attitudes, in the form of consciousness. These become an ideology, ‘a material force once it has gripped the masses.’ Ideology is neither a ‘cold utopia’ nor ‘learned theorizing’ but a ‘creation of concrete phantasy which acts on the dispersed and shattered people to arouse and organize its collective will’ Ideology acts as a cement for social relations; it binds individuals to one another; it connects immediate experiences to each other, to the past, and to the future. (1982: 18, emphasis added)

Burawoy is here citing Althusser’s work, which is seminal for the understanding discourse as materiality. In other words, the only valid criticism would involve developing a conceptual and empirical toolkit to demonstrate subjective and affective processes inaction and address these questions: when and why does this mode of production dysfunction, when does the body reject symbolism and how and why people accept to work as hard as they do (Burawoy, 1982).
The Althusserian affective turn in Marxist theory echoes the transformation of the paradigmatic appreciation of labour power in the 1970s. A particular example (Staples, 2007) is how the figure of the housewife assumed a critical role in social reproduction after the 1973 crisis in the United States. According to Staples, women’s revolt against patriarchal oppression has been recuperated by capital by converting the outside-of-wage housewives’ to the emergence of ‘woman workers’. What is more, this is symptomatic of the affective turn which concerns the transformation of a version capitalism inherited from Taylorism and the Industrial revolution:

Thermodynamic capitalism in the European and American social factory of the 1960s and 1970s, therefore needed to somehow transform or eliminate those entropic labor forces whose energy could not be put to work – the recalcitrant shift workers, the unhappy housewives, the social deviants, the rebellious colonials, and so on. (Staples, Ibid: 133)

While divorce rate increases, the recalcitrant housewives are turned into productive workers, the ‘twenty-four-hour, social factory woman’, and made useful and exploitable. At a structural level, women occupy the place of ‘destructive excess and loss’ which ensures the reproductive vitality of the system. The displacement of value production into affectivity and the antagonism of the struggle over time and subjectivity have extended nowadays, beyond the factory, to all various different sites, including the home, the office, the Internet, health care, education politics, entertainment etc.

What we are after in the next section is the materiality through which subject copes with the determination, beyond mechanistic explanations, and negotiates with it, keeps it at distance through discourse; this is the place of human agency where contestation and re-signification is located. This leads us to question the belonging of the materiality to the genre of practice-based study which is currently dominant in IS literature. What does a subject theory has to say? How does issues if identity, language, sexuality, embodiment renew the study of practice? Is it a simple change of perspective or a radically new ontology?
Understanding the process through which subjectivity is constituted is the work of Lacanian subject theory. Does the Lacanian theory of subjectivity add to the genre of practice-based studies or does it have the potential for becoming a genre in itself? Thus, we need now to turn to Lacan to address not merely the epistemological but also, more radically, the ontological underpinnings of a materialist theory of ideology.
Chapter 2: A Lacanian subject theory
In the following chapter, I will explain why much is to be gained if we turn towards the development of subject theory. I will acknowledge the importance of Lacanian framework for subject theory, and then introduce the negative ontology of lack and the Lacanian view of communicative action. I will address the distinguishing characteristics of subject theory and the two theses about subjectivity: (1) the subject-of-meaning and then, beyond linguistics, (2) the subject of affects and jouissance. This subject-based view of the relationship between discourse and sexuality will lead me to reframe notions such as materiality and performativity, and I will demonstrate how it differs from the views discussed previously. Finally, I will address the politics of the subject and the crucial importance of anxiety.

Who was Lacan?
Jacques-Marie Emile Lacan was born in 1901 and grew up in a middle-class Catholic family in Paris. His brother went to a monastery.

In 1931 Lacan became a licensed psychiatrist and was awarded the Doctorat d'état, one year later, for his thesis On Paranoiac Psychosis in its Relations to the Personality (De la Psychose paranoïaque dans ses rapports avec la personnalité suivi de Premiers écrits sur la paranoïa. Paris: Éditions du Seuil, 1975.) This work was based on observations of several patients, with a primary focus on one female patient whom Lacan called Aimee. This thesis shows Lacan’s dissatisfaction with traditional psychiatry and the growing influence of Sigmund Freud on his works.

Lacan gave annual seminars in Paris from 1953 to 1981, in which he urged what he described as ‘a return to Freud’ which, he argued, would illuminate the linguistic nature of psychological symptomatology by drawing most notably on the work of the Swiss structuralist linguist and semiotician Ferdinand de Saussure. Lacan's 27-year-long seminar became highly influential in Parisian cultural life, as well as in psychoanalytic theory and
clinical practice. In particular, Lacan influenced leading French intellectuals in the 1960s and the 1970s, including the communist philosopher Althusser.

However, Lacan’s work really turned mainstream with the publication of his seminal work *Ecrits* in 1966. Before this date, Lacan was known only within a group of Parisian intellectuals, and was still perceived as an eccentric figure (Webster, 2002). Published by the prestigious Editions du Seuil, the success of *Ecrits* led him to a subsequent two-volume edition in 1969. *Ecrits* was then translated, in abridged form, into German and English, which led him to be invited to lecture in Italy, Japan and the United States. He gave lectures in 1975 at Yale, Columbia and the MIT.

Politically, Lacan’s trajectory is elusive. While Lacan attended the far right-wing Action Française political meetings in his youth, he later became highly critical of it. By the 1960s, Lacan was associated with and endorsed by the far Left in France. In May 1968 he voiced his sympathy for the student protests but, a few years later, clearly showed his scepticism in Book XIX of his seminar of 1971 towards revolutionary ideals in politics.

Arguably the most virulent Lacanian revolution is not so much to be found in Lacan’s content, but in his form. As Lacan’s English translator, Alan Sheridan, put it, ‘Lacan doesn’t intend to be understood... He designs his seminars so that you can’t, in fact, grasp them’ (Sheridan quoted by Webster, 2002). Lacan also succumbs to the temptation to invent neologisms. Lacan’s style is a deliberate rebellion against the traditional French *clarté*, namely clarity. The main justification usually offered to his virulent critics is that the discipline usually demanded of scientific language also bears, by its very nature, an element of authoritarian ideology, repression and loss.

His later work in the 1970’s had a major influence on feminist thought, including the work of Luce Irigaray, Julie Kristeva and Judith Butler, as well as upon the informal movement commonly known as post-structuralism in the 1970s and 1980s.
Nowadays, his influence is evident in various academic areas such as criminology (Bond, 2009), cultural theory (Zizek, 2002), ethics (Zupancic, 2000), film studies (McGowan and Kunkle, 2004; Zizek, 1992, 2007), gender studies (Copjec, 2002; Grosz, 1990), literary theory (Rabaté, 2001), philosophy (Chiesa, 2007; Badiou, ), political theory (Stavrakakis, 1999, 2007), psychology (Parker, 2010) and science studies (Glynos and Stavrakakis, 2002).


The Lacanian view of communicative action

What did Lacan say? In this part, I will discuss how and why the type of knowledge acquired in the clinic, together with its ontological and epistemological presuppositions, can be mobilized for critical studies in organizational and information systems research. Subject theorists are specifically interested in how speaking subjects, desiring subjects, which means they are understood as being ontologically-driven by the ‘lack in the Other’ (Lacan 2006), are constantly engaged in identification practice. Lacan conceptualized three modes of communication which he calls ‘registers’. Speech acts can thus be registered under the Imaginary, the Symbolic or the Real. For the purpose of clarity, I will briefly describe these three registers now, and subsequently discuss Lacan’s central principle of subjective decentrement, namely that subjectivity is divided between the desiring subject and the conscious ego.

Imaginary

The Imaginary is a binary mode of communication similar, so to speak, to the information-processing approach (Simon, 1977) which first dominated the conceptualization of organizational learning. Following this view, language is functional, and cognition is viewed as a rule-based manipulation of organisational contents – data, information, pictures etc. In this register, others’ subjectivity is denied and pathologically replaced by mirror
images, such as the sociopath’s purely instrumental use of language. The Imaginary leads to an ‘objectifying representation’ (Lacan, 2006) of the self and others, and is therefore the place of the neurotic responses of the subject: aggression, paranoia, and so on. In contrast with the Cartesian legacy, the conscious ego, the representation that the subject has of himself, is for Lacan a fantasy-construction distinct from the subject. In sum, the imaginary act is a response that misrecognizes itself and overemphasizes the agent’s own potency and agency, and it is motivated by an alienated desire.

**Symbolic**

In contrast, the Symbolic refers to all that is spontaneous and not inscribed by pre-written rules in communication and speech activity. It is a ternary mode of communication, one that is always mediated by a shared agency which Lacan calls the ‘big Other’, symbolizing others in general: i.e. society’s constitution which unconsciously controls my acts. As Wittgenstein asserts in his *Philosophical Investigations*, language is not a ‘private property’ (1953), but always public, socially shared and socially constituted. Zizek (2006) interestingly connects the Lacanian notion of Symbolic to what the linguist Jakobson calls the phatic communication of language; human speech does not simply convey a message, but also reflexively symbolizes the practice of communication. The symbolic mediation of the ‘big Other’ typically appears through social practices such as respecting of rules of politeness. Queuing, listening to a lecture silently or holding the door open for an old lady are examples of practices that are spontaneously and mechanically structured by the Symbolic. The symbolic agency enacts a degree of influence or power in relation to a specific situation or context; it is an act which is motivated by the desire of the Other.

**Real**

Psychoanalytic knowledge, the study of the unconscious, differs ontologically from an exact science, ascribing a positive meaning to the phenomenon under study: the Real, the
hard-kernel of the subject’s desire, is an empty space, a fundamental lack around which the subject circulates. The Real has a status of paradoxical knowledge: when one tries to capture it, to get too close to it, it dissolves.

Furthermore, the Real has to do with sexuality and is a traumatic locus which causes a series of failures in the life of the subjects; it spontaneously emerges and reveals something about the unconscious desire of the subject – this is particularly true in moments such as when experiencing sexual drive, dreams, lapses or jokes. It is traumatic because it is impossible to inscribe and articulate through words (Zizek, 1989). It is altogether necessary – we cannot deviate from it – and impossible – it is not representable (Laclau in Butler et al., 2000). The Real is an impasse of signification and stands for the impossible transparency between speech and its object: ‘the Real can only be inscribed on the basis of an impasse of formalization’ (Lacan, 1998:93).

A subject-based ontology can be termed a ‘negative ontology of lack’ (Glynos and Howarth, 2007: my emphasis) in contrast with a positivist account in the sense that it does not provide an objective account of the phenomenon. In other words, the phenomenon is not located out there, but it comes into being as the product of individual or collective unconscious. This leads Butler, in Bodies that Matter (1993), to theorize the Real as a kind of resistance. If the Real (or the unconscious) is what resists symbolization, which means any form of discursive representation (such as gender categories), does it equate with symbolizing the Real as a resistance? Well, yes and no. In Butler’s words: ‘The former claim (the Real resists symbolization) can only be true if the latter claim (“the real resists symbolization” is a symbolization) is true; but if the second claim is true, the first is necessary false’. Finally, the Real is an act that does not draw support from the subject’s symbolic or imaginary constructs, but is motivated by psychosexual and biographical events – the resurgence of the Real.
In sum, the act of speaking is a kind of signifying practice, implying not only a speaker and an addressee but a third place, the Other, that guarantees the truth and meaning of what is being said (Pluth, 2007). Lacanian theory of agency distinguishes between the imaginary act, which is alienated and ignores the Other, the symbolic act which integrates the desire of the others and the real act which represents a rupture with identity and reconfigures the symbolic network. Here the term ‘subject’ does not represent the one who acts: instead, it represents what an act does. A real act subjects in a new way.

An illustration

In this dissertation, I am proposing that real work is a subjective psychosexual experience: work exists when it resists, when it does not tick right, when it produces us as subjects of affects – whether these involve pain or pleasure. In a sense, it is only retroactively that I know that I did some work, a ‘good job’ or a ‘dirty job’. Far from the lessons from machine learning and artificial intelligence, which regard automation as the essence of work, I argue that work starts when automation stops. Before returning subsequently to these notions, I will use here a little personal story to illustrate the triadic Lacanian registers (Imaginary; Symbolic; Real), an understanding of which is necessary to navigate comfortably through the subject-based ontology introduced here. When I was 20, my dream and desire was to become a Professor of French Literature (Imaginary). As I was ambitiously seeking the recognition of my peers, and as this is quite a specialist job, I decided I would focus all my energy on being admitted to the most elitist school and obtaining the most sought-after degree, namely the concours of the prestigious Ecole Normale Supérieure (Symbolic). I enrolled on a 2-year, highly-intensive preparatory school course to prepare for this, studying, among many others subjects, Latin, the history of the 19th century European peasantry, and memorizing thousands of literal quotes, including some from a navigator’s diary in America written in the 16th century – and thereby in ancient French. I performed extremely well in literary criticism
when I had the time to focus on my essays at home, to do some side research and to improvise and learn by myself. Nevertheless, I was unable to memorize lists of quotes, and I knew that I did not perform well in time-restricted tasks, such as formal exams. Nor did I work well with a pre-established program to learn. The weeks passed and, on the day of the exam, I felt I could not do it. The second day of the entry exam featured a 5-hour philosophy exam and the topic was – and this sounds like an intellectual joke: ‘What can the body do?’ Petrified by the importance of this event, the two years I had spent thinking about this day and the neurotic over-investment in a type of exam which did not suit my intellectual profile rendered me paralyzed, and I was absolutely unable to write anything. The body was saying no. I left the examination room, bought an IPod to listen to some music, and decided to relax by walking along the lake of the Bois de Boulogne. I had to face the truth: I would not be a Professor of French Literature (Real).

First definition: subject-of-meaning
A distinction can be made between the early Lacan and the late Lacan, with a transition taking place in seminar XI, in which Lacan no longer addresses solely analysts-in-training, but a broader audience of academics. After this, the Real is ascribed more importance, as opposed to the Imaginary and the Symbolic in the early Lacan. In this section, I will follow this chronology and firstly address the definition of the subject as a subject-of-meaning.

Subject as an effect of signifiers
In the early Lacan, the subject is seen as a product or an effect of signifiers: this is the linguistic or structuralist dimension of his work. In contrast with Freud, Lacan’s contribution to psychoanalysis is well known for its use of linguistic categories, and in particular the Saussurian notion of the sign as a union of the signifier and the signified. Identity can be read as a signifying practice: there are certain signifiers to which a subject gets fixated. Certain signifiers matter more for the subject than others, and these signifiers contribute to the
identity of the subject. Lacan defines a signifier as that which, ‘represents the subject to another signifier’. Thus, the signifier is never isolated or central, but always connected to other signifiers, caught in the signifying chain. Lacan’s *first definition of the subject* can be read as such: ‘The subject is the consequence of the fact that there is a signifier’ (Lacan quoted by Pluth, 2007: 46). Signifiers produce a meaning, and therefore produce a subject as a meaning. In particular, signifiers produce signified effects through metaphor and metonymy. This is what I would term the semiotic or representational view of subjectivity:

I am giving you a possible definition of subjectivity, by formulating it as an organized system of symbols, aiming to cover the whole of an experience, to animate it, to give it its meaning. (1988: 40-41)

From this perspective, the purpose of the analysis is to shift the value of such deterministic signifiers, to relativize them, to empty their oppressive power and to ascribe different meanings to them. In that respect, Lacan’s theory departs from Saussure by differentiating the sign and the signifier. The signifier appears when the meaning of the sign is reduced, autotomized from its signified effects. In Lacanian terminology, there is an essential ‘supremacy of the signifier over the signified’ (Lacan, 2006), and a sliding of the signified under the signifier, which renders a possible analytic shift.

This is still a traditional theory of the subject, a conscious awareness of identity, a subject who wishes to express itself, who represents the world to itself. In this first definition, representation is central, as the subject is represented by a signifier, except that what is represented is not his intentions, but his existence as a desiring subject. The subject is represented by a signifier, but not at a Cartesian rational level: his intentions are not represented. The *signifier* stands for the unconscious desire of the subject which is constantly seeking, but failing to be fully represented by the *signified*; it is what speaks through the subject: ‘the subject is the subject of the signifier – determined by it’ (Lacan 1962 quoted by Stavrakakis 2009). The relation to others in general, the Other, enables us to understand the
subject’s representation by a signifier. Any use of signifiers always involves a symbolic relation to others in general, which Lacan names the Other. In other words, a subject is characterized by the ‘lack in the Other’, namely the desire of being recognized by the Other.

**Identity and identification**

Identity, for Lacan, involves being desired by others, gaining recognition. In Lacan’s approach, a subject differs from a flesh-and-blood being. It differs from an individual. Yet a subject is not possible without flesh and blood, without an individual. A flesh-and-blood individual is not produced by signifiers, yet no individual exists, lives, feels or suffers without their interaction. In this sense, the signifying chain is ‘the Other’s discourse’. The subject-in-meaning is constructed before the actual birth of the individual, for instance when the name is chosen. The name precedes the subject and provides it with a discursive place. This recalls an important milestone of Lacanian theory, namely the importance of the name in the construction of identity. While the social, economic and genetic background of the birth of a child play a crucial role in his/her life, what really determines the conditions under which the subject will live is what is said about him/her (economists or geneticists are right to follow their rationality, but are they concerned with the subject?). While names per se are meaningless, they constitute a trait:

If something is a proper name, it is inasmuch as it is not the meaning of the subject that it brings with it, but something that is of the order of the mark applied in some way to the object, superimposed on it. (Lacan quoted by Pluth, 2007: 55).

The name precedes the subject and provides him with a place. Although it is meaningless, it is also the bearer of a string of meanings, and it is already invested with the desire of others. My name positions me in the field of meaning. I am already attached to several connotations before I act, and this fact obviously plays out when I have a foreign or provincial name in the city centre, for example. The construction of the subject-of-meaning and the signifying
operations precede the actual birth and sexual development of the subject. Its existence as a desiring subject is already represented:

So representation and identification are closely related. Identity, according to Lacan, always involves being desired by others: more specifically, our identities are what enable us to think we are desirable. (Pluth, 2007: 46)

In other words, Lacanian subjectivity is materialized through recognition by the Other. Identification confirms or affirms the meaning that is already located in the Other. As I stated earlier, Lacanian theory helps us to theorize how subjectivity is split between the subject and the ego, and the process through which the subject is constituted through multiple practices of identification.

In his seminal text, ‘The Mirror Stage’, Lacan draws on comparative experiments between children and primates derived from Gestalt psychology in order to state that the ego of a 6 month–old child is constituted through the initial experience of facing a mirror and recognizing his own image. Meanwhile, at this young age, the chimpanzee is still superior in terms of instrumental intelligence. The difference between the child and the primate resides in a primordial acting, a playful event, the child being fascinated by his own image:

This act, far from exhausting itself, as in the case of a monkey, in eventually acquired control over the uselessness of the image, immediately gives rise in a child to a series of gestures in which he playfully experiences the relationship between the movements made in the image and the reflected environment, and between this virtual complex and the reality it duplicates – namely, the child’s own body, and the persons and even things around him. (Lacan, 2006: 93)

Thus, through this ‘jubilant assumption’, the child interiorizes idealized images which are initially fragmented and chaotic in his mind, but unified through the bodily cohesion reflected by the mirror. The mirror provides his own self with an imaginary contour – a virtual representation of his own body, things and environment.

On the one hand, the subject of lack, constantly seeks to be represented but always fails to identify with an image. The playful acting through which the subject comes into being and
endorses a particular role is the driver of the practice of identification. Although he is not a child anymore, the adult will continue to fall into the mirror stage, at different stages of his life, for his identity is never complete and never reaches a final closure. The mirror-stage exemplifies the process of identification which Lacan defines as ‘the transformation that takes place in the subject when he assumes an image.’ The mirror-stage shows how the subject is precipitated in a symbolic matrix, before it is objectified in the dialectic with others, assuming and accepting, through joyful acting, the role ascribed to him in the mirror. Thus, the ego is established and stabilized through the cumulative history of such identificatory relations. Identifications are never completely made or achieved, but rather insistently constituted, contested and negotiated (Butler, 1993).

Furthermore, the Lacanian conceptualization of the mirror stage enables Althusser to shed light on the affective identification at stake in the construction of the ideological subject. Metaphorically, it refers to all the successive biographical transformations that take place in the personality each time the subject identifies with a new representation. For Althusser, the ideological misrecognition is described as a self-misrecognition, which is an effect of the ‘imaginary’ dimension of human existence. As we have seen above, ‘Imaginary’ here is distinct from ‘unreal’; it means ‘pertaining to an image’. Like the infant in front of the mirror, in the ideological sphere the human subject transcends his true state of decentrement and finds a coherent image of himself reflected back in the mirror of a dominant ideological discourse such as fascism, neo-liberalism, communism, etc. Ideology then refers to ‘a representation of the imaginary relationships of individuals to their real conditions of existence’ (Althusser, 1971). In other terms, for Althusser, ideology stems from our affective, unconscious relations with the world, the ways in which we are pre-reflectively bound with social reality.
Discourse and materiality

In this section, I will now demonstrate how the Lacanian view on the subject as an effect of signifiers leads us to take a different perspective on the relationship between discourse and materiality. This will lead me to introduce the notion of materiality of the signifier (Lacan, 1998; Laclau; 2000; Butler, 1992) which more accurately designates the site where meaning is always negotiated.

The sliding of the signifier under the signified

At this stage, I need to explicitly underscore that the materiality encapsulated under the banner of sociomateriality and the one which I try to capture in this thesis are of radically different kinds. One way of proceeding here could be to mention the defenders of sociomateriality themselves, as they recognize the primordial role of mattering, understood as the act of attaching the category of matter to something (Carlile et al., 2013) Accordingly, the performative power of naming is a linguistic act which is not rooted in the ‘stuffiness’ of artefacts. This inevitable practice of signification involves, in particular for ethnographers immersed in the field, an ideological act of description in order to delimitate the extra-discursive, what matters:

The delimitation, which often is enacted as an un-theorized presupposition in any act of description, marks a boundary that includes and excludes, that decides, as it were, what will and will not be the stuff of the object to which we then refer. This marking off will have some normative force and, indeed, some violence, for it can construct only through erasing; it can bound a thing only through enforcing a certain criterion, a principle of selectivity. (Butler, 1993: 11)

Let us call ‘subjective’ this normative force which sustains the marking-off and which is the power of the subject. I am proposing here that the Lacanian Real may well be this residual category, one which would enable us to move beyond the dyadic separation of the social and the material. The social and the material can be related to the Lacanian distinction between the symbolic register of the Other and the imaginary world of objects or small others. The
classic misunderstanding associated with the former statement is: does psychoanalysis say that the world out-there, the reality around us, is imaginary, mere images projected on the mirror, and one which does not exist? Of course, I do not mean to deny the existence of the chair out-there. Reality fundamentally differs from the Real and its subject-effects. From the perspective of the subject, an object is nothing unless it becomes a signifier, unless it is invested with meaning, unless it subjects me in a way or another.

The trait-d’union between the social and material is precisely one that does not work, one which malfunctions, our access to things is always mediated by discourse (and, as we shall, affectivity): there is no immediacy; it is always the place of an approximation or a retroactive discursive construction:

The references or things the signifier serves to approach remain approximate (…) At the level of the signifier/signified distinction, what characterizes the relationship between the signified and what serves as the indispensable third party, namely the referent, is precisely that the signified misses the referent.

The joiner doesn’t work. (Lacan, 1999: 20)

What the Real seeks to capture is the way that signifiers mobilize us, as subjects of desire, how signifiers (which may well designate technology) retroactively constitute us as a subject. Agency is a retroactive effect of particular master signifiers on us, which subjects us, produces us as subjects. This is how Butler’s ‘marking-off’, the speech act through which the Law is instantiated, can be seen as a crucial operation through which speech acts produce their environment.

Subjects need to cope with the fundamental, unmediated relation to the thing, the autonomy of the signifier vis-à-vis the signified; in the case of human relations, the impossibility of sexual relationship (Butler et al., 2000). In Lacan, subjectivity is divided between the ego and the barred subject (Cederström and Willmott, 2007). Barred is a pun in French and means both barred and crazy, nonsensical. To be accurate, the bar

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5 The bar is illustrated by the expression: signifier/signified
(signifier/signified) located between the referent and the signified is the linguistic site where meaning is always negotiated or contested, namely the materiality of the signifier. This notion was later appropriated by Laclau, the political theorist:

We will understand by ‘materiality of the signifier’ not the phonic substance as such but the inability of any linguistic element – whether phonic or conceptual – to refer directly to a signified. This means the priority of value over signification, and what Lacan called the permanent sliding of the signified under the signifier. (Laclau et al., 2000: 71)

This ‘sliding of the signified under the signifier’, the switch from signified/signifier to signifier/signified is precisely where Lacanian theory departs from the Saussurean semiotics, which has inspired studies in our field (Bailey, 1983; Bailey et al., 2012.). Thus, the materiality of the signifier captures both signs and their ‘significatory efficacy’ (Butler, 1993), the signifier’s retroactive affective effect on us, in a more central way than existing formulations of symbolic interactionism (Markus, 1983; Prasad, 1993). This fundamental autonomy of the signifier is the condition for subjectivity to manifest its arbitrary power and its capacity of subversion, parody or re-writing (Fotaki et al., 2014).

The signifier carries a normative force, a ‘formative force of mattering’ (Butler, 1993). However, not every object and subject are invested with the same importance, the same desirability; these are the obvious laws of attraction. The materiality of the signifier captures that which puts us into motion, that which produces us as subjects. This is never automatic; to act can be risky and expose/isolate us, and this is why people do not always choose to act subjectively and politically except in moments of crisis, particular events when the Real emerges. In sum, the recognition of the materiality of the signifier conditions the constitution of a science of the subject. This is true not in terms of an impossible scientifically measurable positivity of course, but of material empirical observability: as Dejours says (2009), one can never measure work as a subjective realm, but only (and this would lead to another complicated discussion) the outcome of work.
The barred subject

Lacan’s theory of the subject, as we have seen, is all about enabling displacement and destabilizing the determining forces of signification. In this thesis, I have defined the Real, the subject-effect, as a kind of resistance, which is also a political category. This fundamental autonomy of the signifier, the sliding of the signifier under the signified, is the condition for subjectivity to manifest its potential/power and its capacity of subversion, parody or displacement of meaning. As Laclau put it, drawing on the Lacanian notion of the barred subject:

For the same reason the ‘barred subject’, which prevents the process of interpellation from chaining the ‘individual’ entirely to a subject position, introduces an area of indeterminacy which makes possible, among other things, Butler’s parodic performances. (Laclau, et al. 2000: 71)

Notions such as the Lacanian ‘lack in the Other’ or Laclau’s ‘radical contingency’ capture the post of post-structuralism: that is, the fact that social structures are ontologically incomplete. The subject is fundamentally barred which is also a punning in French - barré means crazy, nonsensical – there is a fundamental undecidability which characterizes the subject.

As a response to the strong structuralist stance in Althusser’s work, Judith Butler in Excitable Speech, succinctly proposes a convincing revision of the theory of interpellation which illustrates a sort of revenge of the signifier (Butler, 1997: 31). Butler argues that there is no reason why we should accept society’s identification of us as a particular sort of subject. Thus, Butler imagines the following scene: the man in the street who is named resists and protests about the name. Consequently, the interpellation misses its mark: ‘This is not me, you must be mistaken.’ The subject deals with the interpellation, negotiates with it, and

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6 Lash interestingly refers to authors beyond Lacan to define the Real, and draws on Spinoza and his notion of potential, understood as ‘force, energy, potential’ (Lash, 2007: 59) In Lash, power/real has a fundamentally ontological dimension, in the sense that it ‘enters into us and constitutes us from the inside’ (Lash, 2007: 61).
identity is constituted by discourse, albeit at a certain distance from it. What is more, interpellation might not have a speaker, yet it may take other insidious forms materialized through artifacts such bureaucratic paperwork, adoption papers, employment application forms or gender categories. Butler argues that gender identity may be constructed linguistically through administrative formulae. A specific form of interpellation is hate speech or the injurious racist name. The words by which we are hailed are rarely those we ourselves would choose; they may be traumatic or excitable, although there is always room for resistance and re-signification located in human agency. In sum, Butler argues that the subject can resist or oppose interpellation through parodic performances, for example, which may in their turn destabilize powerful ideological apparatuses such as the heterosexual matrix.

In the following table I have attempted to summarize the Lacanian theory of the sign. The signifier pertains to the symbolic function of communication as it represents a signifier for another signifier (Lacan, 2006), always mediated by the desire of the Other. As Lacan expresses it, the signifier is contingent, open to polysemy and sliding of meaning, whereas the signified is routine (Lacan, 1998). The signifier manifests itself in speech activity through its phatic dimension, while the signified is instrumental and similar to procedures or recipes. At the signifying level, the signifier always stands for more than itself (metonymical) whereas the signified repeats what is meant (tautological). The signifier reminds us that the site of knowing is the Other, and the act of knowing is therefore a performance, an effect on the subject, material in a sense of a subjective drama; by contrast, the signified is functional and self-centred, and it remains at the level of a possession or private property.
Table 1. Lacanian structure of the sign

<table>
<thead>
<tr>
<th>Lacanian Concepts</th>
<th>Signifier</th>
<th>Signified</th>
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<tbody>
<tr>
<td></td>
<td><strong>Symbolic Position</strong></td>
<td><strong>Imaginary Position</strong></td>
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<tr>
<td></td>
<td>Perceptual (subjective) and</td>
<td>Cognitive (objective) and</td>
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<tr>
<td></td>
<td>Unconscious Representation</td>
<td>Conscious Representation</td>
</tr>
<tr>
<td>Politics</td>
<td>Contingency (materiality)</td>
<td>Routine (functionality)</td>
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<tr>
<td>Communication</td>
<td>Speech activity</td>
<td>Mirror-images</td>
</tr>
<tr>
<td>Signification</td>
<td>Metonymy</td>
<td>Tautology</td>
</tr>
<tr>
<td>Learning/Knowing</td>
<td>Performative Process</td>
<td>Private Property</td>
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Second definition: beyond linguistics

While the early Lacan studies the subject-of-meaning, a subject as something that gives meaning, this definition is progressively complemented and replaced by something in-between the ‘system of symbols’ and particular events such as the mirror-stage and jouissance. The subject is produced by an interaction of signifiers, but it also has to cope with the real of the Other’s desire, which renders manifest the limits of discourse. Drawing on the work of another subject theorist, Ed Pluth, I will call this second pole ‘sexuality’.

Affect, pleasure and pain

In his work, Pluth roughly interpreted the subject as a function or an effect of the interaction of language and sexuality. Pluth says ‘roughly’ because in Lacan the second pole is intentionally kept vague:

Where is the subject […]? Does it suffice to know that the function of the subject is in the between-the-two, between the idealizing effects of the signifying function and this vital immanence which you will readily confuse again, I think, despite my warnings, with the function of the drive? What we are engaged in, precisely, and what we are trying to push further, is precisely this. (Lacan, quoted by Pluth, 2007:15)

The second pole is described either vaguely (‘vital immanence’) or negatively (it is not to be confused with the ‘drive’). As we have seen, this is precisely the characteristics of the Real which means that it cannot be grasped. The crucial point here is that Lacanian theory is not reducible to language, but it involves something non-linguistic.

Subjectivity in Lacan is a form of power which creates meanings in language, a power which fills empty signifiers with content, which confers a style on the structural features of language. From that perspective, Lacan is a kind of post-linguistic psychology, in the sense that subjectivity also involves a relation to the body, affects, and the traumatic Real. Language alone does not make a subject. There is something else, an obstacle to signification. Pluth’s work considers the subject not merely as an effect of language, but as an ‘effect of language plus the Real’ which he conceptualizes in terms of sexuality. Here
Lacan’s notion differs from structuralism, and the subject is not reducible to the free play of signifiers. This *aporia* in Lacan’s work leads critics to regard Lacanian theory as a metaphysics, which is also unfair because the Real can be identified only through its *material effects*. To summarise, Lacan is a psychoanalyst and his psychology is essentially post-linguistic, exploring the limits of language and incorporating non-linguistic events, whether we relate them to affectivity or sexuality. Lacan’s theory deals with how the subject confers power to some signifiers over others; how the subject, which is always positioned within these signifiers, can be oppressed by them or contrastingly emancipated from a given symbolic configuration.

In particular, Stavrakakis (2010) states that affect is a promising direction for future research in the field of discourse theory. More research needs to reorient critical theory towards ‘a dynamism immanent to bodily matter’ (Clough 2008: 1). Affect has been defined in numerous ways. For example, according to Thoburn, as a pre-signifying mode of bodily activation:

>Affect is an experience of intensity – of joy, fear, love, sorrow, pity, pride, anger – that changes the state of a body, that has concrete effects on individuals and social practice (...) affect is a key dimension of experience (...) and one that most clearly marks the movement of cultural studies away from a conception of culture as signifying practice. (Thoburn, 2007: 84)

Stavrakakis describes the body as the site of a continuous dialectic between the Real and symbolic – between the *real body* (the one of sexual drive and somatic activation) and the body marked with signifiers. As Laclau cogently asserts: ‘affect […] is not something added to signification, but something consubstantial with it.’ (Laclau, 2004: 326) Thus, the *process of identification* requires the simultaneous, successful, symbolic articulation of the subject and its affective, libidinal investment operating in the mobilization of *jouissance*.

Subsequently, Stavrakakis describes *jouissance* as this *real remainder* which is not reducible to language.
Post-Lacanian theorists contributed to this ‘affective turn’ in the social and political sciences as a response to criticisms regarding discourse theory, largely from actor-network theorists but also from Marxists in the purist tradition (Geras, 1990; Lash, 2007). Affect differs from emotions (Thompson and Hoggett, 2012). Affect speaks to the more embodied, unformed and less conscious dimension of human feeling, whereas emotion speaks to the feelings which are more conscious and individuated since they are more anchored in language and meaning. Emotions provide affect with category. An affect such as anxiety is experienced in a bodily way, while an emotion such as jealousy is directed towards objects (a lover, a rival) which give it meaning, focus and intentionality. The distinctive thing about anxiety is the way in which its object constantly shifts from one thing to another, almost as if the object is secondary to the feeling. Thus, whereas emotion is embedded in discourse, affect appears to be more abstracted from it. Affect also differs from sexuality. Sexuality, specifically at the workplace, is ubiquitous and present in jokes, dress, self-presentation, secret affairs, fantasy and coercive behaviors known as sexual harassment (Pringle, 1990). For Burrell, sexuality is not just genital pleasure or orgasm but a primordial human feeling which encompasses the full gamut of libidinal excitations, including sensuality and erotic play (Burrell 1984, 1992). Further, organizational sexuality is a site of control and resistance (Fleming, 2007), and historically with the subordination of women’s or gays’ sexualities at the workplace and derision associated with homophobic or heterosexist behaviours. Sexuality might become discursively subsumed into ‘culture of fun’ and ‘being yourself’ becoming thereby an instrument of management with the risk of provoking either cynical resistance and, in the case described by Fleming, resistance of the subordinate to management through homophobia.
Fantasy and jouissance

In Lacan, the definition of fantasy is not that of the dictionary; the word does not designate imagined scenes of wish fulfilment. Fantasy is a Lacanian clinical category whose aim is not to enact the fulfilment of desire, but rather to sustain the subject’s desire by telling it how to desire. In other words, fantasy sustains the subject understood as a subject of lack, a desiring subject, one which is not reducible to need or demand. When the need is articulated and the demand satisfied, say for a child to be fed, desire is what emerges in the dissatisfaction felt when the demand is met. For example, the behaviour of a child repeatedly refusing the food given by an over-loving mother can be interpreted as his desire that his mother find her desire outside of him (Lacan, 2006). Fantasy activates and structures *jouissance*. Thus, there is a point of impossibility of consciousness, an impossibility of absolute *jouissance*, summarized by the famous Lacanian statement: ‘there is no such a thing as sexual relationship’ (1970: 58). Fantasy structures enjoyment, and it serves as a protective screen against its excess: ‘through fantasy, we learn “how to desire”’ (Zizek, 1989: 118).

Pluth proposes the notion that the subject is grounded on a fundamental fantasy, a *consistency* about how the subject is attached to and positions himself with signifiers. Where is the subject located with regard to the fantasy?

A subject is not something situated on either side of a fantasy – it is not the object in the fantasy, nor is it the actor who plays a role in the fantasmatic scenario, nor is it the conscious individual (or ego) who encounters fantasy as a foreign entity. Where is the subject to be found in fantasy? I will be arguing here that it is to be found in the very consistency and structuring relation that the fantasy establishes for an individual – a junction and disjunction of language and *jouissance* (Pluth, 2007: 85)

In ‘traversing the fantasy’ (Lacan, 1977), we learn to achieve a distance from the fantasy and to stop seeking *jouissance* somewhere (Zizek, 1997). In Lacan, the notion of *jouissance* designates the unconscious enjoyment which drives and motivates our everyday habits, routines, attitudes, beliefs and activities. The eruption of *jouissance* in social practices
renders change more difficult and perilous (Rickert, 2007). Nietzsche gives the example of the ascetic man who renounces to all pleasure in order to obtain the paradoxical jouissance of his sacrifices. Thus, jouissance may operate in self-destructive and addictive behaviours such as anorexia. The enjoyment of having a perfect body is inextricably correlated with the pain of malnutrition. It is distinct from mere pleasure. For example, a love affair without risk would feature mere pleasure, whereas enjoyment involves an act of transgression, a ‘challenge to the gallows’ (Zizek, 1991), the risk of being caught or surprised. In sum, jouissance embodies the specific union of pain and pleasure, the joy associated with the psychic drama of self-destruction.

In other words, jouissance is the site of the subject. But how do we see jouissance? When is jouissance amenable to observation? This is a crucial point, and not only for the psychoanalyst or the ethnographer. As Zizek (1997) put it:

> When do I actually encounter the Other ‘beyond the wall of language’? Not when I’m able to describe her? Not when I learn her values, dream and so on? But only when I encounter the Other in her moment of jouissance? When I discern in her a tiny details (a compulsive gesture, an excessive facial expression, a tic) which signals the intensity of the real of jouissance (1997: 61)

Thus, consciousness itself can be understood materially, so to speak, and the psychoanalytic clinic provides the setting for this materialization or dramatization. In that case, jouissance becomes jouis-sens, which is a pun in French: enjoyment-in-meaning. More fundamentally, consciousness itself is material primarily in the sense that it is an affective process. Thus, the eruption of jouissance can be read as a manifestation of the real, the acting out of the subject. The symbolic system of language and social relations is always lacking, and this lack is above all a lack of jouissance, of a lost fullness, castrated/sacrificed when one enters the symbolic field of language and social relations (Stavrakakis, 2007). For Lacan, jouissance is posited as being already lost, thereby constituting the subject as a subject of desire, a desire
structured around the unending quest for the lost, primordial, impossible *jouissance*. In psychoanalytic theory, the prohibition of *jouissance* is the nodal point of the oedipal drama. The lack that constitutes subjectivity is the lack of *jouissance* (Glynos and Stavrakakis, 2008). To summarise, Lacanian theory displaces the focus from the image of the object of desire to the subjective determination materialized through enjoyment.

**Utility, desire and the law**

How does such a subject theory differ from existing accounts of technology matters? Existing debates in IS studies, such as that around the TAM, are articulated around the dichotomy between intrinsic/extrinsic motivation, enjoyment/utility; they problematize the relationship between pleasure and productivity at work. To some extent, some pleasure is needed to increase performance, yet not too much.

Notwithstanding this, predictive models are ill-equipped to deal with what we shall call this paradox of affectivity. For example, Venkatesh, after diagnosing the blurring of the distinction between work and play\(^7\), elaborates on what he calls a ‘modern conceptualization’ of play which leads him, rather strangely, to re-introduce a distinction between *unproductive play* being ‘unproductive, pleasant and involving’ and *playful work* being ‘productive, pleasant and involving’. Consequently, there is a good way to enjoy, which basically means a productive way, and a bad way to enjoy, which is reduced to unproductive distraction. In that case, the abolished distinction reappears under a new categorization. Grounded on the design science tradition, TAM assumes that productivity is understood from the perspective of the organization, whose interests the training aims to serve. However, the question is not to separate pleasure and productivity, as these notions have always been hybrid. The real

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\(^7\) There is a long intellectual tradition here, embodied by Rifkin’s best-seller, *The End of Work* (1995) and the deskilling literature, which I already mentioned above.
question, then, is: which productivity does the subject mean to serve? What is the law structuring the desire of subjects?

I will now draw on the Lacanian notion of the law and *jouissance* to conceptualize the *left-over* of the dualistic classification between enjoyment and utility, as conceptualized by the TAM. This question is raised in a very precise terms in the chapter ‘On Jouissance’ of book XX of Lacan’s seminar, where Lacan posits as an *ethical imperative* the distinction between utility and *jouissance* – a crucial point which also leads us to deconstruct Venkatesh’s notion of *playful work*. While utility aims at serving a purpose, it is never clear precisely which purpose it serves (in the organisational field, it is likely to be managerially-imposed tasks), as speaking subjects may always attach different contents to the signifier ‘utility’. In contrast, *jouissance* is a *negative instance*, one which by definition serves no purpose: *jouissance* is what is useless. Thus, to overcome the dual opposition between *jouissance* and utility, Lacan borrows from legal terminology the suitably double-edged notion of *usufruct*:

> A word here to shed light on the relationship between law and *jouissance*. ‘Usufruct’ - that's a legal notion, isn't it? - brings together in one word what I already mentioned in my seminar on ethics, namely, the difference between utility and *jouissance*. (…) Usufruct means that you can enjoy your means, but must no waste them. When you have the usufruct of an inheritance, you can enjoy the inheritance as long as you don’t use up too much of it. That is clearly the essence of law – to divide up, distribute, or reattribute everything that counts as *jouissance*. (Lacan: 1999: 3)

Usufruct is metaphorical of the psychoanalytic law and means that you can enjoy a heritage, but you should not enjoy it excessively. One of the key contributions of Lacan’s subject theory is that the subject needs the instance of the law to organize and enjoy the possibility of its transgression. In other words, the desire of the subject is predicated on a prohibition.

Even the apparent notion of objectivity such as the Kantian notion of ‘neutral representation’, the thing-in-itself, is interpreted by Lacan as a *super-egotistical injunction*,
an image of objectivity, which by definition the subject cannot assume, and the subject will have to transgress it. The paradox is that the subject needs the law to experience pleasure:

If there is no God – the Name of the father as an instance of the Law/Prohibition – enjoyment is forbidden. Enjoyment itself, which we experience as transgression, is in its innermost status something imposed, ordered. When we enjoy, we never do it spontaneously, we always follow certain injunction: ‘Enjoy!’ (Zizek, 2002: 9)

Far from holding atheist views, the libertine needs the existence of God in order to heroically articulate the subjective drama of his/her transgressions and overcome the fear of Hell. Thus, the Law organizes the right-to-jouissance, which fundamentally differs from a duty or managerial work. Nothing, including game-based training, obliges anyone to enjoy itself except the superego. In Lacan’s words, there is no other law for the desiring subject than the superego: ‘The superego is the imperative of jouissance – Enjoy!’ (Lacan, 1998: 3). The law of the subject, the superego, is regarded by Zizek as an individual injunction experienced as something traumatic, irrational and non-integrated, which means that the subject fails to make sense of it. Nobody is born speaking, and sexuality is first experienced as a trauma:

‘Sexuality is always traumatic as such’ (Lacan, 1976: 22).

Here we touch upon the crucial psychoanalytic view on acceptance. The Law functions as a tautology. It is accepted because it is accepted, not because of any first principle; the foundation of the law lies in its process of enunciation. For the law to be accepted and to function normally, its traumatic contingent origin must be repressed into the unconscious through an imaginary meaning of the law, belief/ideological system, such as religion, regime of truth, or in our case belief in managerial utility or functionality (Zizek, 1989). As the above review of the history of the TAM shows, the question of knowing the origin of the law that administers enjoyment is crucial, as it also determines what legitimates some behaviours.

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8 Here Zizek quotes Pascal: ‘Custom is the whole of equity for the sole reason that it is accepted. That is the mystic basis of its authority. Anyone who tries to bring it back to its first principle destroys it.’ (Pascal, 1966: 46)
and excludes others, i.e. what counts as normal and deviant pleasure. My lens leads me to understand normalcy as the subjection to a particular law that is contingent and always contestable. When and how does the subject experience the truth of the law? Again, this exists not so much at the level of consciousness, docile processing and acceptance of rules, but in our concrete affectivity. In Butler (1993), the awareness that the subject has of his body, ideas of the body so to speak – what she calls the ‘sexed gender’ – is regulated by prohibition and the nexus of pain/pleasure. Nevertheless, prohibitions do not always produce a docile body that fully conforms to the social ideal. Once a prohibition is installed, some body parts emerge as sites of punishable pleasure, which Butler relates to the Freudian idea that we achieve an idea of our own body through pain. Thus, in The Ego and the Id (1923), Freud develops the thesis that bodily pain is a condition of self-discovery.

The subject is not understood through information-processing as an organized systems of symbols, but through this pre-conscious nexus of pain/pleasure, evident in biographical events, that we experience the Real of the law as well as the sense of when to say “Stop!”

Traversion of fantasy

Lacan considers the subject as a product of signifiers, as well as an encounter with some sort of event. The subject is still something that has to do with a consistency of signifiers, an effect of discourse, organized by a fundamental fantasy. What affects traverse the subject who resists the determining force of fantasy? When does a subject find the courage to traverse the fantasy? Why does an act succeed to re-articulate the Symbolic?

Subjectivation and subject-process

Badiou’s opus Theory of the subject, in Pluth’s words, is a ‘guide to locating the subject in structures’. No individuals choose to be involved in what Badiou calls a ‘truth procedure’, being affected by an event, or being interpellated, and it is through affects that subjects become aware of what is happening to them, of the truth procedure which absorbs them. In
the example of the event of love, happiness is the affect which signals to the human animal that he’s some subject of truth. In other words, affects signal the emergence of the Real- the emergence of the new. In particular, Badiou addresses two components of the subject – subjectivation and the subject-process. As we know from Lacan, the subject is split. Badiou uses two terms for designating the different aspects of this split or barred- namely subjectivation and subject-process.

Thus, these two terms capture the torsion which is the subject itself: ‘the divisible unity of subjectivation and the subject-process’ Subjectivation marks the moment of the subject’s emergence while subject-process describes the subject’s persistence and refers to the process of the creation of a new order or a new regime. Subjectivation designates something like the subject’s sudden appearance in the structure, the subject-process entails a recomposition of the structure. In Badiou’s terms: ‘subjectivation designates the subject in the principle dimension of interruption, the subject-process in the dimension of recomposition’

Subjectivation depicts how the structure is split by force, which reveals its incompleteness, but this does not equate the subject with force or interruption, because this force is itself split by structuring, by being made into a re-composition. The subject is something like the appearance of lack: ‘it makes lack be’ (Badiou)

The meaning of affects

In Badiou’s framework, subjectivization is split between the style of anxiety and courage while subject-process includes the attachment to a superegoic Law or the pursuit of justice. Subjectivization is more passive and names an interruption: I am seized by an event, a decision occurs inside me whereas subject-process is more active: choice, deliberation, doubt or loyalty to my true being, are part of the process. For Badiou’s material view, the subject drained with agency, is an effect. Thus, affect designates ‘the mode of consistency of the subject-effect’.
Anxiety is a foundational affect to the Badiouian theory of the subject. A subject theory shows us that it is not so much when our public ideal or ego is affected that we are most vulnerable. By contrast, we reach a state of anxiety when, suddenly, our existence as a desiring subject is threatened. A subject theory argues that the Real of resistance is not so much a technical dysfunction or a management problem; on the contrary, it is an affective experience grounded on anxiety, to which Lacan dedicates a seminar, and which he defines as follows:

When something appears there, it is because, if I can express myself in this way, that the lack is lacking. [...] I would just like to point out to you that many things can appear which are anomalous, this is not what makes us anxious. But if all of a sudden all norms are lacking, namely what constitutes the lack —because the norm is correlative to the idea of lack— if all of a sudden it is not lacking —and believe me try to apply that to a lot of things— it is at that moment that anxiety begins. (Lacan, 1962: 35)

Lacan defines anxiety as the lack of lack, which Glynos relates to the subject’s threat to his existence as a subject of desire. The extinction of subjectivity potentially produces either catastrophic acts such as suicides in the workplace (Bègue and Dejours, 2009), or acts of courage, such as taking the risk of a confrontation with management, facing a rapport-the-force through strike or a constructive negotiation.

Glynos typically captures this apparent paradox of anxiety when describing the ironic effects of the permissive liberal-capitalist dream, which promises a world of leisure and sexual freedom, free from the barriers and mediation constitutive of social relationships:

Our commonsense view predicts that the removal of social and technological barriers will result in a healthy burgeoning of pleasurable experiences. That is what a permissive liberal-capitalist ideal might be seen to promise. But, due to the impossibility inherent to desire, we have an alternative and plausible model with which to explain why the removal of obstacles may lead to a far oppressive state of affairs in which we are threatened with the very extinction of our desire, and therefore of ourselves as subjects of desire. This occurs precisely when we are suddenly presented with the real possibility of actually living our fantasy. The prediction is that the kind of acting-out this type of threat elicits is of a potentially much more violent sort than one in which our self-image or public ideal is blocked or under threat. Why? Because what is at stake is our very being, that which sustains us as fundamentally desiring. (Glynos, 2010: 203)

However, as Lacan states, ‘there is no such thing as a sexual relationship’, which means that even when the barriers seem to be removed, the sexual encounter does not function as I wish, it resists, it does not tick right. There is always a but.
Badiou’s complements Lacan’s theory with the notion of courage. Destruction should occur twice for an act to succeed, as in Badiou’s reading of the Marxist act: first, the destruction of the *classes* at a political level, and second the destruction of the *proletariat* itself at an affective level. The subject of the second destruction requires more than a double negation; it requires a more purely wilful element, which is the subject (Hallward, 2003). The crucial point is that, for Badiou, the subject is this *force exception*, which is the outcome of anxiety, of lack of lack and which therefore comes in a second moment:

The lack of the lack… is not twice the lack… It requires something more. (…) I provisionally called subject this unpredictable bifurcation. Any subject is a force exception, which comes in second place. (Badiou, 1999: 88)

Anxiety and courage are chosen for Badiou to designate the way political subjects react to an insurrection- not so much as a distinction but rather as a continuum. While anxiety seeks the *destruction* of the symbolic (Badiou uses the example of suicidal riots as temporary outbursts), courage challenges the law and seeks its *recomposition*: ‘Courage positively brings about disorder in the symbolic, breakdowns in communication, while anxiety calls for their death’. While anxiety is a destructive impulse seeking the destruction of the possibility of communication itself, the risk of breakdown in communication is necessary for the new to emerge. The paradox is that for Badiou, anxiety generates the destruction of destruction, namely there is a manifestation of affects which remains impotent to change the law and finally reinforce it. There is even here a secret *jouissance* to restore what is destroyed. In Badiou’s terms, in subjectivization, the act precedes the reasoning, there is a logic of excess at stake, a too-much-of the real: courage is a successful ‘wager on the real’ which relies on the division of the law. In contrast with anxiety, it succeeds in ‘putting law to the test, instead of calling for its restoration’ (Badiou, 2009: 311). Justice differs from superego in the sense that ‘justice relativizes law whereas superego absolutizes it’ (Ibid: 311). While superego is restorative, justice is instituting of a new social order or regime.
For Badiou, every subject-effect is a knotting together of subjectivation and subject-process. In particular, Badiou foregrounds two main subject-effects through the pairs anxiety-superego (designated with the Greek letter: \( \psi \)) and courage-justice (designated by the Greek letter: \( \alpha \)). The ethics which Badiou praises consists in favouring \( \alpha \)-series as much as possible – an embrace of the new (Pluth, 2010). Badiou also attributes meaning to the two other correlations and allows the possibility for linking anxiety and justice which he names scepticism and courage and superego which he names dogmatism and constitute two formal concepts of ideology. Badiou says the diagonals have an imaginary function of suturing, in the dialectic of lack and excess, it fills the psychic role of the ego, it provides similitude, identity and imaginary cohesion. I would relate scepticism to work studies where cynicism or derision prevails where workers are complicit with their own subjection. For Badiou’s scepticism manifests itself through fatalistic discourse:

In the factories, the fatalistic discourse is very well implanted. ‘Workers will be workers’, ‘We will always be fucked over’, ‘Here nobody wants to do anything’, and so on. Defeatism is the spontaneous philosophy of Proletarians. Although he coarseness and stupidity of this discourse are dis-couraging, for those who are enlightened by the theory of the subject it is nevertheless a divisible and precarious historical production. An organized micro-confidence (a communist workers’ group) locally disrupts its rule. (Badiou, 2009: 328)

On the other side, dogmatism designates those courageous acts which never traverse the fantasy of the superegoic law and lead for instance to overinvestment at work and blockage by overemphasising the subject’s own potency. For Badiou, it is associated with active nihilism distinct from passive nihilist: ‘Active nihilism valorises only itself. This is always better than to end up tolerating the world.’ (Badiou, 2009: 329).

Badiou foreshadows various knotting together of affects which are summarized in the following table:
### Organizational studies from a Lacanian perspective

In this section, I will address more specifically how Lacanian notions such as embodiment or language have enabled to rethink our embodied presence and impact on our teaching, research and theorizing about management and organization studies.

### Materiality and embodiment in organizations

First, the Lacanian lens offers a relevant framework for addressing the neglect of materiality in post-structuralist management and organization theory, which is identified by Fotaki et al. (2014).

In particular, recent reviews in organization theory have addressed the various approaches to materiality. For instance, Philipps and Oswick (2012) focuses on organizational discourse in relation to matter and review its application in various empirical contributions to the understanding of organization and management, in order to study topic of identity, strategy, and organizational change. These authors problematize the position of discourse in relation to materiality, which may be connected (discourse and materiality) or
co-constituted (Iedema, 2007: 936) - discourse as materiality. Furthermore, Philipps and Oswick (2012) invite researchers to introduce methodological plurality and to combine discourse with non-discursive approaches, as approaches cashed out in terms of discourse as materiality may neglect other forms of materiality.

Further, materiality or matter can be decoupled from technology and called a matter of concern, something which concerns, preoccupies, or mobilizes a person. From this perspective, there is no divide between the world of materiality and the world of discourse and communication (Latour, 2008; Cooren et al.) However this account is still minimal and adhoc. Ashcraft et al. (2009) points at the neglect materiality in communication studies where dualism between the mind and the body prevails and symbolic activity is viewed as superimposed on material forces. However, bodies reject the say of symbolism by enduring pain, injury, illness, death, hunger, reproduction, aging (Riach, Rumens, Tyler, 2014), and this is especially important in management studies where disembodied notions such as strategy, institutions or corporate governance have prevailed historically (Ashcraft, 2009).

Lacanian approach to materiality in organization typically addresses how subjective notions of competence and identity are corporeality navigated (Benhabib, 1995). The body typically relate to professional identity and is seen as something to be managed and disciplined. The body is often absent from the study of white collars and knowledge workers as if the body was peripheral to the work they perform, in contrast with the body related to ‘blue collars’ and ‘dirty labour’ (Ashcraft et al. 2009). Bringing the body back to work consists in asking whose body does matter or not, and identifying what are the manoeuvres through which the erasure of the body occurs (Ashcraft, 2008). Approaches driven by psychoanalysis have paid attention to the sexuated subject and led to better reflection about the subjectivity of researchers itself. The study of work and organizations implies that workers, including academics writing these papers, are not disembodied subjectivities but
have specific musculatures, organs and are subjects to specific affects, pain and pleasure being associated with their sexual idiosyncrasies (Fotaki et al., 2014). Thus, the diversity and complexity of emotions are increasingly addressed to understand people’s experiences of workplaces and organizations (Walkerdine & Jimenez, 2012; Glynos, 2010; Frosh, 2010; Hey, 2006). Language and its associated practice such as writing or speaking, emerge from the body, which is a sexuated body. This understanding leads feminists scholars to call for parodic performances or re-writing practice, which echoes Fotaki’s call for a feminist écriture (Fotaki et al., 2014) for organization studies. The latter constitutes an attempt to consider academic writing itself as a bodily act rooted in the materiality of language.

Gender relations at work

Second, by responding to the need for more sexualized and embodied view of work and organizational life, Lacanian theory manages to address the way organizations ignore the gender dimension (Fotaki et al. 2012).

This leads us to another crucial aspect, namely that discourse is not only sexuated but also gendered. Thus, gender approach to work and organizations typically draws on Judith Butler, and her well-known distinction between sex and gender, to draw attention to gendered aspects and to understand gender in organizations (e. g. Kenny 2009). Butler argues that the practice of gendering is performative by constituting mundane practices within societal norms, practices which themselves instantiate and produce intelligible subjects as such. Thus, in the organizational field, there is a growing interest in Butler’s work on performativity (Borgerson, 2005; Tyler and Cohen, 2009) and her theory of subjectification (Kenny, 2010; Harding, Lee, Ford and Learmonth, 2011).

However, gender is most often ignored or under-valued in organizational theory. Witz invites the sociology of the body to consider how gendered bodies have always enjoyed varying degrees of absence or presence in the sociological imaginary (2000). However, there
is an increasing recognition of gender-sensitive approaches to organizations, most notably through the influence of post-Lacanian philosophers including Luce Irigaray, Julia Kristeva and Hélène Cixous. These studies have theorized the absence of women from the symbolic space (Cooper, 1992; Höpfl, 2000; Philipps and Rippin, 2010; Kenny and Bell, 2011), as well as how the sexed subject is constituted in the workplace, through the exclusion of women (Vachhani, 2012).

In a reflexive, gender-sensitive reflexion on academic work, Fotaki and Harding (2012) propose an academic politics involving a self-conscious, bi-sexual hysterical\(^\text{10}\) position for critical management scholarship, which fundamentally is hysterical, by criticizing the system to which it belongs. Reference to bisexual stems from Freud who associates hysteria with people who identifies with members of both sexes and cannot choose their sexual identity. According to Fotaki and Harding, the hysteric position is the optimal one as it allows researchers to avoid, as much as possible, slipping into the discourse of the master, a position averse to research’s imperative for change and innovation.

**Power relations in organizations**

Third, Lacanian theory offers an appropriate vocabulary for thinking power relations and subjection in organizations and work context.

From this perspective, subjectivity, identity, resistance or power relations are seen as specific discursive practices located within complex network of signification, whose deconstruction enables possibility for transformation and change (Mumby, 1996). In particular, Lacanian theory offers the vocabulary to understand the paradoxical *desire for subjection* at the workplace, well illustrated, for example, by Stavrakakis convincing interpretation of the well-known series of experiments directed by Stanley Milgram at Yale.

\(^{10}\) They do a feminist reading of Lacan’s theory of discourse in Seminar XVII and propose a Lacanian model of reflexivity to critical management studies, drawing on the four dominant discourses—the university, the master, the hysteric and the analyst.
University in the early sixties. This study addresses the phenomenon of obedience, which manifested itself in contexts such as the Holocaust. The experiment was designed to verify to which extent and under which conditions people would accept to obey the scientist/experimenter and to punish another person by subjecting it to ever-higher level of electrocution. Most of the participants did, thereby committing acts that would disavow their openly stated values! Stavrakakis is interested in the binding factor, namely that most people are prepared to accept anything coming from a source of authority. There is a structural and structuring role of the command, here justified ideologically by the acceptable idea of science, without which social reality would dissipate. Finally, Stavrakakis called the organized Other, the one who embodies the symbolic command, whose function is to consolidate and ‘manage’ the lack, and which is equally lacking, enabling the subject to potentially escape the subjection.

The Lacanian view about the implications of the division of the subject at work, between the ego and the barred subject $ (Arnaud and Vanheule, 2007) provides a language to make sense of complex psychic mechanisms of criticism-cum-obedience at work. Lacanian studies typically look at how subjects are complicit with their own subjection, taking an apparent ironical or cynical distance with the Law, yet enacting the Law nonetheless. Prolonging the tradition of labour-process theory, Lacanian studies have thus typically facilitate understanding of issues of misbehaviour, derision at work, and cynicism in the workplace (Fotaki, 2009; Grugulis, Knights and Wilmott, 2001; Knights and Willmott, 1990; Faÿ, 2008). Such defence reaction have been well captured by the metaphor of a decaf(feinated) resistance (Contu, 2007) as opposed to Real act, which is solely capable of changing the socio-symbolic configuration.

I now need to turn to politics and the theory of ideology, more in-depth, as it has been theorized in organizational studies and, and in a more systematic way, in political theory.
In this chapter, I have introduced the theoretical foundations of my thesis by drawing mainly on subject theorists. Thanks to the work of Ed Pluth, I have presented the subject as an interaction between sexuality and discourse, which has led me to revisit the usual understanding of materiality and embodiment in technology and work studies. I have addressed more specifically the affective dimension of the Real, this part of ourselves that resists any attempt to make sense of it. In the following chapter, I will address the notion of politics – how new articulation is rendered possible – and ideology, namely the phenomenon through which acts of identification become collective and produce wider effects.
Chapter 3: Bringing politics back to information systems
What are the broader social and political implications of affective and biographical realm?

Many issues raised by the development of the internet economy require a better understanding of affect: the insertion via social networks of embodied performances into the machinery of data production and collection, the regulation of users’ enjoyment and sexuality and issues of privacy and confidentiality, to name but a few. While affect/emotions have featured progressively in the IS social constructivist literature, this account always runs the risk of being an ad-hoc account of the existing sociomaterial account. In fact, the politics of the subject can be conceptualized as force, and in this sense it has nothing to do with a complaisant, touchy-feely account of emotional life. Based on the above, we know that subject-effect is a political and affective process, which comes in second place. I will now turn to the politics of affect in order to explore the potential post-structural theory – its politico-structural and affective-ideological dimension - to study innovation and organizational transformation.

The centrality of consent

Articulation and hegemony

As we have seen in the first chapter of this thesis, the question of consent is absolutely central to Burawoy’s book. In his own words, his project consisted precisely in translating Gramsci’s vision from the political to the organizational arena. As Burawoy recalls, in ‘Americanism and Fordism’, Gramsci, in one of his rare incursion into the field of labour process in the United States, makes the following statement: ‘hegemony here is born in the factory’. Burawoy sees his own book as an elaboration on this brief but suggestive comment:

In contrast to the conventional wisdom among both Marxists and post-Marxists, I propose to demonstrate how consent is produced at the point of production- independent of schooling, family life, mass media, the state, and so forth.

Thus, Burawoy departs from Marx by stating that people work harder, because they are subject to hegemonic rather than a despotic regime of production. In other terms, consent
rather than fear ruled the workplace (Burawoy, 2012). No longer does management rely on arbitrary rule like in early capitalism, management had to persuade workers to deliver surplus and constituted game as the social structure in the factory: management had to manufacture consent. The economic process of producing things through games turns out to be both a political process, by reproducing particular social relations - at an objective-structural level, and an ideological process, by producing consent to these relations - at a subjective level (Burawoy, 2012). Burawoy’s thesis is that the game comes to compensate the degradation of work and the organization of work holds the worker’s subjectivity even deeper: ‘The craftworker of the 19th century (…) exhibits deeper class awareness of exploitation than the autoworker of the 20th century.’ (Burawoy, 2012: 11) More work needs to be done to develop a proactive strategy and demonstrate how such subjective claims and acts may, in turn, modify social structures.

A crucial contribution to the theory of hegemony is of course the work of Laclau and Mouffe (1985), Hegemony and Socialist Strategy. The concept of hegemony can be understood as the ‘organization of consent’ (Barrett, 1991), i.e. the way through which subordinated forms of consciousness are constructed without recourse to violence. According to Howarth (2009), the notion of hegemony bears two dimensions. In the first place, it is a (1) practice of coalition-building, which involves the linking together of disparate demands to forge projects that can contest a particular form of rule, practice or policy. Laclau and Mouffe borrow Lacan’s notion of point de capiton to capture this practice of articulation as ‘the construction of nodal points which partially fix meaning.’ (1985:13) The point de capiton is the notion which Lacan introduces to provide a mechanism from which out of arbitrariness some sort of fixity can emerge, some sort of stability at the level of discourse, at the level of the sign. In psychoanalysis, when this elementary fixity of the signifier is missing, the analyst deals with a case of psychosis (Lacan, : ) Further, Laclau and Mouffe introduces the notion of
articulation, which describes the way in which ideologies emerge by bringing discursive elements that do not have pre-assigned political significance into a ‘relation of equivalence’. Thus, ideology pertains to the way discursive elements are combined, which provides each specific discourse with its ideological significance (Purvis and Hunt, 1993).

In the second place, hegemony is also the outcome of contesting projects and constitutes therefore (2) a form of governance which pertains to the way actors get attached affectively to specific practices. Central to hegemony strategy is the production of tendentially empty signifiers (Laclau, 2000) which explains how social formations are constructed around impossible and always-contestable objects of discourse (Laclau, 1996). For example, Laclau demonstrates how the hegemonic project of Thatcherism was able to elaborate and institute a new set of nodal points articulated around signifiers such as the ‘strong state’ or ‘free economy’, and by instituting a new discursive configuration. This project was able to inculcate a set of concrete practices (‘strong leadership’, ‘entrepreneurship’).

Finally, the ‘ultimate fixation of meaning’ (1985, ibid) is always incomplete - impossible and necessary - and Laclau and Mouffe use the surgical metaphor of suture, again drawn from Lacan, in order to remind us that the traces of the old regime cannot be destroyed by the new. A residue always remains, like a scar marking a difference when the flesh is cut:

Hegemonic practices are suturing in so far as their field of operation is determined by the openness of the social, by the ultimate unfixed character of every signifier. The original lack is precisely what the hegemonic practices try to fill in. (Laclau and Mouffe, 1985: 88)

The above quote allows us to create a bridge between Lacanian theory, political theory, and organization studies à la Buravoy. In other terms, what is at stake here is the centrality of consent (Buravoy) in any work practice, including technology-in-practice- this centrality is not only structural/political (Laclau) but also affective/subjective (Lacan). I will now turn to the notion of ideological fantasy in work practice.
**Ideological fantasy at work**

Within the Essex school, Jason Glynos’ scholarship has explored more deeply the ideological significance of affect.

His work prolongs the interpenetration between the Laclauian and Lacanian discourse, especially by exploring the potential of the logic of fantasy, to study work practices, which are our interest in this thesis. Far from reducing ideology to false consciousness, Laclau’s and Mouffe’s seminal work inverted the good old Marxist proposition. Thus, Laclau’s theory maintains the Marxist concept of ideology and the category of misrecognition by inverting their content. It can therefore be described as *post*-Marxist because of its anti-essentialism:

The ideological would not consist of the misrecognition of a positive essence [an illusion as to real class interests, for example], but exactly the opposite: it would consist of the non-recognition of the precarious character of any positivity, of the impossibility of any ultimate suture. (Laclau, 1990: 92)

In other words, the *invisibility* of contingency is constitutive of ideological misrecognition, and the critical intervention aims to render contingency visible. Thus the work of Glynos consist in connecting Laclau’s view of hegemony to Zizek’s Lacanian development on fantasy:

The fundamental level of ideology, however, is not that of an illusion masking the real state of things but that of an (unconscious) fantasy structuring our social reality itself. (…) Cynical distance is just one way – one of many ways – to blind ourseves to the structuring power of ideological fantasy (Zizek, 1989: 30)

The key idea here is that the deviation from Marxist (or liberal) theory of ideology is not only epistemological but also ontological- ideology is not an illusion, as in false consciousness, but pertains to the way any social reality itself is constituted. For Glynos, it is not the description of ideology’s content which matters but rather its ‘capacity to account for an
ideology’s *grip*, its power to transfix subjects’ (2001: 192); in other terms, how ideology manages to exert its hold over us.

Study of workplace practices need to focus on ideological fantasies as it is not enough to understand the discursive patterns if we wish to make sense of social practice, we must also analyze the degree of ‘libidinal investment’ they arouse in the relevant actors (Ekman, 2013). There is indeed a research avenue addressing the power of fantasies to structure the motivations underpinning much economic and production practices (e. g. Cederström and Grassman, 2008; Kenny, 2012; Sköld, 2009; 2010). These studies, most often positioned within the field of critical management studies and inspired by discourse analysis, typically look at workplace practices in terms of logics. Instead of describing the content of the fantasy, these studies look more specifically at the mode of attachment of social actors to their fantasy; the greater the attachment and dependence towards the fantasy, the stronger the ideological grip. As being overinvested in a fantasy, any attempt to destabilize the subject’s fantasy narrative, will be experienced as a threat and generate anxiety.

A core distinction is the one between ‘ideological’ and ‘ethical’ logics in a fantasmatic context. Put briefly, the ideological logic involves a subject struggling with competing hyper-intense fantasies, whereas the ethical logic involves a subject struggling with her or his tendency to fantasize at all (Ekman, 2013). On the one hand, the ideological logic of fantasy intends to repress the social contingency of human practices and to fill the void with fantasy images of fulfillment. On the other hand, the ethical logic seeks to endure the social contingency of practices by reducing fantasmatic over-investment. This is reminiscent of Badiou’s distinction between superego and justice or the Lacanian distinction between phallic and non-phallic *jouissance*. The difference pertains to the extent to which the ‘lack in the Other’ is acknowledged or not.
In their study of the organizational culture of a nearly hegemonic IT corporation, Cederström and Grassman (2008) provide a telling application of the logic of fantasy to analyse Google’s workplace Googleplex, describing how the employee is encapsulated inside the Googleplex. With four buildings totalising 47,038 m², the Googleplex includes numerous cafés, gyms, and other exciting facilities designed for recreational activities, free-meals, onsite doctors, a replica of SpaceShipOne and a dinosaur skeleton.

The injunction to ‘be yourself’ precipitates the indistinction between working-self and authentic-self to an even greater degree than do normative control systems. Its blend of work and recreation – an intermixture of fun and seriousness – disintegrates Homo faber (the working man) to allow for Homo ludens (the playing man). The formula of the neo-normative perspective is that work should not be considered as a necessary evil that one is forces into, but as a hobby that one pursues and which expresses the radical ‘edge’ of oneself.

The Googler is not freed from superegoic pressure, but is even more insidiously subjected to normative control; the injunction is not conform with the corporate ideal but an ambiguous injunction to ‘be yourself’ which apparently obliterates the distinction between the private self and the oppressive institution. In other terms, infantilization is not antonymic but partakes to the logic of neo-normative control; it defines the modern man who stubbornly refuses to grow up, as in Virilio’s Peter Pan world. Ideological fantasy captures this logic, which sets forth a fantasy-world that encapsulates and comforts the employees.

Kenny (2012)

Another classic example of fantasy analysis at work is Contu and Wilmott’s reading of Orr’s famous ethnographic study *Talking about Machines* (1996). In this study, Orr shows how in practice the work of photocopy repair technicians involved the construction of hero narratives and war stories and that this process is central to the employees’ work. By transgressing the management’s explicit documentation and procedures, the copiers repair copiers with greater efficiency and higher success rate than would have been the case by
obeying the prescription. This transgression not only solidifies the identity and sense of belonging within the community of copiers, it also enables them to derive recognition and motivation from their boring work. In Lacanian terms, these technicians enjoy (real) and take pride in (imaginary) a form of transgression of Xerox’s bureaucratic procedures (the symbolic Law). Contu and Wilmott illustrate how the technology organizes the desire of their users and provides them with the energy and the drive required for their tasks. The copier’s machine is invested with fantasmatic properties that far exceed its concrete materiality. The machine is characterized in their stories as being ‘recalcitrant, annoying, fascinating and whimsical’ and even ‘potentially humiliating’. The machine serves as the object ‘through which the technicians live out the fantasy of heroism, freedom and autonomy by battling to control its performance’ (Contu and Willmott, 2006: 9). Contu and Wilmott interpret the ‘war stories’ of Orr’s study, where individual workers take pride in bypassing and transgressing management’s explicit documentation and procedures. The irony here is that, for these authors, this guilty pleasure of transgression is the cynical twist through they sustain, protect and reproduce the social relationship, which reproduce the (capitalist) relations of domination.

**A logics approach to change**

I will now address the work of Glynos and Howarth, who have highlighted the category of *logics* as the units of explanation of this dialectical movement governing practices. What does all this mean empirically in the study of IS and organizational change? What constitutes evidence of the operation of logics?

**Regimes and practices**

An affect-based ontology posits the notion of articulation as foundational to the practice of hegemony. Central in this account is the triangular relationship between regimes and two kinds of practice, namely social and political.
Based on the above, one can argue that from the ontology described by Glynos and Howarth, practices are governed by a dialectical movement between incomplete structures on the one hand, and the collective act of identification that reinforces or transforms those incomplete structures on the other. Glynos and Howarth define social practice as ‘the ongoing, routinized forms of human and societal reproduction. They are thus largely repetitive activities that do not typically entail a strong notion of self-conscious reflexivity’.

Various everyday activities such as driving, lecturing or the respect of rules of politeness are conducted and reproduces a particular system of social relations without being challenged or without putting into questions the rules sustaining these practices. The notion of logics leads Glynos and Howarth to understand the way social actors make sense of the practices they are involved in: ‘the logic of a practice comprises the rules or grammar of the practice, as well as the conditions which make the practice both possible and vulnerable.’ (2007: 136) From this perspective, the role of the contextualized self-interpretation of the actors engaged in practices, is central in attributing a certain identity and a certain coherence to those practices themselves. *Thus, the social logic captures what rules, norms and self-understanding inform a practice.*

Specific events, such as technological innovation, may provoke the dislocation of existing systems of social relations and render visible their contingency. Such conditions enable the emergence of political practices which ‘comprise struggles that seek to challenge and transform the existing norms, institutions and practices – perhaps even the regime itself – in the name of an ideal or principle.’ Political practices bring about a transformative effect on existing social practices. *Thus, political logics enable us to understand the way a social practice or regime was instituted or is being contested and instituted. The political logic aims at showing how social practices historically come into being or are transformed.* The invocation of a political logic is a *practice of articulation* understood as ‘the construction of
nodal points which partially fix meaning’ (Laclau and Mouffe 1985: 113). Articulation consists in gathering heterogeneous elements under a name; in other terms, it is ‘the creation of something new out of a dispersion of elements’ (Laclau 1988: 16).

Glynos and Howarth connect the macro-micro contrast with the distinction between regimes and practices (2007). In their model, the notion of regime seems to be synonymous with structure, order or systems; however, the word has a more specific ideological dimension, a system of meaning or ‘grammar’; identification with a certain technology-in-practice (Orlikowski, 2000: 408) requires the consent to a specific ‘regime of truth’ (Foucault 1991: 73). In Glynos and Howarth’s terms: ‘regimes have a structuring function in the sense that they order a system of social practices’. In a moment of dislocation, new possibilities become available and subjects may identify differently. These new forms of identification may take the form of political practices. Moreover, ‘in characterizing a regime, we also describe the context of the practices under study, since a regime is always a regime of practices.’

Political attempts to construct a new logic may become hegemonic by managing to link various demands together across a variety of social sites, resulting in the institution and consolidation of a new regime and the social practice that comprise it. The table below summarizes the triangular model:

<table>
<thead>
<tr>
<th>Regime (Order, system, discursive formation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structural</td>
</tr>
<tr>
<td>Work Practice (reinforcement)</td>
</tr>
<tr>
<td>Transformation</td>
</tr>
<tr>
<td>Political Practice (transformation)</td>
</tr>
</tbody>
</table>
Rituals and enjoyment

Other studies consider how technologies are invested with meaning and symbolic processes within the organizations in which they operate (Meyer, 1982; Markus and Pfeffer, 1983; Markus and Robey, 1988; Prasad, 1993). Although these approaches perceive how signifying processes impact on the social realm, these are not central to this process. As a result, affect and signification are mentioned only in passim.

Prasad (1993) argues that symbolic interaction is appropriate to study technological change because of its emphasis on the processes whereby individual meanings crystallize into taken-for-granted realities. In his study of the computerization of a health maintenance organization, Prasad demonstrates how computers symbolize professionalism; this renders the technology more desirable, excludes serious opposition and ensures long-term commitment to computerization. In particular, Prasad provides the example of a receptionist refusing to report certain technical problems with her terminal because she feared that her computer would be taken away, and with it the prestige she enjoyed in her family. Prasad does not demonstrate that enjoyment is constitutive of whether receptionists perform their roles efficiently or not. In other words, enjoyment is here seen as futility on the part of the receptionist, not as an agential characteristic.

Furthermore, semiotic studies state that anything can be an expressive sign capable of signification. Semiotic analysis enables the study of interpretive systems and considers the processes by which expressions - or signifiers - are linked to their contents – or signified (Barley, 1983). Thus, Barley examines the rituals of funeral work to show how preparing a body, choosing the design of the coffin and removing deceased persons from their homes are...
not merely the routine activity of funeral work. These routines are also linked to a common interpretive scheme through which the funeral director tries to moderate the emotional distress of the participants and to construct an impression of naturalness. In such studies, affect is regarded as a problem, a dysfunction of the ritual or the choreography, a contextual element of a funeral which needs to be addressed and disciplined. In other terms, affect is viewed as a weakness and not as a force, as passive and not active materiality. Affect is deprived of agency and is ontologically de-skilled. While these approaches refer to the affective consequences of the symbolic, this account is ad-hoc and still tends to keep affect and language separate; signification, meanwhile, appears as a closed system of meaning with its own independent logic.

Furthermore, studies have already looked at the development of information systems as a political process (Robey and Markus, 1984). From this perspective, system design does not comprise only the logical features of a rational process, but also rituals, namely symbolic behaviours which reinforce the prevailing belief system in an organization:

Rituals in systems development function to maintain the appearance of rationality in systems development and in organizational decision making. Regardless of whether it actually produces rational outcomes or not, systems development must symbolize rationality and signify that the actions taken are not arbitrary, but rather acceptable within the organization’s ideology. (Ibid: 12)

These authors illustrate their claim through Meyers’ study of hospitals, where computerization symbolizes the organization’s ‘corporate cybernetic ideology’. The choice and use of computers signal to employees and clients that the organization favours an efficient and progressive management. However, the inter-linkage between emotions and rationalizing ideology is not addressed. Rituals are here to ‘maintain the appearance of rationality.’ As such, this may be read as an instrumental and cynical description of the concept. These authors do not explain why we enjoy rituals, nor why we are immersed into
them. While these approaches refer to the affective consequences of the symbolic, this account is ad-hoc and still tends to keep affect and language separate.

In the IS field, Robey and Boudreau (1999) have, for example, already theorized the notion of logic of determination and logic of opposition to explain organizational changes by identifying tendencies that promote and those that oppose change; yet they do not account on the force that such logics need to perform a reversal. Perhaps one of the core merits of Glynos and Howarth’s logics approach is to foreground this affective dimension, at an ontological level, no merely epistemological. While in either case, the sign is a unit of analysis, Lacanian theory differs from semiotics, precisely by conferring priority to the signifier, not the signified as in the work of Saussure. As we have seen above, the Lacanian barred subject is characterized by an ontological arbitrariness. Furthermore, the Lacanian notion of jouissance (enjoyment) accounts for the resilience of a host of practices and rituals. This notion is helpful to capture this ‘embodied materiality of practices’. As Reckwitz put it: ‘when we learn a practice, we learn to be bodies in a certain way (and this means more than to ‘use our bodies’)’ (2002) The function of fantasy is thus to provide practices with direction and energy. Reckwitz’s notion of ‘learning to be bodies’ deeply resonates with Zizek’s statement: ‘through fantasy, we learn how to desire’. When successfully installed, a fantasmatic narrative hooks the subject – via the enjoyment it procures – to a given or promised practice or order. An ideological fantasy is a narrative that conceals the contingency of practices by providing an image of fullness, on the one hand, and conjuring up threats and obstacles to its realization on the other. Thus, the notion of fantasmatic logic captures the extent to which a social practice can tap into the subject’s mode of enjoyment and fantasmatic frame (Glynos and Howarth, 2007) It explains why subjects are gripped by a specific practice or regime.
Based on this politico-affective account, transformation of a practice or regime of practices takes place at the level of norms (the socio-political contents of the fantasy) but also of the subject’s relation to that fantasy (his/her mode of enjoyment).

To capture whether subjects are complicit or not with their own subjection, Glynos and Howarth introduces a distinction between the ethical and ideological pole of fantasmatic logic. To reproduce or transform themselves, hegemonic orders can first utilize the socio-political reality. The social and political dimensions pertain to how actors engage with norms—either by reproducing dominant norms or by contesting them. Second, hegemonic order holds on through a specific ‘administration of enjoyment’ (Stavrakakis, 1999) and transformation occurs in the mode of enjoyment. The fantasmatic logic is divided between the ideological and the ethical dimensions which speak to the way actors cope with the contingency of social relations. When confronting, for instance, with the choice and adoption of a new technology, subjects’ confront the contingency of the social relations more directly than at other times.

Glynos and Howarth capture the difference between two modes of enjoyment through the notion of authenticity, through which they aim to capture a subject’s openness to the contingent origin of social relations— the emergence of the new or the surprising. Thus, an authentic response is ethical and an inauthentic response is ideological. Dealing with notion of authenticity requires a complete immersion: the notion is used in IS by Schultze as a feature of high-calibre ethnography to demonstrate that the ethnographic researcher was indeed immersed in the field (2000). By inauthentic, Glynos and Howarth means that the subject is complicit in concealing the radical contingency of a practice. While ideological inflection may lead to political success by providing a powerful motivational energy, it often leads to disappointment because the outcome of this investment rarely encounters one’s fantasmatic expectations. At the other pole of the spectrum, political mobilization wherein a subject has already taken a detachment from its fantasy, is likely to be ‘long-standing,
dynamic and innovative’ (Glynos, 2008). Thus, Glynos and Howarth’s framework can be summarized as such:

<table>
<thead>
<tr>
<th>Modes of enjoyment</th>
<th>Norms</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Social</td>
</tr>
<tr>
<td>Ideological</td>
<td>Overinvestment</td>
</tr>
<tr>
<td>Ethical</td>
<td>Authentic investment</td>
</tr>
</tbody>
</table>

Adapted from Glynos (2008)

In Table 1, the socio-ideological axis characterizes a social practice which is deeply sedimented because routine and ideological closure are predominant. The political-ideological axis depicts case where contestation occurs at the level of norms, providing an alternative fantasmatic content, but the subjects’ relation to fantasy remains stuck in the mode of overinvestment. The socio-ethical axis presents the case of a subject’s mode of enjoyment shifting in a way that does not disturb the existing social norms: e. g. the subject get a detachment with the fantasy sustaining his social reality. Finally, the politico-ethical axis presents the situation where the shift in one’s mode of enjoyment is accompanied by the public contestation of social norms (Glynos, 2008).

Let us finally illustrate this issue with an example. Fit Coin is a new app that allows users to monetize their visits to the gym. The mechanism is simple: the app is incorporated with popular activity trackers and wearables, and converts our heartbeats into a digital currency. Fit Coin’s founders hope that this currency can be used to buy exclusive goods from partners such as Adidas or to lower your insurance payments: ‘what was previously done for pleasure or merely to conform to social norms is now firmly guided by the logic of the market. The other logics don’t disappear, but they become secondary to the monetary incentive.’ (Morozov, 2015). The ritual of paying through a virtual currency materializes the game
through which the imperative for performance and productivity is ensured. However, pleasure is not enough and what holds the users (at least, in the hopes of the designers of the app) is that this pleasure is oriented by the capitalist fantasy for performance and money making. Whether the user’s libidinal investment is authentic or not would need to be confirmed through rigorous data but it is likely this game mechanic would generate over-investment on this new logic of the market, just for making money out of their performances, rather than for the genuine pleasure of engaging in healthy sport activity.

***

At this stage, before addressing the context of this study and exemplify how a better integration of affect and ideology might illuminate studies at the crossroad between organization and information systems, it becomes urgent to recapitulate the theoretical contribution. Some readers might feel puzzled by how many theories are brought together and may legitimately question how do these theories speak with each other. I have dedicated a whole chapter to Lacan and the centrality of Lacanian theory in this thesis is hard to deny; he clearly is, as well as his concepts, derived from the clinic, the centre of gravity of the theoreticians I have mobilized, hence his importance in this thesis. But as I said in the end of Chapter 1, this thesis is also an interrogation of the genre of practice-based studies, as conceptualized by authors who see the notion not merely as level of analysis but as a literary genre of conducting ethnographic work (Nicolini, 2012). Thus, another common point between the authors I have mobilized is that subjectivity is their main concern; they all describe various variation of a subject theory, although there is not unified theory of the subject. More empirical work needs to be done to demonstrate the ethnographic evidence of a subject theory and this will be the core of the next parts. Again, I would like to underscore that it is probably too early to dismiss the practice imaginary from which this work
originates; therefore, it is probably better to let the readers judge to what extent practice and subject theorists may engage with each other. However, before digging deeply this empirical avenue, I will now recapitulate in the following table the theoretical frameworks which I have mobilized so the reader can immediately grasp why they matter for the study technology in organizations:

<table>
<thead>
<tr>
<th>Grand theory</th>
<th>Core notions</th>
<th>Organization and information theory</th>
<th>Core notions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lacan</td>
<td>Imaginary/Symbolic/Real</td>
<td>Braverman</td>
<td>Deskilling technology</td>
</tr>
<tr>
<td></td>
<td>Logic of fantasy / jouissance</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Materiality of the signifier</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Althusser</td>
<td>Ideological materiality</td>
<td>Davis</td>
<td>Technology Acceptance Model</td>
</tr>
<tr>
<td></td>
<td>Interpellation</td>
<td>Venkatesh</td>
<td></td>
</tr>
<tr>
<td>Zizek</td>
<td>Ideological fantasy</td>
<td>Simon</td>
<td>Design science</td>
</tr>
<tr>
<td>Badiou</td>
<td>Courage and Anxiety</td>
<td>Burawoy</td>
<td>Informal game-playing</td>
</tr>
<tr>
<td></td>
<td>Superego and Justice</td>
<td></td>
<td>Production of consent</td>
</tr>
<tr>
<td></td>
<td>Subjectivation /subject-effect</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Subject as ‘destructive consistency’</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Destruction of the Imaginary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Essex School (Laclau, Stavrakakis, Glynos and Howarth)</td>
<td>Logics (social, political, fantasmatic)</td>
<td>Orlikowski</td>
<td>Duality of technology</td>
</tr>
<tr>
<td></td>
<td>Regime and practice divide</td>
<td></td>
<td>Technology-in-practice</td>
</tr>
<tr>
<td></td>
<td>Ethical and fantasmatic divide</td>
<td></td>
<td>Sociomateriality</td>
</tr>
<tr>
<td></td>
<td>Logic of difference and equivalence</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Materiality of the signifier</td>
<td></td>
<td></td>
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<tr>
<td>Pluth</td>
<td>Subject as interaction between sexuality and language</td>
<td>Nicolini</td>
<td>Practice as the site of knowing</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Practice theory</td>
</tr>
<tr>
<td>Butler</td>
<td>Materiality of the signifier</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Materiality of the signified</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Revision of the theory of interpellation</td>
<td></td>
<td></td>
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</tbody>
</table>
Chapter 4: Context of the Study
Taking the previous chapter into consideration, much is to be gained if we apply a subject-based view of ideology to the study of technology in organizations. Firstly, I will show that there is a need for research questions that address IS phenomena through a poststructuralist lens. Secondly, I will offer virtual gaming as the most relevant topic through which to view these phenomena. In particular, I will explain how and why virtual worlds are places where jouissance (enjoyment) makes a difference. Following this, I will provide some background knowledge on virtual reality and serious gaming, and then focus on the pioneering case of Second Life. Thirdly, I will show why design in particular is crucial to this apparatus, and why it is the strategic context for observing ideology-in-action.

**A new research opportunity**

Given what we have seen thus far, it would appear that there is a need for more research on how ideology is embedded in the machine. My intention now is to consider technology-in-practice as an ideological apparatus, and show why it is more relevant today than ever.

**Literature gaps**

My initial attempt thus far has been to move away from positivist studies, technological determinism and the design science perspective and to review the literature on interpretive information systems by identifying two major problems. Firstly, structuration studies seek to move beyond the dualism between technology and human actions and organizations. Yet these studies still highlight symbolic and structural activity, and they downgrade the emergent capacity of sites, objects, bodies and infrastructures to organize what we do. Constructionism has attempted to articulate the discursive and the material under the banner of socio-materiality. Yet the place of embodied materiality and identity performances, the force motivating the ritualization of everyday practices, is under-theorized in IS. I have identified a neglect of affect in the IS literature; it is addressed in an ad-hoc way by the
positivist, motivation-based literature and largely ignored by the constructivist stream. Put another way, this neglect is also ontological: what is missing is a proper theory of the subject, a set of conceptual tools designed to capture the materiality of subjective processes, how subjectivity and collective subjectivity shape what we do and how we organize our relation to the machine. I have therefore reviewed the literature on subject theory, drawing on the theory of ideology in order to capture this process at an individual and collective level. This led me to switch from a socio-material ontology to the materiality of the signifier; the focus is no longer on the relationship between humans and objects, but between discourse and sexuality. However, it is not enough to say that, as the sceptics will immediately accuse me of marginalizing objects once again, and of reducing the agency of tools and machines to mere linguistic effects. Therefore, the crucial question now is to show, empirically: where is the site where the effect of subjectivity is most evident? Where is the site where I can see the work of *jouissance* in technological matters?

**Research questions**

What does a so-called ‘negative ontology of lack’ add to the study of technology in organizations? What do kneeling down at a religious celebration, saying a prayer and giving a handshake have in common with technology design and use? Most information systems actually depend on their ritualization to function. What would become of Facebook if users did not add pictures, or like and comment on activities? How could Airbnb survive if users did not enact properly the good old ritual of hospitality? The success of information systems increasingly relies on reputation, rumours and reward systems, with users rating each other’s behaviours and commenting on each other’s activity. With the maturation of the cyber-economy, the skills and art of producing a ritual become as important as the technology itself. What designers have in mind is not so much technological performance for themselves, but the adoption and diffusion of patterns of use.
From a subject-based perspective, the software (the code) is important, but it does not determine social interaction; information systems are both a material and a figure of discourse, both a cause and a performance. Information systems are infused with narratives, ideologies and values. While the code is, say, the DNA of the digital world, it is first and foremost a symbol, a metaphor, a convenient way to describe social identities (avatars) and social relationships in socially-meaningful ways. It is true that the code determines how the game-based software will appear, the interface, but its force is all relative to the voices from which it originates, voices which mobilize and are mobilized, through rhetoric and fiction, voices which are the primary source of our knowledge of the code. Even claims for technical fact and objectivity are in fact coloured by their subjective and polyphonic constitution.\footnote{This paradoxical form or irony reminds us that the knowledge captured by psychoanalysis, the objectivity of the subject, has the structure of a fiction or a joke (Zizek, 1989). A good example of this is provided by Jeffrey Eugenides, in his novel Middlesex, where the hero, an intersex man (hermaphrodite) of Greek origin, says: ‘Pardon me if I get a little Homeric at times; that’s genetic too’. This irony captures the attempt of the novel to divest genetic and scientifically-valid explanations of their force through the power of speech of his first-person author, a character who ultimately decides to become a boy when the doctor wanted to ‘fix’ his ambiguous genital condition by making him a girl.}

I have marked a distance with the neo-materialist movement, which focuses on the agency of artifacts, and I have emphasized the materiality of individual and social performances such as rituals. Thus, my research questions are as follows: How do developers lead users to adopt their technologies and to enjoy their tools unquestionably? How do they manage to design pleasurable technology and why do they aim at producing enjoyment in the workplace? How do developers manage to turn work into play- without losing work? How do they imagine the users’ feeling and how does it affect their decisions? Finally, how do game developers cope with the affective environment in serious organizations?

**Game design as paradigmatic case study**

In this section, I will explain why the design of virtual gaming is a particularly favourable place to study the role of affect and ideology in IS matters.
In a sense, my empirical proposal here will equate to jumping into the lions’ den. Game designers and programmers are probably the most fervent supporters of artificial intelligence and machine learning. They are now experts in the art of fooling the users, designing hyper-realistic bots and virtualizing sexuality. Virtualization and game technologies increasingly transcend the traditional boundaries of their medium, as evidenced by the growth of serious and pervasive games as an industry and research field. Virtual worlds constitute an exemplary case of these new forms of social computing, forms which are moving far beyond their gaming origins with unanticipated implications for how we work, learn, interact, use the Internet, shop and play. This phenomenon is captured by the notion of gamification, which has been defined as the use of game design elements and game mechanics in non-game contexts (Dominguez et al. 2013).

Virtual worlds have typically been described as equivocal technologies, since they are accompanied by multiple and conflicting interpretations (Berente et al. 2011). Equivocal technologies are marked by information which is incomplete or highly ambiguous (Swanson and Ramiller, 1997). The ultimate value of the innovation is always uncertain, and the condition of its long-term value is established through an ongoing sense-making process which involves the designers of these environments, their residents, commentators in organizations, academia and the media. Virtualization tools are incomplete technologies, and their uptake and use is iterative and experimental (Dodgson et al. 2013).

In this thesis I will, in three main chapters, show how the typical topics of IS (adoption, acceptance, inscription etc.) can be better explained by using my approach than was the case previously. Focusing on ‘things in the middle’ (Bauman 1991), such as, for instance, intersexual or transgender individuals (Butler, 1990; 2001), renders evident the ideology sustaining gender categories. My approach typically focuses on cases where the established meaning of technology is unclear, and where the definition of its identity may be contested.
Thus, gamification will be studied as it typically resists classification; the process of mattering, its object-identity is hybrid—are virtual environments designed for fun or serious applications? What does it mean to gamify work? What does gamification stand for? Is it innocent? Are we not crossing a line?

The key strategic move vis-a-vis the realist tradition is to switch the focus from objectified phenomena, which are contextually bounded by self-contained cases, in a medical fashion, comparable to the doctor treating the patient, to problematized phenomena. According to Parker, clinical psychoanalysts refer to ‘cases’, yet they know there is no such thing as a ‘case’ at all (2005), nor a patient to be cured. Subject theory is a one-off, each time new, a singular explanation. In addition, the theoretical framework is there to map the field and to provide an account of what the parameters might be; there is an impasse of formalization, in the sense that the researcher should always be ready to mutate in the face of each new ‘case’.

Moreover, I argue that computer game design effectively symbolizes the work of technology in organizations. Computer game design functions as a metaphor for a whole class of cases manifesting the place of ideology in the diffusion of information systems. Gamification is particularly emblematic for any hegemonic project attempting to extend the power of technology beyond its own technical and contextual boundaries. In other words, game design is a perspicuous site to explore, in the sense that it constitutes what Flyvbjerg termed a ‘paradigmatic case’12 (2001: 80) which comes to embody, in an exemplary way, the operation of ideology in the adoption, acceptance and functioning of information systems. A ‘Paradigmatic case’ aims to develop a metaphor or establish a school for the domain that the case concerns (2001), and it highlights more general characteristics of the societies under

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12 A typical example of a paradigmatic case is Geertz’s study of the ‘deep play’ of the Balinese cockfight, whereas Foucault focuses on Jeremy Bentham’s ‘Panopticon’ in order to condense a system of disciplinary and surveillance mechanisms that materializes the logic of disciplinary in prison, hospitals, schools etc. (Foucault, 1977: 200-9).
study. Although this selection has been made strategically, it is never possible to determine in advance whether a given case is paradigmatic, as this will need to be validated in a universally acceptable way.

Finally, the *game metaphor* has frequently been used by social theorists when studying ideology and affect. The most significant account is probably Bourdieu’s theory of game, but Laclau and Mouffe (1987) also draw on the metaphor of football to describe their own discursive approach. In the positivist tradition of design science, motivational studies on emotions at work typically draw on computer games as a perspicuous setting (Malone, Venkatesh). In the field of poetry, Mallarmé’s ‘Throw of the dice’ materializes the experience of radical contingency, which is not to be addressed as a random combination, but a poetic work on language through which chance is conquered word by word. The famous *coup de dé* is precisely what the CEO of Delta, one of the organizations observed during my ethnographic work, in his jargon, would call a *game mechanic*.

What I am really interested in is game mechanics, and one of the main things about games or game design is that they generate a lot of game mechanics and *a game mechanic can be just the idea of rolling a dice and see if you get a six*. It could also be the idea of having a skill, it could be the idea of having funny apparel, it could also be the idea of a pack of cards- it’s just way which you create a structure within the game to achieve some particular goal. (David, my emphasis)

Let us pay attention to David’s words which define *game mechanics* as ‘the idea of rolling a dice and see if you get a six’. First of all, David ultimately defines the mechanics as an *idea*: ‘the idea of rolling a dice’, ‘the idea of having a skill’, ‘the idea of a pack of cards’ etc. Then, through a sliding which is particular interest to us as social scientists, David connects this notion to that of *structure*. If game mechanics is just one way of creating a structure within the game, the central role of enjoyment in human affairs is now becoming clear.
Virtual worlds as the privileged site of enjoyment

In this section, I will explain how and why virtual reality and serious gaming are places where social interaction and jouissance (enjoyment) make a difference. I will specifically address the role of avatars in displaying subjectivity, and then explore more specifically the case of SL.

Virtual reality, virtual worlds and serious gaming

Virtualization technologies’ status remains unclear and is always ambivalent between playfulness and productivity. Some definitional work and historical clues are required. In this chapter, my aim is to describe the different notions covered under the virtuality umbrella and to provide the reader with basic background knowledge and working definitions.

According to Zyda, serious games inherit primarily from earlier work in the virtual reality (VR) community, whose developers themselves drew on the field of visual simulation, a synthesis of interactive 3D graphics and user interfaces, and developed progressively more open technologies as well as a science and language in the field of 3D environments (Zyda, 2005). Historically, the first encounter of the video-game community, which deals explicitly with entertainment, with the field of virtual reality took place in 1997 with the publication of a report by the National Research Council, entitled “Modeling and Simulation – Linking Entertainment and Defense”13. Since then, the VR field has been constantly influenced by the video-game industry and, in its turn, it itself is now shaping the video-game industry, a two-way relationship exemplified by the success of the Oculus Rift.

13 An emblematic and widely-used serious game is America’s Army, an attempt to broaden first-person-shooter game engine reuse to other domains. A US Army captain who was asked to evaluate the tool in 2002 asserted that it had the potential to be a recruitment tool, but there ‘was insufficient fidelity in the game for it to be of any use in training’. However, a sergeant and enthusiastic gamer decided to deploy the game on his own initiative and to bypass the Army’s official training procedures and formal studies. The game was then repurposed within the Army as a training environment for mission rehearsal, intelligence skills training, first aid and survival training etc. There is here a potential for highly-immersive, addictive ‘first person education’, a play on the phrase ‘first person shooter’.
Where do serious games sit compared with virtual environments? One way to differentiate between serious games and the virtual world is in terms of what scope of action the user has in each system, and how varied, numerous and complex are their goals. In a serious game, the scope of action is very limited; the goals and rules are clearly formulated, scripted and singular. One possible working definition of serious gaming can be read thus:

Serious game: a mental contest, played with a computer in accordance with specific rules, that uses entertainment to further government or corporate training, education, health, public policy, and strategy communication objectives. (Zyda, 2005: 26)

Put simply, serious games are games that do not have entertainment, enjoyment or fun as their primary purpose.

Virtual worlds constitute the most advanced and open form of virtual environment; their range of actions is almost limitless, and there are no explicit goals. For Boellstorff et al. (2012) virtual worlds feature four characteristics. First, they are places and have a sense of world-ness, unlike social networks such as Facebook or Instagram, although those platforms can contain virtual worlds within them through third-party applications, such as YoVille, .Friends, or Farm Town. Second, they are multi-user in nature. Third, they are persistent and continue to exist even as participants log off, which is not the case with first person shooters such as Counter Strike or Halo. Fourth, they allow participants to embody themselves, usually in the form of an avatar, so that they can explore and participate in the virtual worlds.

According to Dodgson et al. (2013), many virtualization technologies emerge from the computer game industry and they are commonly associated with play, making their immediate connection to productivity and efficiency less obvious as compared to other information and communication tools, such as computer-aided design or management information systems. The military have used game-like simulations for years, but they are not the only sector to be interested in virtual simulations and games. Virtualization technologies are increasingly being recognized as important organizational tools (Nevo et al. 2011) and
have been used in areas such as medicine (Arvanitis 2006), the design and operation of city systems (Gann et al., 2011), and new product and service prototyping (Brown, 2003). Computer games are now present in various institutional fields such as government, education, corporations and healthcare, and are designed even for political, religious or artistic purposes (Abt, 2002).

Virtual technologies have progressively gained legitimacy. For example, IBM was one of the major business actors among the early adopters of virtual worlds. The company has enjoyed periods of great success, for example following the introduction of the IBM System/360 mainframe computer in the 1960s and the personal computer in the 1980s, but it also experienced near-bankruptcy in the early 1990s. IBM’s bureaucratic culture impeded its ability to explore new fields and to adapt (Gerstner 2002). Such a culture would not easily embrace *playfulness*, and Dodgson et al. (2013) assume that the promotion of the concept of *play* happened closely in tandem with IBM’s revival. In particular, they explain how the connection between gaming and leadership was progressively legitimated in the organizational discourse of the company. In 2007, IBM published a GIO entitled ‘Virtual Worlds, Real Leaders’, raising questions about the skills leaders would need in work environments that are increasingly virtual and distributed. IBM couched its use of virtual worlds in terms of ‘encouraging play’. This was not without causing internal controversies: the resonance of play with distraction at work generated an initial reticence toward embracing virtual worlds in certain quarters in IBM (King, 2007). However, in 2008, the IBM Academy of Technology held its annual meeting as a virtual meeting, using Second Life and a number of other virtual communication technologies.

In sum, the fields of virtual reality simulations and video-games have progressively merged and grown in ambition. Furthermore, they have now gained legitimacy among organizations. These new technologies have problematized the distinction between play and
utility. Given this increasing ambition, the work of game designers is becoming a crucial field to examine.

**Performances and jouissance in virtual worlds**

How does enjoyment come to be so central in virtual worlds? What role does enjoyment play in cyber culture? Which forms does it take? The way users perform enjoyable acts and interact with each other is through the presence of avatars.

IS researchers investigating the use of virtual worlds lead us to understand users and their avatars not as online representation, but as subjectivity and ‘living force’ (Bardzell and Bardzell, 2008). The success of the tool depends on the dynamism of social interaction and the enjoyment it produces. As Orlikowski and Schultze put it:

> The immersiveness of the virtual world (its graphical 3-Dness) is only actualized when users’ avatars perform physically and narratively. It is the performance of bodily practices such as walking, sitting, talking, etc. that gives places, objects and avatars substance. (2010: 10)

For these authors, a performative perspective posits virtual worlds and serious games as practices enacted by designers and users who perform in these worlds through their doings, movements and interactions. Thus, Morningstar and Farmer, the developers of Habitat, argue that a virtual world ‘is defined more by the interactions among the actors within it, than by the technology with which it is implemented’ (1991: 274). Social interaction does indeed play a central role in many virtual worlds, rendering the richness of graphics less important. Thus, while early notions of virtual reality were driven by a technological fantasy of realism and total sensory immersion, it seems that the success and duration of a virtual world such as Second Life is more due to the robustness of social interaction and the consolidation of identity and rituals than any renderings of the world.

Recently, ethnographic research on the topic of virtual world cultures has surfaced in order to explore this performative avenue (Boellstorff et al. 2012). In the 1990s, a number of themes emerged, such as: identity construction (Bruckman, 1992; Turkle, 1995; Suler, 1996);
gender (McRae, 1997; Kendall, 2002; Schaap, 2002); ethnicity and race (McDonogh, 1999; Nakamura, 2002); embodiment (Stone, 1991; Taylor, 1999; Sunden, 2003) and the forging of community through speech, narrative and social action (Kolko, 1995; Markham, 1998; Cherny, 1999). A second wave of ethnographic research studied virtual worlds as specific spaces of play, raising further questions of identity, role-play and social interaction (Jakobsson and Taylor, 2003; Mortensen, 2003; Copier, 2005).

In addition, virtual worlds are a place where jouissance is particularly evident. In particular, role-play, identity performances and rituals enacted in virtual worlds are embodied through avatars. Schultze is interested in the embodiment and presence in virtual worlds which are afforded by those avatars (2010). The physical body plays a key role in communication and is the primary site of identity with markers such as sex, race, age and social class: we are our bodies. Avatars are not mere objects manipulated by their human owners, but they are also subjects in a socio-cultural world of meaning (Wolfendale, 2007). Avatars offer the possibility of embodiment, enabling participants to engage in ‘practices of the body’ (Taylor 2002) which are either physical (sitting, gesturing, smiling and touching objects or people) or social (wearing fashionable clothing, behaving in a way that recognizes a community’s logic of power and status).

Avatars or profiles constitute representations of the self through which people interact with data, systems and one another in a computer-mediated system (Schultze, 2010). Both war-game scenarios and participating in diversity training require the use of avatars. Video-game characters in World of Warcraft are new ways for users to present themselves

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14 The users of virtual worlds are represented by an avatar, a Sanskrit word meaning ‘a god’s embodiment on Earth’.

15 An emblematic multi-player online game directly inspired by fantasy imaginary is World of Warcraft, launched in 2004. Participants adventured in a medieval fantasy-themed world, slaying monsters, practising crafts and trading at an auction house. Activities such as raiding and fighting battles require communication and social interaction through text chat and voice. World of Warcraft includes game activities such as theory
rhetorically, to give an image of the self. Thus, Bardzell and Bardzell refer to the rhetorical dimension of avatars in the sense that people present themselves in a particular way. As a result, avatars are poor as literal representations of users, yet rich as performed expression of how users perceive themselves (2008). Culturally, it is worth noticing that this notion of avatar draws on the imaginary of role-playing games in the 90’s, such as multi-user dungeons in which avatars were *textual representation* of the self (Bardzell and Bardzell, 2008).

Science-fiction and fantasy literature played a key role in shaping the cultural, affective and imaginary background of early online games and virtual worlds: they organized the *jouissance* of the users according to conventions derived from the video-game industry, role-playing games and heroic fantasy literature. Furthermore, sexual imaginary plays a crucial role in producing *jouissance* in virtual worlds. In their account of the practice of sadomasochism in Second Life, Bardzell and Bardzell (2007) argue that this experience is different to mere pornographic observation in that users typically identify themselves with their avatars. The first time one’s avatar is chained by another without explicit consent, users report having experienced a sense of thrill or shock.

**The case of Second life**

**Success**

Virtual worlds are not just about digital characters interacting with each other in a virtual environment. They also offer alternative means to communicate, collaborate and organize economic activities. Second Life (SL) is probably the most accomplished experimentation thus far.

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16 Classic references in the fantasy literature include The Hobbit (Tolkien, 1937), The Lord of the Rings (Tolkien, 1954) or the Conan series (Howard, 1932).
SL is owned and operated by Linden Labs, which is backed by a number of prominent US venture capitalists, including Benchmark Capital and Mitch Kapoor, the founder of Lotus and inventor of the spreadsheet. Users could initially obtain $9.99 monthly accounts, but after June 2006 it became possible to obtain an account for free. The enjoyment of designing is at the core of Linden Lab’s success on SL. Residents were able to, for the first time, shape the world around them, particularly their virtual property, which is located on simulators (or sims). They were able to write code to manipulate the environment, trade objects and land, design or purchase their own clothes, participate in group activities, work, explore, play and interact socially (Messinger et al., 2009).

SL was deliberately incomplete, not a fully formed environment; the aim was to let people create things. Progressively, Linden Lab changed the focus to move towards more pre-built environments - so you go on SL and have things to do, but you do not have to create them, which is less interesting from the purist’s perspective. Furthermore, Second Life has been progressively ‘colonized’ by the corporate world. Developed initially as social places for personal enjoyment and relaxation, virtual worlds have attracted investment from companies such as Dell, Cisco Systems, Xerox and Nissan, creating their in-world storefronts and thereby demonstrating a desire to understand the value these environments may offer (Ives and Junglas, 2008).

In Second Life there is a whole industry of independent designers creating new body shapes, clothes and accessories and selling them to users. SL’s interactive technology lets participants create virtual objects such as clothes or storefronts from scratch using building blocks known as prims, similar to Lego pieces. The trading of user-created contents is regulated by a system of property-rights policies (e.g. a system of protection regarding the replication of objects, devised by the creators of objects). Furthermore, SL features its own monetary system and virtual currency, the Linden dollar, which can be bought and sold for
real currency. In early 2007, the Linden dollar traded at about L$270 per $1 US$ (Green, 2006; Hof, 2006). In 2007, Linden Labs estimated that virtual characters exchanged an average of $1,700,000 worth of transactions every day on Second Life (Bray and Konsynski, 2007).

The existence of virtual currencies paves the way for the proliferation of real-world businesses within the virtual economy. SL is emblematic but not unique, as other virtual worlds also incorporate their own virtual currency. For example, Entropia Universe includes a virtual currency which is fixed (exchanging at 10 PED to 1 US$ in 2007) and is not floated, in contrast with the Linden Dollar. Another virtual world called Cyworld includes a virtual currency called ‘dotori’; virtual participants are encouraged to use their currency to purchase (mostly time-limited) virtual items such as clothing, decorations, musical instruments, songs, videos and other entertainment goods for their digital avatars. Cyworld includes 25% of the total population of South Korea as registered participants, with an average of 20 million daily visitors. Cyworld’s revenue was estimated to be around $300,000 per day in 2005 (Bray and Konsynski, 2007).

A good example of successful inter-world businesses, combining real-world and virtual world activities, is Weber Studio. Aimee Weber, a designer and artist, and her staff design and sell virtual products at locations on Second Life for real-world businesses that want to use SL for marketing, business, education etc. Their clients include the United Nations, the American Cancer Society, American Apparel and the National Oceanic and Atmospheric Administration. The studio has also designed a virtual line of clothing for virtual avatars. Other success stories include Anshe Chung, a resident who became the first millionaire in Second Life (in real US$). Anshe began with small-scale purchases of virtual real estate which she developed with landscaping and themed architectural builds for rental and resale. Her operations have since grown to include the development and sale of properties for real
world corporations, and have led to a real life corporation called Anshe Chung Studios, which develops immersive 3D environments for applications ranging from education to business conferencing and product prototyping (Business Week, 2006).

According to Linden Lab (2013), by 2013 Second Life had approximately 1 million monthly users and 1.2 million daily transactions in virtual goods. The total transactions among users for virtual goods within the Second Life economy have now reached 3.2 billion dollars (USD). Yet this success remains relative, given the ambition and potential of the project. What are the reasons for the relative decline and strange second life of Second Life?

**Decline**

Second Life was publicly launched in 2003. By the end of 2008, SL had not met the expectations produced by the hype, and the corporations’ virtual storefronts were largely abandoned, and eventually Second Life’s growth slowed. How should we interpret this relative decline?

This decline can be explained at a subjective rather than a statistical level, psychically yet also in economic terms. As noted by Dibbell\(^\text{17}\), in spite of this abandonment, the world keeps generating some activity, albeit far from the initial prediction of Newsweek (2007) that, by 2011, four of every five people who use the Internet would be actively participating in SL or some similar medium. Linden Lab failed to reach the owner’s ambition to make a 3D Web in the vein of the Metaverse\(^\text{18}\) of Neal Stephenson’s ‘Snow Crash’ or other science-fiction

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\(^\text{17}\) 800,000 monthly active users who generate more than $80 million a year, according to the latest estimates (Dibbell, 2010). A more recent anniversary infographic says that Second Life has overall amassed 36 million registered users, as well as more than 400,000 new accounts per month and ‘a million monthly-active users’ according to Linden CEO, Rod Humble. Those users typically rack up 1.2 million virtual goods transactions per day and have accounted for $3.2 billion worth of transactions over the life of the game. (Gamespot, 2013)

\(^\text{18}\) The term was coined in Neal Stephenson’s 1992 cyberpunk science fiction novel Snow Crash, where humans, as avatars, interact with each other and software agents in a virtual reality-based successor to the Internet that uses the metaphor of the real world. For many virtual-world developers, both within and outside Linden Lab, it had become a given that one day we would all experience such a parallel, persistent, shared, 3D virtual and immersive world of concrete data, in which our bodies would move with the speed of consciousness, and
A key reason for SL’s failure to go mass market is that they ignored what the overwhelming majority of the users were actually doing in SL, namely primarily using it for playful social activity such as roleplaying, virtual fashion, collaborative sandbox building and virtual sex.

Dibbell asserts that playing is the human impulse at the origin of SL’s *raison d’être*, and not the utility that its creators were aiming for:

Dressing up. Flirting. Philandering. Playing records. Playing house. Building castles and curiosities out of endlessly editable virtual objects (‘like the building blocks you had as a kid,’ one Life 2.0 protagonist tells us). Second Life as it is really lived doesn’t even gesture toward the broad utility its creators aimed for. It’s not the promise of the metaverse. It’s just a lot of people giving rein to one form or another of a basic human impulse: playing. (Dibbell, 2010)

It was after opening a gap by empowering the users and the enjoyment of programming that the SL phenomenon suddenly emerged. Then, Linden Lab has progressively restored a more familiar fantasy of game, relying on directives and scripted tasks, thereby diminishing its power of innovation. As always, the problem pertains to the institutionalization of enjoyment: what purpose does this generation of enjoyment serve? Does the institutionalization suppress its necessary transgressive aspects? In any case, SL has failed to manage its transition from an exciting transgressive world into an institutionalized and mainstream environment.

Linden Lab probably underestimated the non-intentional dimension, the opportunity for the users to co-create the world, to express their subjectivity without following a pre-written scenario. Gamification seems to be a winner, but when *jouissance* becomes an injunction, it betrays its promises, and is consequently abandoned. In contrast with Dibbell, I would argue where much of our productive activity would take place (Dibbell 2010). The word ‘metaverse’ is a portmanteau of the prefix "meta" (meaning "beyond") and "universe".

19 Similar metaphors include William Gibson’s “cyberspace” novels, the Wachowski brothers’ Matrix movies and the ethereal computerized realms of the 1982 Disney classic Tron.
that Linden Lab has not neglected the principle of gaming, but they have taken its imaginary too far, towards a disciplining version of gaming which forces their users to enjoy. Lacanian theory warns that one should be very sceptical about any social system that inscribes progress, growth or fun as the most advanced accomplishments into its discourse (Nobus 2013). Thus, the failure of SL can be related to an unbalanced psychic economy where enjoyment is administrated without balancing its gains and losses.

Virtual worlds are systems which need to be constantly rebuilt upon the foundations of incompleteness in which the hierarchical authority of the developers over the users’ enjoyment is balanced against a libertarian, open and communal culture of exchange.

**Game design and gamified IS**

Understanding the users’ experience of video games has itself become a substantial topic in the field of HCI (Human-Computer Interaction). What is game design? What are the skills and the art of generating persuasion and enjoyment?

Zyda (2005) describes game design as a nexus of design, art and programming. The design team crafts the story, the game’s genre, style and component and the pedagogy of the game, all of which compose the cognitive frame of the game. Programmers build the infrastructure of the system and develop the code that runs the interface features, networking, scoring systems, AI scripting, game engine changes etc. The art team deal with the graphics, the game’s look and feel, by developing the immersive experience that engages the players’ emotions at a visceral level. They seek to create technologies that engage the game player’s mind via sensory stimulation, as well by adopting methods and tools to increase the sense of presence, such as computer graphics, sounds and haptics. The practice of game design can thus be summarized through three core aspects: infrastructure (technology structure), immersion (affective dimension) and content (imaginary dimension) as summarized in Figure 3, below:
Existing approaches have focused on how the design and governance of virtual worlds affect the social interaction within them (Mnookin 1996; O’Rourke 1998; Pargman 2000; Kendall 2002; Lastowka and Hunter 2004; Grimmelmann 2006; Balkin and Noveck 2006; Taylor, 2006b; Duranske 2008; Burk 2010 and Lastowka 2010). In addition, organizational ethnographies of the companies that create virtual worlds have already been conducted (Malaby 2009). Serious games also feature in their design an element of pedagogy, a sense of developing activities that educate or instruct. By mobilizing the enjoyment of the users, gamified projects affect subjects in a profound way. This research needs to address gamified systems as dynamic, open-ended apparatuses of bodily production, not as merely fixed and rule-based entities.

Researchers have been developing methods and heuristics for the usability or playability of games (Bernhaupt, 2010; Sweetser and Wyeth, 2005). Thus, video games and aspects of
games have been studied in terms of their potential as persuasive tools which shape user behaviour in the directions intended by the system designer (Deterding, 2012; Lockton et al. 2010) or to instil embedded values (Barr et al., 2007). Chen and Michael (2006) underscore that, although the expression ‘serious games’ may appear initially to be an oxymoron, there is no contradiction here: ‘not only are education and entertainment not in conflict, but there are many places where the two overlap and where each side can use the tools of the other to achieve their goals’. A growing body of research points to how constituted bodies of knowledge in game design patterns and game play experience can potentially be transferred to ’alien’ social contexts and the design of gamified information systems (Deterding et al., 2011; Deterding, 2014).

Designers of social software systems have employed aspects of gamification to incentivize repeat usage, increase contributions and to establish users’ reputations. Such incentives include points, badges and levelling that can help the player advance in status. In the workplace, game systems have been employed to collect information about employees or customers and to incentivize the employees’ contribution within the enterprise’s social software. Ultimately, gamification aims to create a sense of playfulness in non-game environments so that participation becomes enjoyable and desirable (Thom et al., 2012). Such design patterns have isomorphic counterparts in other domains that pre-existed gamification. Thus, existing popular applications such as LinkedIn or OKCupid which use goal-setting and quantitative feedback, have been retroactively associated with games by the gamification literature, although it is far from certain whether their designers were intentionally taking inspiration from games.
Chapter 5: Methodology used for data collection and analysis
In the following chapter, I will articulate my subject-based ontology with the particular methodological concerns which social scientists, when conducting ethnographies in organizations, have to face. I will begin by raising the problem of the ‘poststructuralist methodological deficit’ identified by Zienkowski (2012: 504). I will address the difficulties associated with the translation of Lacanian theory from the clinic to the study of organizational discourse and practice. Finally, the main point of this methodology section will be to give this concern regarding empirical deficit a twist. What if the multiplication of methods misses the point? Content analysis, surveys and statistical models can measure precisely what occurs in the data, yet they turn out to be powerless when one seeks to capture that which is missing from the data but however keeps structuring them in a way that produces excessive material effects.

Design

Overcoming the poststructuralist deficit

The positivist belief in scientific validity tends to highlight the importance of method, clarity and order over chaos, ambivalence and absence. In this section, I would like to stress the risk of replacing the transformative power of speech (Parker, 2015) with an interpretive grid.

As Jacob Torfing famously put it, in their attempt to differentiate themselves from the positivist approach to social phenomena: ‘discourse theorists have thrown the methodological baby out with the epistemological bath water’ (Torfing, 2005). Torfing invites discourse theorists to ‘critically reflect upon the questions of method and research strategy’ (Torfing, 2005: 25). Structuralist and post-structuralist thinking is reduced by orthodox Marxists, positivists, critical realists or actor-network-theorists to a fashionable form of linguistic idealism, naively fascinated by the ‘free play of signifiers’ (Dreyfus and Rabinow, 1982: 125) and abstractly disconnected from the realm of materiality. This may be because there are
actually very few texts in the poststructuralist tradition that tackle the question of method, and the LCE framework is one way to address this lacuna. Glynos and Howarth present their approach as an attempt to address this methodological challenge: ‘as there are very few texts in the post-structuralist tradition that tackle the question of method and the nature of explanation in a sustained and philosophical way, we see our book as helping to fill this gap.’ (2007: 6)

However, the methodological contribution of the book remains stated at a quite general level. In fact, the distinction between theory and method is disqualified by most Essex authors. Moreover, Zienkowski stresses the scarcity of case studies that explicitly discuss and illustrate the way post-structuralist notions such as empty signifiers, logic or nodal points can be identified and analysed empirically (2012). The lack of methodological discussion is particularly pregnant in the Essex Literature (Laclau, 1996; Howarth et al., 2000; Howarth and Torfing, 2005). In addition, the logics approach does not fully hold its methodological promise, as Zienkowski explains: ‘In spite of the fact that the logics approach to discourse, subjectivity and society constitutes an elaborate theoretical framework for analysis, it does not provide a heuristic for dealing with empirical data.’ (2012) What Glynos and Howarth propose is rather an ontological stance and grammar of concepts in order to articulate empirical problems with existing methods and instruments, which enables one to construct and furnish answers to empirical problems without falling into methodological arbitrariness, historical particularism and idealism.

The first point of method here is to critically address the methodological imaginary, a fallacy which leads researchers to take the means for the end, without considering the ontological grounding of their study. In a provocative opus entitled After Method: Mess in Social Science Research, John Law contests the methodological instinct to clean up complexity and to tell straightforward stories. Doing so leads us to exclude descriptions that
are faithful to experiences of mess, ambivalence, elusiveness and multiplicity (Law, 2004). Law praises the selective nature of methods, and invites the presentation of alternative forms that acknowledge the researcher’s agency as a constructor of reality, and do not hide themselves between methods conceptualized as technique. In sum, according to Law and Urry (2004), methods in social science are constitutive rather than reflective of social reality. With a certain sense of provocation, Law reminds us that methods are the means and not the end of scientific research projects.

In contrast, my aim in this thesis is to restore the leftovers of rationalist approaches, and bring to the surface ambivalent phenomena that the methodological instinct would exclude. The Lacanian corpus is well-equipped to address those deadlocks of perspective (Parker 2010), and this methodology involves identifying those objects which precisely resist classification. Lacanian theory studies emotional language not in codifying affective realm by naming emotions, as some behaviourists do, but in acknowledging the ambiguity and singularity of certain emotions. The Real operates at a point of trauma or shock that is rapidly covered over in order that it can be spoken of. Fixation around the meaning attributed to this trauma can have fundamental structuring impact on who we are and how we act. For example, what does gender signify? How does closure around this meaning affect our sexual or work behaviours? For this type of question, neither grounded theory nor hypothesis testing can help. As Nobus puts it, Lacanian theory is not about gains, benefits, acquisitions, yields, returns, dividends and credits, but is rather a theory of lack, loss, waste, deficits, debits, costs

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20 The novelist Jeffrey Eugenides does not say anything else in the following extract of Middlesex: ‘Emotions, in my experience, aren't covered by single words. I don't believe in "sadness," "joy," or "regret." Maybe the best proof that the language is patriarchal is that it oversimplifies feeling. I'd like to have at my disposal complicated hybrid emotions, Germanic train-car constructions like, say, "the happiness that attends disaster." Or: "the disappointment of sleeping with one's fantasy." I'd like to show how "intimations of mortality brought on by aging family members" connects with "the hatred of mirrors that begins in middle age." I'd like to have a word for "the sadness inspired by failing restaurants" as well as for "the excitement of getting a room with a minibar." I've never had the right words to describe my life, and now that I've entered my story, I need them more than ever.’
and perditions. Are the methods themselves not inherently incomplete, deficient, lacking? I will suggest here, with a deliberate mischievousness, that the methodological deficit is not the limitation but precisely the seductive strategy of a post-structural approach, which seeks to highlight the gaps and the holes in the text, rather than multiplying the exterior signs of scientificity.

**Ethnography as a social science methodology**

Ethnographic research deals with the understanding of cultural contexts and thereby differs from the positivist account of social phenomena. In the next section, I will define and review different traditions of ethnography and examine how they have variously been deployed.

This thesis is a contribution to the field of qualitative research, not in the sense of a greater reliance on interviews but through its ability to focus on actual practice in situ, looking at how organizations are routinely enacted (Silverman, 1998). In fact, ethnography cannot be understood, as a method, as part of the same categorical set as ‘interview’, ‘survey’, and so on. As Boellstorff et al. (2012) argue, referring to the Greek etymology of the word (ethnos ‘people’, graphein ‘writing’), ethnography is ‘the written product of a palette of methods, but also a methodological approach in which participant observation is a critical element, and in which research is guided by experience unfolding in the field.’ In other words, it makes no sense to dismiss ethnography for it is a qualitative methods *stricto sensu* as qualitative and quantitative data can productively interact. For instance, sociologists from the Chicago School associated with Robert E. Park or Ernest W. Burgess drew on qualitative data (participant observation, interviews, mapping and diaries) in tandem with quantitative data

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21 The term grew out of disillusionment with the Enlightenment, and was coined in 1767 by Johan Friedrich Schöpperlin in the context of German Romanticism (Vermeulen 2008: 276). Ethnography is historically pitted against ‘encyclopedias’, which capture the Enlightenment ideals of standardization of all human knowledge, an opposition which precedes the one between the generalizable laws of positivism and the situated and detailed accounts which characterize ethnographies (Boellstorff et al. 2012).
such as census information. It is perfectly acceptable to use surveys or statistics to enhance the understanding of a phenomenon, although the use of sophisticated statistical modelling is not needed.

A first key element of ethnography is *participation*. A founding figure of anthropology, Bronislaw Malinowski (1884-1942), argued that the final aim of participation was to ‘grasp the native’s point of view, his relation to life, to realize his vision of his world’ (1922/1961:25). This view of the ethnographer going *native* was subsequently challenged by another influential ethnographer, Clifford Geertz, who chose to focus on *hermeneutics*:

- the ethnographer does not, and in my opinion, largely cannot perceive what his informants perceive. What he perceives – and that uncertainly enough – is what they perceive ‘with’, or ‘by means’, or ‘through’ or whatever word one may choose (Geertz, 1976/1979: 228).

In other words, for Geertz, ethnography is about ‘searching out and analysing the symbolic forms – words, images, institutions, behaviours – in terms of which, in each case, people actually represent themselves to themselves and to one another’ (Geertz, 1976/1979, p. 228). For Geertz, ethnography studies the *symbol systems* of the informants.

A second key element is the issue of *observation*. Geertz introduces the key concept of ‘thick description’, referring to the *account* of behaviour which provides rich context. The strength of Geertz’s notion is to recognize that field notes are not a literal record but an interpretation (). Geertz borrows this notion from Gilbert Ryle and his story of three boys rapidly contracting the eyelids of their right eyes for different reasons, ‘involuntary twitch’, ‘conspiratorial signal to a friend’ and in the third case as a parody of the first boy. Ryle contrasts a ‘thin description’, which would consider these three contractions of eyelids as constituting the same move, with a ‘thick description’, which would account for different meanings. In Geertz’s words, the ‘object of ethnography’ is thus ‘a stratified hierarchy of meaningful structures in terms of which twitches, winks, fake-winks, parodies, rehearsals of parodies are produced, perceived, and interpreted’ (Geertz, 1973:7). By highlighting the
mediation of interpretation, Geertz distances himself from the Anglo-American genre’s convention of ethnographic realism (as with Malinowski, Firth and Evans-Pritchard).

Topics that ethnography seeks to understand are social processes, which do not lend themselves to the expression of testable hypotheses such as: identity, motivation, feelings or dream in the field of psychology; practices, rituals and beliefs in anthropology and sociology or ideologies, political events and historical trajectories in political science. In the early 1990s, ethnographers collaborated with system developers, with a more particular emphasis on the areas of communication and computer science sub-disciplines, including human-computer interaction, computer-supported collaborative work, computer-supported collaborative learning and ubiquitous computing. It has also been carried out in the more specific fields of social media and game studies (Boellstorff et al., 2012).

In fact, the political nature of ethnographic work is hard to deny. The ethnographer as activist immerses him/herself into a multidimensional field and shifts in role and relationships between different sites following a personal trajectory of engagement (Hine, 2007). One original aim of anthropology is to legitimize ‘native’ culture; ethnographers from the Chicago School contribute, for example, to ‘giving voice to populations whose perspectives were ignored by institutions shaping their lives’ (Katz and Csordas, 2003: 280). The multi-sited ethnographer seeks out resonances among heterogeneous audiences such as peers, policy makers, funders, bosses and research contacts, people for whom the study will be recognized as having an adequacy to connect with their concerns. According to Boellstorff et al. (2012), ethnographers take part in the making of history and do not stand outside the trajectory of technology and the definition of what it is.

**Conducting case studies from a subject-based perspective**

In the next section, I will connect the post-structural form of ethnography that I am conducting to the tradition of case study in the STS and IS literature. More precisely, I will
eschew the natural scientific and hermeneutic models and propose a specific form of critical approach.

Various case-study approaches

There is an established (1) positivist case study tradition in the academic field of management of information systems (Benbasat, et al., 1987). Importantly, according to this tradition, the meaning of the word ‘scientific’ is the one embodied in the ‘natural science model’ which is widely accepted and legitimate among management researchers (Lee, 1989). The natural science model is primarily a model for testing theories, and is not intended for formulating theories. Finally, the use of words such as ‘validity’ and ‘reliability’ implies the existence of an objective reality independent of social reality and the subject-independence of causality. In contrast, (2) interpretative case studies deal with the social construction of reality. According to Myers (2013), interpretive case studies typically attempt to understand phenomena through the meanings that people assign to them. Broadly speaking, interpretative case studies define quality in terms of the plausibility of the story and the overall argument. Critical case studies add an element of (3) critical reflection on current practices and challenge taken-for-granted assumptions (Myers, 2013), although they share some similarities with interpretive research. Critical case studies typically consider the complex relationships between human interests, knowledge, power and the forms of social control that prevail in communities of assumptions. Some types of critical theory suggest individual emancipation and/or improvements in society. The critique of the status quo and a particular ethical stance mobilize the theories of critical theorists.

Multiple Sites and Comparative methods

Positivist researchers elaborate on the benefits of comparison when seeking replicability. From their perspective, theoretical sampling should aim to select cases which are likely to replicate or extend the emergent theory. For positivist researchers, numbers matter; therefore,
Eisenhardt suggests a figure of between 4 and 10 cases, albeit it in a rather arbitrary way, apparently guided by pragmatic (realistic) considerations, rather than scientific ones.

In the interpretive field, studies have emerged that move beyond single sites and remain ambivalent about relevant locations. This has been called the ‘crisis of ethnography’, a shift from a traditional ontology where the object is bounded and integrated to a new ontology in which the object is dynamic and contested (Hine, 2000). Star specifically called for the more specific study of ‘infrastructures’, increasing the scope of ethnographic research beyond a singular event:

> Study an information system and neglect its standards, wires, and settings, and you miss equally essential aspects of aesthetics, justice, and change. Perhaps if we stopped thinking of computers as information highways and began to think of them more modestly as symbolic sewers, this realm would open up a bit. (Leigh-Star, 1999: 375)

A **multi-sited ethnography** (Marcus, 1995; 1998) proves to be particularly relevant to address the circulation of objects, meanings and identities in time-space. Multi-sitedness no longer presupposes a preconceived system or context, but highlights the links between sites in order to trace the *connections* between them, rather than accepting field boundaries. As Hine puts it, there are many enactments or manifestations of what a given technology is and how it is bounded (2007). An iconic example of multi-sited sensitivity in the field of STS is the Zimbabwe bush pump, described by Laet and Mol as: ‘a mechanical object, it is a hydraulic system, but it is also a device installed by the community, a health promoter and a nation-building apparatus.’ (2000: 252). This description shows how the bush pump is variably defined, with each definition relying on a *highly contextual judgment*. Where to start and where to stop in studying the identity of a technology cannot be anticipated. As Hine puts it with regard to the above example: ‘Had they set out with a defined idea of what the technology was, they would not have found what they did.’ The success of the bush pump, as well as any technology diffusion, is its *fluidity*. Researchers, rather than planning in advance
which sites to explore, should therefore engage with particular situations and follow the trails that they offer (Hine, 2007).

From a perspective cashed out in terms of the logics of critical explanation, case studies are best used when articulated with comparative methods as part of an overall research strategy. Case studies neither constitute the basis for the generation of hypotheses, nor are they self-sufficient entities that speak for themselves:

Eschewing the extremes of ‘frictionless’ comparison (pure universality) and the impossibility of comparison (pure particularity), we develop a grammar of concepts and logics that enable the practice of comparison to be conducted and understood more broadly as a way to cast different perspectives on a problematized phenomenon. (Glynos and Howarth, 2007: 207)

In contrast with positivist multiple case studies collecting data from ‘large-n’ comparative studies, comparative research cannot short-circuit the concrete specificity of each case within particular historical contexts. Even when one seeks to identify similarities or common features between groups or various systems, one cannot bypass thick descriptions, including contextualized self-interpretations. Thus, comparison between cases is important in order to render the unfamiliar familiar and, conversely, in de-familiarizing the familiar by exposing invested presuppositions (Glynos and Howarth, 2007). The novelty of Glynos’ and Howarth’s framework is to aim at ‘the construction of a singular explanation of a problematized phenomenon’ (ibid: 208). A critical intervention is a one-off in the sense that the researcher is also a performer and his speech marks his audience, who are also subjected to the logical time of desire. The relevance of such an approach does not rely on the robustness of the methodological apparatus, but on the scientificity of the problematisation itself (Howarth 2005, Howarth and Stavrakakis 2000). Finding links, gaining access to the

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22 The word ‘strategy’ is preferred to ‘methodology’ when designing a research agenda, as the term ‘methodology’ connotes the search for clarity and neutrality, in the positivist fashion, an independence vis-à-vis theory, whereas strategy better stresses the ontological and political presuppositions framing the logics’ approach (Glynos and Howarth, 2007)
field and recording and collecting data constitute active parts of the problematisation procedure, which follows its own logical chronology:

From the discovery and the description of the problem, to the ethico-critical exploration of different possible political answers to the problem and finally to the necessary persuasion of a scholarly society or the respective society at large in relation to one’s account about the problem (Glynos and Howarth, 2007: 208)

In other words, this approach acknowledges the role self-reflexivity as a method in the practices of problematizing, analyzing, writing, and persuading - a process called ‘retroduction’, which I will discuss in the next section.

Sites explored during my fieldwork

Site A: Delta Limited specialize in delivering innovative solutions in immersive learning, visual analytics, building visualizations and creating interactive virtual personalities (chatbots). Delta's national and international clients range from the private sector to central and local government, education, public safety and health, including the Ministry of Defence, the City of New York, Birmingham City Council and almost two dozen universities in the UK and abroad. Founded in 2004, Delta are based at Birmingham Science Park, Aston, in Birmingham UK, and they are members of Intellect, the Trade Association for the UK Technology Industry. I conducted firstly a 4-month ethnography (from October 2012 to January 2013) in a start-up (10 employees) at the Birmingham Science Park. The company specialize in immersive learning and training systems, built environment visualizations and data visualizations. Their immersive 3D-based solutions help organizations enhance and improve their business. On a daily basis I followed the design of a 3D data visualization tool mobilizing game technologies, the design of 3D Psychology Simulations run at Bachelor level at the University in Second Life and 3D Skiddaw- a simulated 3D environment reproducing Mountain Skiddaw for training PhD students and researchers in geology,
including the opportunity to pick hand samples linked to a virtual microscope, and I also had the chance to study rocks. As the picture below shows, Delta are also present on Second Life:

**Picture 1. Delta’s office on Second Life.**

During this ethnography, the use of game technologies for issues such as data science and data visualization was regularly discussed.

**Site B:**

I then conducted a second 6-month ethnography (from March to August 2013) shadowing collaborative projects taking place at the Coventry Innovation Village involving start-ups creating serious games and immersive role play simulations, as well as additional supporting learning technologies such as mobile apps and social learning networks.

Gamma provide a comprehensive package of solutions to develop effective and engaging eLearning. As an eLearning provider, Gamma are committed to assisting their clients in succeeding in their goals and objectives. Through a series of innovative technologies, services and experience, Gamma work with their clients to build an enhanced learning experience.
experience. They offer a whole list of solutions ranging from bespoke course creation, off the shelf e-courses, hosting, face-to-face training and access to their unique Learner Management Systems (LMS) to help clients to manage learners, with no programming skills required.

Totem are developers of award-winning serious games and simulations as well as training simulations. Totem are industry leading experts in game-based learning for the corporate training and education sectors. Totem’s approach design blends learning solutions from the ground up to ensure they meet learners’ needs when it matters most. Totem’s blend includes: pre-assessment, mobile, serious games and social and e-learning, which are aimed at creating wider adoption, increasing engagement and reinforcing learning.

**Site C:**
In August 2013, I did a 5-day participant-observation of the Unite Event taking place at the Vancouver Convention Center. At each Unite, developers of the famous game engine Unity, experts and game designers around the globe come together to share their technical and business knowledge and creative visions. Unite 2013 was the annual event for Unity developers, publishers and enthusiasts to learn more about the market-leading platform for creating high quality video games, training simulations, medical and architectural visualizations and other interactive 3D content.

**Site D:**
Finally, I carried out a participant-observation of the International Conference on Games and Virtual Worlds for Serious Applications VS Games 2013 taking place in Bournemouth, in September 2013, where I presented a poster-paper entitled: ‘Is serious-games design political? The competing logics in the choice and adoption of the game engine.’ Zyda mentions the creation of a science of games which he understood as a scientific and engineering method for building them and understanding and analysing game play (2005). Such ‘scientific’ ambition involves a theory and language for the deployment of games and
simulations for the purposes of education and training, human performance engineering, applications of games to health, public policy and strategic communication, game evaluation and serious game development. This method of participant-observation was justified, as game design seeks legitimacy at a scientific and academic level by calling itself a science of games.

**Data Collection**

**Lacan outside the clinic: A critical ethnography**

In this thesis, I have mobilized an affective ontology to study organizational and systems practices by drawing more specifically on Lacanian theory. How and why this framework can be used ethnographically is far from obvious, and needs to be justified.

My aim was to bring to the surface phenomena that are usually repressed in the IT literature such as speech, identity and affective issues which put ideology into motion. I thought this would help not only to better understand IT design and the work of programmers, but also to legitimize voices that are usually concealed behind technical jargon. I thought that programmers and systems designers had reached such a position of power currently that it was time to take their speech seriously and politicize their practice. In the English-speaking world, Lacanian theory is clinically disputed, yet theoretically vindicated (Nobus, 2013). In times of evidence-based treatment, health economics and cost-effectiveness evaluations, the clinical practice of Lacanian psychoanalysis faces increasing practical difficulties.

The application of notions derived from Lacan outside of the clinic is not obvious, and has generated controversy (Glynos, 2010; Parker, 2010). While the psychoanalyst has time to establish a long-term relationship with a patient and to generate very intimate data, the ethnographer in the field has much more limited means at his disposal, with interviews being conducted on a less regular basis. Interviews are central in subject-based ethnography, and I will return to this point later. Although organizations are not his primary concern, Lacan
alludes to the possibility of applying psychoanalytic principles to the *corporation* of psychoanalysis itself:

As a method based on truth and demystification of subjective camouflage, does psychoanalysis display an incommensurate ambition to apply its principles to its own corporation – that is, to psychoanalysts’ conception of their role in relation to the patient, their place in intellectual society, their relations with their peers, and their educational mission? (Lacan, 1953: 200)

Lacan considers his theory to be a *symbolic resource* that structures, albeit in a distorted form, the psychoanalytic institution, ‘its own corporation’ (ibid., p. 200). According to Parker, this mode of structuring is problematic and makes an organization amenable to a psychoanalytic reading (2013). Furthermore, the attempt to grasp the reality of psychoanalytic reasoning outside the clinic also needs to take into account the increasing psychologisation of contemporary culture (Parker 2009). The psychosocial turn of the psychoanalytic method requires that we take seriously the way that psychoanalytic language today inhabits and structures institutions and subjectivities, so that social context is treated as operating on already-existing, predisposing psychological factors (Parker 2007).

**Interviewing from a subject-based perspective**

The Lacanian insight from the clinic can also be very inspiring when conducting interviews and generating rich data for information systems research. In particular, the Lacanian notions of logical time and reconstruction offer a new angle from which to address the interviewing technique.

The Lacanian notion of logical time needs to be taken into account not only during the ethnographic observation, but also specifically when interviews are being conducted and designed. This is in line with Schultze’s and Avital’s argument on interview design for information systems research, namely that data generated in an interview constitute narratives that are produced in the moment of the interview, and they do not necessarily have established stable meanings (Schultze and Avital, 2010). These narratives cannot be
dismissed because they constitute a one-off reconstruction in order to satisfy the researcher, potentially including bias, dramatization or prettifying. The interviewer should pay attention not only to the content, the linguistic symbols, but should also discern bodily cues, such as a compulsive gesture, an excessive facial expression, a tic, which signal the intensity of the Real of *jouissance* (Zizek, 1997). An acknowledgement of the affective realm requires the art of listening on the part of the interviewer, a form of detachment which is different from neutrality. In sum, interviewing as a data-generating method is an *intersubjective* process.

The affective realm of the interviewee also encompasses a *political function*. Holding a political perspective on interviewing methods is not new. Silverman coined the notion of the ‘interview society’ (Silverman, 1997) to designate a social world where interactions with journalists, talk-show hosts or during job interviews are deeply rooted in the contemporary mindset. As Alvesson describes it, interviews are not merely instruments but also platforms for political action, identity work and impression management, where interviewees find an opportunity to perpetuate a storyline or cultural script. Thus, according to Giddens, the interview becomes an integral part of the contemporary *selfing project*, where participants have an opportunity to perform and construct a situated version of their identity (1991). Some researchers go a step further, claiming that interviews increasingly serve as a medium for the constitution of modern subjectivities, as well as being a tool that legitimates and democratizes individual opinions (Gubrium and Holstein, 2002). Interviewing is not a mere instrumental practice, and it is not innocent; it also contributes to rendering certain speech legitimate and, taken seriously, it historicizes and materializes the subjective position of certain actors, making them *matter of fact*. The researcher is therefore complicit in authorizing the emergence of new subjectivities.
Researchers need to pay attention to the affective background of the interviewees. It transpires that the use of support and boundary objects such as pictures and tables has been useful in mediating the conversation when asking questions.

**Retroduction**

The very act of collecting research material is connected to this *retroductive character* of research. ‘Retroduction’ is conceptual novelty of Glynos and Howarth, which combines deduction and induction. It also captures the retroactive determination of meaning, which is the distinctive feature of an affective ontology and this temporal dimension of desire which makes it distinct from, for example, the principle of dialogical reasoning, as highlighted by Myers and Klein (1999) in their hermeneutic account of IS field studies. In other words, the task of the analyst is to identify social and political logics, retroactively, in speech activity, practice and discourse. This critical involvement of the researcher does not only constitute a moment in the research procedure, but should extend retroductively, in a continuous oscillation between all the stages of research. This process is understood in terms of the logic of retroductive explanation and theory construction, which involves a to-and-fro movement between the phenomena investigated and the various explanations that are proffered (Glynos and Howarth 2007: 34).

**What I did**

For the purpose of the empirical part of this study, I followed the trajectory of various projects of serious games design. I conducted 23 semi-structured interviews and gathered complementary data through documentary research (white papers, game engines community forums, marketing materials, websites etc.) Visual data were collected, such as *storyboards*, hundreds of *photos* and *video clips* of programmers at work, coding reviews or meetings testing demos. Techniques of *shadowing* and *participant observation* were also used. Overall,
the following cases offered fascinating vignettes of the current emerging issues around gamification and Big Data.

Existing interviewing techniques, already in use in IS, were conducted to generate politically-invested emotional language, such as photo-diary interviews. In particular, I used laddering interviews in order to generate distinctions between three elements, inscribed onto index cards, upon which the researchers asks ‘How are these two elements similar to each other, yet different from the third?’ Interviewees were invited to elaborate on the meaning of these personal constructs by narratively forging links between them through how and why questions (Schultze and Avital, 2010). To which genre does the technology belong? Polyphony emerged from this debate, voicing various interests among marketers, artists, journalists and programmers. To problematize discursive construction, the word to the thing, I borrowed from the laddering technique the index card and the distinctions between elements, or what I would rather call technology genre, such as simulations, 3D visualization tools, 3D environments, serious games etc.

Data Analysis
I will now draw on the psychosocial methods derived from Lacanian theory, most notably in the work of Ian Parker (2005; 2010), to explore how a subject theory can enrich existing methods in order to cope with subjectivity and discourse in a way which is quite new.

Judgement of the researcher
How does the element of judgment that is involved in characterizing logics affect the relevance of this framework? What about the scientficity of attributing meaning to emotions and content to logics? It is hard to deny the role of subjectivity in naming, generalizing and justifying the logics. The researcher is not exterior to the transformative effect of speech; his explanation is singular and has the value of an intervention. The non-arbitrary dimension of judgment is acknowledged notably by Wittgenstein in his Philosophical Investigations: ‘if
language is to be a means of communication there must be agreement not only in definitions but also (queer as it sounds) in judgments’ (Wittgenstein, 1967: 242). Our agreement on how to use words, classes and categories and then apply them in various contexts stems from our immersion in a particular language or form of life in which we learn its particular practices and rules. The judgment of the researcher is thus fine-tuned through an immersion in the theoretical and empirical corpus.

**The historicization of socio-technical facts**

In particular, Lacanian discourse analysis differs from hermeneutics primarily because of its temporal dimension and retroactive determination of meaning. In Lacanian terms, there is no fact *unless it is said* – and neither sexual nor sociotechnical facts are exceptions.

The Lacanian notion of ‘logical time’ (1991) highlights the pivotal role of affect, and helps to understand how master-signifiers\(^{23}\) are constructed through the retroactive determination of meaning (Parker, 2010). The fixation of meaning through the repetition of certain signifiers or metaphorical substitutes in their function as quilting point or master-signifiers does indeed operate *retroactively*. As temporal awareness is at the core of Lacanian teaching:

> What we teach the subject to recognize as his unconscious is his history — in other words, we help him complete the current historicization of the facts that have already determined a certain number of the historical ‘turning points’ in his existence. But if they have played this role, it is already as historical facts, that is, as recognized in a certain sense or censored in a certain order.

(Lacan, 2006: 217)

The traumatic of the Real, the nonsensical, is something that is constituted after the event through speech activity as an attempt to give sense to an event that could not be comprehended by the subject, as a ‘retroversion effect’. Accordingly, ethnographic work, the choice of the interviewees and the time for interviewing are not arbitrary or systematic, but

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\(^{23}\) In Lacanian theory, knowledge does not exist per se, but is invested with power through transference towards a ‘subject-supposed-to-know’ (not clear). In other words, master-signifiers are privileged discursive elements invested with affect.
rather depend on this historicization of facts and the identification of ‘turning points’, which can then be a motive for specifically-tailored interviews during the ethnography.

An ethnographic work inspired by Lacan should pay attention to the advent of events, the consolidation of master-signifiers and their historicization. The temporal order is a crucial borrowing from the Lacanian corpus, and this logical time is spelled out by Lacan in the following way:

I demonstrate here that it is the certainty anticipated by the subject in the ‘time for understanding’ which – through the haste that precipitates the ‘moment of concluding’ – determines the other’s decision that makes the subject’s own movement an error or truth. (Lacan, 2006: 237)

The discourse analyst should therefore scrutinize how the punctuation of a sentence retroactively determines what that sentence will be understood to have meant, and so the temporal logic of apparent cause and effect is, in a Lacanian reading, reversed. An analyst of discourse will point at the anchoring points serving as the conclusion of a sentence and only at this ‘moment of concluding’, the analyst will be able to posit retroactively their own original starting point. This is why the reading of the unconscious always escapes the subject, and it requires an analyst to un-organize the text and re-establish its continuity. This retroactive effect of signifiers fundamentally distinguishes Lacanian discourse analysis from any form of predicative study of language and behaviours. The reading of a text is always provisional, not merely determined by the last signifier, but also potentially determined by the signifiers and new potential anchoring points that will appear later and may reconfigure the signification of the text.

**Why subject-based analysis differs from hermeneutics**

In his research, Myers tries to overcome the limitations of interpretation by introducing *dialectical hermeneutics* as a theoretical framework to study IS implementation, drawing on
Gadamer, Ricoeur and Habermas (Myers, 1994). Myers’ notion of dialectical hermeneutics seeks to combine the interpretive and critical ambition:

The hermeneutic dialectic perspective, therefore, as an integrative approach, emphasizes both the subjective meanings for individual actors and the social structures which condition and enable such meanings and are constituted by them (Myers, 1994: 57).

Myers’ dialogical approach simultaneously underscores the importance of subjective meaning for the individual actor and the social structures, which condition and enable such meanings, as well as providing a new approach to research on the social aspects of computer-based information systems.

However, the subject theory adopted in this research differs fundamentally from ‘hermeneutics’ (Lacan, 1979: 8 quoted by Parker, 2005). The hermeneutic interpretation indeed ‘consists in deciphering the hidden meaning in the apparent meaning, in unfolding the levels of meaning implied in the literal meaning’ (Ricoeur, 1974: 13). In contrast, Lacanian formal analysis is preoccupied with working on the line of the symbolic within (not beyond) the domain of the text (Parker, 2005). An affective ontology pays attention to the way subjects develop, feel and speak, an idiosyncratic dimension which is different from unearthing what interviewees really feel, and from colonizing the text with assumptions, for instance that the interviewee is lying (Parker, 2010). In Glynos’ and Howarth’s words (2005), the hermeneutic tradition falls into subjectivism which covers the unconscious nature of subjectivity under overly descriptive and particularistic descriptions. Although the contextualized self-interpretations and intentions of the subjects comprise an indispensable element of any explanation in the social sciences, a balanced explanation should necessarily integrate the non-intentional dimension.

In sum, it is the materiality of the signifier which is of interest to the discourse analyst, not the illusion of finding a right explanation concealed ‘behind’ the text (at the level of meaning, intention, knowledge, interpretation, interest).
An impossible empirics: unearthing the unnamable

The study of the unconscious in discourse is a moment-by-moment reconstruction of consciousness and what has been unavailable to it. Lacanians share with pragmaticians the analytic shift from content to formal qualities of the text.

In the analysis of the text, the researcher should not so much organize the content of the data under themes and subthemes, but rather ‘bring out irreducible, nonsensical – composed of non-meanings – signifying elements’ (Lacan, 1979: 250 quoted by Parker). For each subject there is a Real, namely a signifier which is ‘irreducible, traumatic, non-meaning’ to which they are ‘as a subject, subjected’ (Lacan, 1979: 251 quoted by Parker). In contrast with ‘conversation analysis’, which aims to carefully re-describe only what is present, Lacanian discourse analysis shows how the text is organized by what is absent, which is why evidence is always retroactive. Those points in a text that indicate something unspeakable and unrepresentable can be interpreted as a point of encounter with the Real. They are organized around the object cause of desire, absent from the text, yet having empirical effect, which Lacan names object petit a.

Thus, the object petit a is the Lacanian notion which designates the object cause of desire, the desire for an objectified small other. The object is not empirically real, but is a useful device to capture the orientation of a speaker. Typically the object petit a is not named and is absent from the text, but operates as the object cause of the dialogue precisely because it is not named. To name the object would disrupt the communication. Object a operates as the gravity in the field of discourse, and this device is used to trace patterns in discourse. This failure of agreement constitutes the deadlock of representation necessary for communication to work, rather than any attempt to cover that disagreement. In sum, the analysis of what is ‘unconscious’ to the subject in a piece of text is an analysis of the ‘gaps’ and the ‘holes’ where what is said at any moment presupposes that something else cannot, or will not, be said (Billig, 1999).
To some extent, for Lacan, affect is a matter of timing. Lacanian theory is crucial here to reconstruct the chronology of the text, its historicization and the particular chronology through which the subject develops, feels and turns around the void of his/her desire through speech. Lacanian theory suggest that we should analyse emotions and feelings without falling into subjectivism and interpretation of what the subject is assumed to feel, but rather by paying attention to the logical time, and how the desire of the subject is retroactively determined by the logical sequence of the signifier. This process is always provisional and contingent, and may potentially be challenged by further signifiers. Discourse analysis focuses on the norms and logics (social, political, fantasmatic) which organize the construction of discourse and its formations. I believe the LCE framework, by highlighting the problem of articulation, the identity trouble generated by the eruption of the real of novelty, has great potential to enrich the field of the sociology of innovation.
Table 2. Ontologies in the social sciences.

<table>
<thead>
<tr>
<th></th>
<th>Positivist Ontology</th>
<th>Realist Ontology</th>
<th>Affective Ontology</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Streams</strong></td>
<td></td>
<td>Critical Realism</td>
<td>Logics approach</td>
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<td></td>
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<td>ANT</td>
<td>Lacanian discourse analysis</td>
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<td></td>
<td></td>
<td>Hermeneutics</td>
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<td></td>
<td></td>
<td>Phenomenology</td>
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<tr>
<td><strong>Focus</strong></td>
<td>Case study</td>
<td>Objectified Phenomenon</td>
<td>Problematized Phenomenon</td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td>Thin description</td>
<td>Thick description (interpretation)</td>
<td>Historicization</td>
</tr>
<tr>
<td><strong>Temporal</strong></td>
<td>Predictive</td>
<td>Descriptive</td>
<td>Retroactive</td>
</tr>
<tr>
<td><strong>Logic</strong></td>
<td>Deductive</td>
<td>Inductive</td>
<td>Retroductive</td>
</tr>
<tr>
<td><strong>Scientificity</strong></td>
<td>Scientific fact is measurable</td>
<td>Scientific fact is socially constructed</td>
<td>Scientific fact is what is said</td>
</tr>
<tr>
<td><strong>Truth</strong></td>
<td>Testable/Verifiable</td>
<td>Out there/ Can be traced (artefacts, enunciation)</td>
<td>Out there/ Can be traced (performances, narratives and jouissance)</td>
</tr>
</tbody>
</table>
Chapter 6: Adoption as a practice of hegemony
In this chapter, I will consider more specifically the adoption of the game engine. In particular, I will look at how Unity3D, one of the major actors in the market, have been broadly adopted and mainstreamed. The chapter is organized as follows. After describing the aims of the chapter and problematizing the phenomenon of adoption, I will then focus on the discourse of Unity’s strategic actors, and I will mobilize discourse analysis to show the logics sustaining their discourse and how this strategic communication secures Unity’s hegemony and mainstreaming practice. Then I will move my focus to different corporate events and rituals, namely the Asset store, the Unite event and the community forum. In the final part of the chapter, I will examine adoption within the online community of users, specifically within a start-up which is using Unity, although it is not related to the game engine firm.

**Aims of the chapter**

What does the customer truly want? A core challenge for adoption scholars is to understand how and why innovative products get to be adopted collectively and mainstreamed. Existing studies have highlighted the role of adoption decisions (Rogers), fashion (Czarniawska) and *interessement* (Callon).

A traditional way to address this issue is to understand adoption as a rational decision (Rogers, 1962; Rogers, 1983; Rogers, 2003). Rogers’ diffusion model seeks to measure the adoption rate of a product, namely the relative speed with which the innovation is adopted by members of a social system. From this perspective, research questions typically address different configurations of the s-shaped diffusion curve, such as how the earlier adopters may differ from the later adopters of an innovation, or why the s-shaped diffusion curve takes off more rapidly or slowly.
Continuing the direction of Tarde’s seminal work *The Laws of Imitation*, published in 1903, Czarniawska and Joerges (1996) move away from rational decisions and isolate two complex translation mechanisms, namely *fashion* and *institutionalization*. Rather than being diametrically opposed (frivolousness and temporality of fashion versus seriousness and stability of institutions), these factors are interdependent. Thus, the function of fashion is not so much to revolutionize, to bring about master ideas, but rather to revitalize and thereby sustain the institutional order. Fashion also functions as the adopter’s release from the responsibility of individual choice.

Akrich et al. (2002) argue that the success of an innovation is motivated by ‘the art of *interessement*’. As an innovation’s success necessarily involves unexpected turnarounds and resistance, the so-called ‘classical’ models and their curve derived from economists of innovation are hardly an effective representation of reality. Diffusion models and their curves ignore the *context* within which technical innovation is inserted. Thus, Akrich et al. (2002) offer the art of *interessement* as a way to bridge the gap between the technical object and its socio-economic environment:

The model of interessement sets out all of the actors who seize the object or turn away from it and highlights the points of articulation between the object and the more or less organized interests which it gives rise to.

In other words, the success or failure of an innovation depends on its capacity to interest a network of allies.

My aim in this chapter is to propose a political view of innovation and technology adoption which can shed light on the strategic nature of this art of interessement. Technical decisions are not innocent. In addition, artifacts are also a place of contestation where innovators seek to build coalitions of interests, rally masses through universality claims about, for example, the use of their innovation, such as the QWERTY keyboard design (Rogers, 1983) or the use of a web browser (Faraj et al., 2004). Whether the particular (the
firm’s product) and the universal (market) get to be coincident or not, conditions the success of any innovation. Further, this coincidence is both necessary and ultimately impossible: the product, once universalized, necessarily maintains a remaining trace of particularity.

Empirical work is required to clarify this issue: through which operations do master ideas become the locus of hegemonic effects?

**Framing the case**

This analysis mobilizes ethnographic methods to examine the takeover of the game engine Unity 3D and the process through which the existing regime which orders the game industry has been contested and confronted with an alternative.

**Why Unity?**

The game engine has been chosen because it is a master signifier in computer game design: it is the software that interacts with the hardware of the target platform on which the game will be played. The ‘game engine’ translates the digital object, referred to by game developers as *assets*, from the format in which they were initially developed into a code that can be run on the game platform. For example, Panourgias et al. (2013) consider the tension between ‘creativity’ and ‘programming’ and identify the game engine as the ‘key technological artifact that conditions the creative autonomy of game developers’.

Furthermore, Hudlicka (2009) argues that the gaming community focuses on the development of *affective game engines* in order to facilitate the development of affect-adaptive and affectively complex and realistic games.

This chapter tackles more particularly the takeover and adoption of a particular game engine, namely Unity3D, rather than its competitors OpenSim and UDK, to name but two. Unity provides a straightforward editing environment where 3D models are dragged and dropped into the editor and then positioned in a sort of 3D game world. The major strength of Unity is that this process is very intuitive. Unity is the market-leading platform for creating
video games, but also training simulations, medical and architectural visualizations and other
interactive 3D content. The potential ubiquity of Unity is underlined in the marketing
material: ‘Unity supports the creation of almost any 2D and 3D interactive content
imaginable, including non-game apps for gambling, simulation and training, virtual reality
and the automotive, architectural and advertising industries.’ On the corporate website,
Unity’s users are described through an affective rhetoric: ‘They are using Unity to build a
livelihood doing what they love: creating games that hook and delight players on any
platforms.’ According to an unreleased McKinsey report (and as Unity state in their own
publically released data), Unity 3D is the market leader, and covers 45% of the game engine
market shares versus 17% for the closest competitor (unreleased McKinsey report, 2015).

Elements of context

The research strategy adopted here is to focus both on the role of Unity’s project in
challenging and re-structuring the gaming industry as it was organized in the 1980s and
1990s, wherein entertainment was but one element in an overall hegemonic project designed
to diffuse a new technological configuration, and on the local dynamics through which these
new ideas and practices are installed in the start-ups themselves. In particular, I am concerned
with the discursive formations and the logics traversing the discourse of strategic actors and
users of the software. What logics play out in the adoption of a game engine? What are the
discursive formations that are empirically detectable at the local level? What logics transverse
the discourse of actors? How do they produce hegemonic effects?

Data regarding strategic actors were collected through press interviews given by David
Helgason, the CEO of Unity, as well as an in-depth, three-hour, semi-structured interview
with Gary (pseudonym), Unity’s Director of Support and Documentation, which I conducted
at Unity’s UK office in Brighton for the purpose of the ethnography. A six-month
ethnography was conducted in a start-up at Birmingham Science Park in order to examine the
process of adoption more specifically at a local level. To complete my knowledge of the industry, participant observation was conducted at the Unite community event in Vancouver and at a specialized academic conference of game developers.

The fieldwork revealed a tension between the established regime oriented towards the market of console games for entertainment and the new emerging regime of mobile apps. The mass of the game developers who met at the Unite event or the VS-Games conference were actually thinking beyond the traditional modes of the video-games business on consoles; their approach to games was driven by the opportunities offered by new platforms such as social media, tablets and mobile phones. Glynos and Howarth connect the macro-micro contrast with the distinction between regimes and practices, although the precise elements of these contrasts depend on the specific problem being investigated (2007). In the case studied here, let us fix the notion of *regime* at the level of the designers embodied by Unity’s organization and their strategic actors, and *practices* at the level of the users, namely the game studios using the tool, which I will exemplify specifically through an ethnographic study conducted in a start-up designing visualization tools.

**Discourse of Unity’s strategic actors**

In this section, we analyse the vision and contextualized self-interpretations of key organizational members from Unity, namely the Chief Executive Officer and the Director of Support and Communication. More specifically, we will shed light on how Unity’s developers strategize and how they talk about the adoption of their product. When do software designers such as game developers *act* politically? How and why do they *contest* an existing regime?
Unity's assemblage of political logics

In this section, we will identify the assemblage of political logics – gamification, democratization and subjectivation – in the discourse of Unity’s strategic actors which, articulated together, enable to characterize the emergence of Unity’s regime.

Logic of gamification

In the words of Gary, the emergence of the mobile market transforms the market not only in terms of the format, but also in terms of richness of the content, the size of the teams, the product quality and the technical expectations regarding the game engine. Thus, according to Unity’s Director of Support, designing games for consoles is explicitly contrasted with mobile game development:

Making games for consoles take a lot of people and a lot of time, so you need a very big budget, very deep pockets to make a console title (…) the success of a game can’t be guaranteed- you might have a really good sport game, it might be liked by people who preview it, it might get to the market two weeks after a similar game gets published and nobody buys your great game because they just bought the other game, two weeks ahead, so there is a lot of risk in game development- almost every publisher of games in the world sees console development as risky, whereas mobile game development is infinitely easier and cheaper.

Let us call social the logic of game design which typically organizes the industry of game development on consoles through a particular recognition scheme (e. g. AAA games being the most visually appealing). This social logic involves expectations about important actors in the field, with ‘very deep pockets’, dominant platforms such as the PC platform and video games consoles, the recognition of an order of things and the hierarchy within social actors and institutions. These practices of gaming for entertainment, are considered social insofar as they are established, routinized and not yet contested.

Further, the re-articulation of the practice of game design, from games for console to mobile gaming, also requires a redefinition of game. Thus, the signifier ‘game’ is invested with a new power of transformation. Games are not regarded as mere autonomous software
designed for entertainment, but as bearing agency in shaping the structural features of information systems:

On the web people are spending so much time playing games now. The recent stats that people are spending more time on the web playing games than using email was kind of cheating because it doesn't take into account people communicating more on social networks. But one thing that I think is a true statement is that Facebook may have made games on the web happen in a new way, but games also made Facebook happen in a new way.

Another rhetorical trope through which this re-articulation is enacted is through the figure of the chiasma (chi means x in Greek). The structure of the chiasma can be read thus: Facebook => ‘games in a new way’ => games => Facebook ‘in a new way’. After suggesting that the identity of the indie developer could be labelled differently from the way Nintendo did, the CEO also attempts to transform the meaning of the word ‘game’ itself by drawing equivalences with other genres of social communications, such as email or a famous social network. We call here logic of gamification this attempt to hegemonize the label ‘game’, to catch up other social space and to posit a well-known social network and the genre of gaming along a logic of equivalence.

In the following extracts, Unity’s Director of Support adapts the definition of game into something which can cover entertainment, simulation and training, virtual reality and the automotive, architectural and advertising industries. But the largest markets beyond entertainment are the military and gambling:

We have been quite successful in the traditional games market, now there will come a time when we spoke with the game publishers, spoke with the developers, our ability to make money from that space will start to flatten as any business. We’re looking more in Asia and South America where we have got great penetration, so you know those are markets where we can continue to grow on gaming traditional business so beyond that we need to consider sort of virtual markets, so one we are running to at the moment, one is in the gambling space which
confusingly in the US is called gaming, that’s selling our products to companies that make slot machines or online gambling.

The social logic of the ‘traditional games market’ occupies a space which ‘will start to flatten’. The search for growth leads the firm ‘to consider sort of virtual markets’, a new field of possibility. To articulate the logic of gamification, Gary adopts a rhetorical twist. The gambling space is also called gaming in the US. The Director of Support mobilizes this polysemy to facilitate a strategic turn of the company. Such speech acts also have the function of guaranteeing the coherence of the strategy vis-à-vis an audience, here instantiated by the interviewee (myself). In fact, the meaning of the word ‘game’ becomes metaphorical, and this is part of a broader strategy of producing ‘game’ as an empty signifier.

Logic of subjectivation

Expression such as ‘happen in a new way’ presupposes the emergence of an event which Helgason describes in the following extract. Thus, the CEO’s interviews also confirm the shift foreseen during the fieldwork, and the emergence of another work identity:

We didn't think about mobile until 2006 and then the Nintendo Wii came out, which we decided to go to for two reasons. We thought it would be a really open platform and it turned out to not be as open as we'd hoped. When they spoke of ‘indies’ they weren't lying, they just had a very different definition of indies than we had.

In the sense that the construction of new forms of subjectivity, here that of the Indie developers, conditions the success of novel ways of acting, we will call this process logic of subjectivation. In this extract, the CEO seeks to render visible the classification behind the industry’s situation by endorsing the role of an ingenuous designer (‘we thought it would be a really open platform’). However, he is progressively contesting this social logic by offering an alternative meaning (‘very different definition’) to the indie identity, a re-labelling of their work practice, in a way which tends to dismiss traditional game design as an elitist practice (‘not be as open’) open only to accredited developers. David Helgason historicizes the
strategic turn of his company and his decision to differentiate his activity from traditional institutions (Nintendo) and the established formats (Wii) of the console market.

Thus, the game designer keeps endorsing an ‘innocent’ reflexive standpoint: ‘the recent (...) kind of cheating’, by taking a critical distance (‘it doesn’t take into account people communicating more on social networks’) with arguments which might serve his own rationale. This rhetorical twist renders the statement (‘games also made Facebook happen in a new way’) strong and consequential. Once more, the political re-signification is softened through the rhetorical device of the preterition signalling his awareness of negotiating with existing power relations and the recognition of the audience (‘one thing that I think is a true statement’). In either case, Helgason is not so much concerned with rationalist explanations, but with the subjective consolidation of a regime of truth. This euphemism (‘they were not lying’) reveals that he is positioning his speech within an existing, symbolic, *rapport-the-force* with major actors in the field. Once again, the truth manifested by the CEO is opposed by negative attitudes (‘lying’ or ‘cheating’).

**Logic of democratization**

A third political logic, which appears explicitly in the rhetoric of Unity’s actor, is the logic of democratization. Let us examine Gary’s views when I question him about the notion of democratization as specified in the marketing brochure and Unity’s website:

Democratization just means we want anybody that’s got an idea to make a game, to have the tools to make the game. And then you know the players of that game, you know the game-playing population in the world, can decide which games succeed, and which ones don’t, so it’s not who’s got the best tool, who’s got the best ideas, it’s really, anybody who wants to make a game can; that’s my view on the product, anybody who wants to make a game could use that tool. When we say anybody, literally anybody in the world, we mean anybody that’s got some technical skills, some understanding on how games work, could make a game.

Unity’s Director of Support elaborates on the concept-word of democratization through the topic of universalization. An expression such as ‘the game-playing population in the
world’ clearly posits the belonging to the game community as a form of citizenship, metaphorically related to a belonging to a nation. The hyperbolic style is also similar to political discourse and the tone is voluntarist, therefore the technical constraints are undermined: ‘literally anybody in the world, we mean anybody that’s got some technical skills’

Rituals and ideological fantasies
In other words, these discursive formations are grounded on desired-based narratives which enable their materialization through speech acts and rituals. There is a gap, due to individuals’ fantasmatic susceptibility, between the high-level strategy and eventual adoption. We propose to fill this gap with the logic of fantasy, namely the mechanism through which users’ and designers’ energy is provided with a direction and a force.

Heroism: the myth of self-made indie developer
The fantasmatic logic is rendered manifest through a set of fantasy scenarios and desire-based narratives which emerge during the interviews of the strategic actors as well as game designers that we met during the Unite event. Let us keep quoting Gary, for example:

Very small teams- two, one people could make a game for mobile phone by themselves in the bedrooms, and become very, very successful-so that’s far more sort of Indie, independent game-ended market. They are called indie because they are independent; they haven’t got a publisher funding them to make the game, so there have always been indies working on games.

Indie developers typically enact a different mentality, exemplified by the beatific narrative of successful entrepreneurs, one or two programmers becoming rich by developing an app in the intimacy of their garage on a very small budget. In particular, Gary reports the story of a programmer who made some tools to help people with some 2D artwork, sold on the assets store a product called NGui, claiming that he had made US$300,000 from selling this
product. Game designers systematically share these stories via blog posts or during socialization rituals, such as the community events of the company and the online forums.

Such success stories and scenarios operate as fantasy frames, structuring the desire and identity of most indie developers. Some renowned historical 3D artists (in this picture, Richard Garriott de Cayeux, the creator of the series Ultima, a very successful role-playing game in the 80s) also contribute to the show. They constitute charismatic figures in the entertainment software history, generating the promise of a return to *primordial enjoyment.* Unity is a symbolic construction, and what gives an imaginary consistency to this discursive construction is the fantasy which promises our encounter with the fullness of enjoyment, supposedly located in the historical roots of game design. These performances help to legitimize the takeover of the product, reinvigorate lost pleasure and inscribe the software within a historical chronology.

**Picture 3. Unity 2013.**
**Community spirit: the ‘game playing population of the world’**

The performance of CEO David Helgason, not unlike the ones of Steve Jobs, generates the energy and the mobilization of *jouissance*. Such stories operate as fantasy frames which structure the desire and identity of most indie developers. The thrill of these narratives is organized around the obstacles to the realization of this fantasy which encompass institutions (big studios, publishers), accreditation (triple A sponsors) and costs (associated with commissioning an artist): in other words, all the intermediary layers between the customers and the emerging market of service companies. Furthermore, the myth of the independent developer presents as a reminiscence of the golden age of the independent studios in the 80s, before the hegemony of the major game studios, embodied through the performance of a historical figure and gaming guru who devised highly-creative games from scratch. The pictures above, taken during the Unite Event 2013 in Vancouver, show ideological fantasy in action, the rituals through which these stories are embodied and enacted via the intervention of a guru and stars. This process is quite similar, although of course, at a different scale and with different aims, to the one sustaining the discourse of nationalism.
Unity’s regime among the users

In this section, we will address how Unity’s political logic tends to be associated with specific subject-based fantasmatic logic, among the community of Unity’s game designers and among the members of a start-up adopting Unity3D.

The online community

How do Unity’s ideas get adopted by, and translated within, members of their community of users? In this section, I will analyse the discourse of game designers in Unity’s forum, and I will discuss the differences between Unity and an alternative engine known as UDK.

The Cadillac Escalade (logic of democratization/community spirit)

The analysis of the community forum reveals that UDK and Unity are, in the perception of some users, reproducing the line of antagonisms between the challenged regime and the new regime. UDK is considered as having many AAA titles under its belt. It’s industry-proven and intended for larger specialized teams and bigger budgets whereas Unity is tailored to the market of mobile apps and entrepreneurs who do not necessarily belong to major studios. In a metaphorical fashion, WinningGuy explains the difference as follows:

Unity is the Cadillac Escalade. Decent torque. Roomy, and can be used for a variety of purposes. Pick up the kids. Lug a bunch of baggage. A road trip with all of your buddies. And it can go decently fast. If something goes wrong, it's fairly easy to fix. Unreal is a Ferrari. You can't bring your friends on a road trip. You can't pick up the kids. You can't lug a bunch of baggage. But if you want to go fast, you can go really, really fast. If something goes wrong, it's really hard to fix.

This quote reveals the metaphorical dimension of hegemony, namely that the game designer draws a logic of equivalence, and to secure the pervasiveness of ideology key signifiers need to be emptied of their characteristics and opened to another kind of identification. In particular, WinningGuy mobilizes the metaphor of the car. UDK is more demanding and awkward to use but is higher-performance and is metaphorically described by WinningGuy as a ‘Ferrari’. In addition, it embodies a typical traditional elitist engine,
commonly used for designing triple AAA console games (although most major studios
develop their own tailored game engines for major games), more suitable for 360 or PS3, and
perceived by publishers as being less risky.

Typically, UDK follows the ‘industry-proven’ social logic of game design for pure
entertainment. In contrast, Unity is described as a ‘Cadillac Escalade’, easy and suitable for
self-funded and/or an indie or small company, and which is thereby following a political
logic of democratization. In a sense, the *fantasy narrative* of the family trip provides the tool
with a guideline as to how to desire the tool. It has the function of mobilizing affective
attachments to the tools. These stories pertain to two distinct ways of enjoying game design,
metaphorically embodied by the Cadillac and the Ferrari: utility and performance. This is, in
fact, more than a metaphor. My neighbour during one of Unity’s tutorials in Vancouver was a
father learning how to use Unity to design games for his children. Another similar metaphor,
one that is crucial in contributing to the production of the empty signifier, is that between PC
and Mac software.

The same can't be said of the Unreal editor. Epic should hire some interface designers, because
working with the editor is much more painful than it needs to be. Still, if I wanted to make a
high powered FPS, I'd use Unreal. I just wouldn't enjoy it! :wink:

According to another forum participant, Unity’s interface is simple, clean and uncluttered.
It is relatively intuitive, whereas working with Unreal’s editor is more tiresome, it combines
the pain of programming but without the enjoyment. In the above example, the actor’s
subjective identification with UDK is typically *inauthentic*, complicit with its own subjection,
which precludes to the decline of Unity’s rival.

*’am not a modder’ (logic of subjectivation/ heroism)*

The use of Unity also involves identity issues, as a game developer takes pride in using
Unity by defining himself as a programmer, and by stigmatizing the figure of the modder.
The practice of modding refers to the creation and distribution of player-created software
extensions to a game, widely downloaded and used by players. UDK is here associated with the modder whose identity is relegated to the less professional and less legitimate role of the *bricoleur*. Thus, in the words of Tatoforever:

> Without sources, I don’t see any interest on UDK, you don’t have the same low level of access as in Unity. Sure, Unreal modders will be happy now. But am not a modder, am a game programmer.

The issue of modding involves questions of legitimacy, in the sense that knowing who ‘owns the mods’ constitutes a crucial and political question *par excellence* (Kow and Nardi, 2010). However, in the same thread of the forum, another developer ridicules this elitist attitude:

> That's actually quite a failure at an elitist attitude. You should realize that working with mods and UDK is game programming and there is no difference between that and modding. I've worked in the industry for quite some time now and you rarely see any high level game code in C++ so does that mean that every single game you build is modding and not programming? Of course not!

The situation is problematic here, especially for the non-initiated reader! Tatoforever’s comment regarding the modder versus the programmer is in fact symptomatic of this change of regime. In the past model, the programmer is working on the source code of an existing video-game- this is essentially his job. Designing a game through UDK means that developers work on and modify the original source code of the game ‘Unreal’, which is itself a first-person shooter (FPS) whereas Unity is designed as a generalist engine. Unreal has been used for AAA games, whereas Unity has not. In the old regime, triple AAA games were the reference of elitism and professionalism. However, in the new regime, it is not the accreditation (social logic) which matters for Tatoforever, but the fact that working on UDK implies modifying and working on a pre-existing virtual template based on early version of the video-game Unreal, which is itself a *first-person shooter*. What used to be an opportunity has now become a constraint, a restrictive generic template. Yet the programmer’s sense of pride shows how the change in the nature of the job is ascribed an imaginary surplus. From
this perspective, his *overinvestment* in Unity’s fantasy narratives makes him vulnerable to 
blowback from the peers.

**Unity’s regime in a start-up**
We will now look at the local dynamics through which Unity’s logics were installed in a 
start-up. In particular, we will consider the adoption of Unity 3D and the abandonment of 
OpenSim, which occurred in the context of the design of a 3D visualization tool. The choice 
and adoption of the game engine is a crucial moment, in which a dominant work practice of 
scripting can be protected or challenged.

*‘Avatars are still a turn-off’ (logic of gamification/community spirit)*
DataVisu is designed to maximise human analysis by optimising the display of data, 
enabling the user to take up a wide variety of viewpoints from both inside and outside the 
data. DataVisu is built on the Unity game engine which enables the application to offer both 
3D immersion and multi-user collaboration. One of the key design decisions was whether or 
not to include avatars to enhance the sense of immersion. Thus, in the marketing materials, 
DataVisu is presented as ‘A Virtual world for your data’:

We thought long and hard about this tag line, just as we did about whether or not to have 
avatars. We didn’t put avatars in the single user version since we felt that (…) for most 
corporate users we spoke to avatars are still a turn-off and too closely associated with gaming 
environments. However “virtual world” (most emphatically in lower case) did seem by far the 
most appropriate way to describe what you can create with [DataVisu], a virtual world 
populated solely by you and you data.

Among the users of Unity and even more, among their clients, scepticism prevails. A sense of 
detachment emerges from the discourse, especially with the CEO who directly copes with 
decision-makers and business actors. The *logic of gamification* is toned down; the emphasis 
of its rhetoric is genuinely acknowledged and a desire of openness prevails (‘avatars are… 
too closely associated with gaming’).
An epiphany (Logic of democratization/ heroism)

Whereas the company traditionally had used OpenSim, an engine derived from Second Life, Unity’s choice appears to be the best option for designing DataVisu. When I asked Tony how and why they had decided to switch to Unity, the programmer described the discovery of the new possibilities offered by Unity:

We made the decision about building the sceneries ourselves, the realization, and it was an epiphany because we had not thought about it ourselves before that, we were stuck in the mindset of what we’d done on OpenSim before and suddenly we realized that if we did that it not only freed up the user to do whatever they want, it actually made our lives easier because we don’t have to put in these pre-made scenarios, and handle each of them separately, and it was bit scary at the time but it was one of the big decisions that we made.

Emotional language use such as ‘epiphany’ or ‘bit scary’ reveals the thrill of jouissance, the sudden emergence of novelty, an empty space open to new acts of identification to new signifiers and new discourses. Unity is experienced as a new object of attachment, providing a liberating and fantasmatic screen, whereas previously programmers ‘were stuck in the mindset of what [they’d done] on OpenSim before’. The discovery of an innovative idea – the emergence of political/innovative logic – is experienced by the programmers as an emancipation (‘freed up’). OpenSim also involves a certain physical limitation, as the programmer works on a prebuilt environment, which also serves as the platform for Second Life. In contrast, Unity empowers the programmers, through the figure of the emancipated indie developer, and it enables them to create functionality from the beginning and to create ‘whatever they want’. The strong emotional language provides us some guarantee of the spontaneity and authenticity of the programmer’s enjoyment.

‘As a programmer design on Unity is better’ (Logic of subjectivation/ community spirit)

The ethnography enabled me to distinguish conflicting logics between Tony’s feeling of empowerment and the end-user dimension of the artists, based on a representation of the physical world. Another programmer, Rob also suspects Unity to be written for programmers,
whereas OpenSim and Second Life would be written for artists, end-users or modders who enjoy building the model, or freely modifying graphics and the existing environment. As Rob subsequently recalls:

Second Life is very much modeled on the physical world. Unity comes from a different perspective, Unity comes from a programmer perspective. So in Unity it doesn’t matter how far away two things are, if you want them to talk, they can talk; so it doesn’t try to impose physical limitations on what you do. As a programmer, design on Unity is better

The choice and adoption of Unity is here directly justified through the mobilization of work identity, namely the programmer versus the artist. This is typical of the employee, working at a cynical distance, ‘if you want them talk, they can talk’. The programmer’s ideologically conceals the contingency- here the primacy of the maths over the physical and aesthetic concerns. The game engine actually imposes a particular ideological structure, a certain right way to do the job, and a new pattern of rules of professionalism. It transpires that the programmer’s identity is clearly secured by working with Unity.

‘More interesting than games’ (Logic of gamification / heroism)

The political logic of democratization is fundamentally materialized through the promotion and institutionalization of the particular mode of enjoyment of the programmers. How does the programmer intimately enjoy his/her work? What fantasy organizes the *jouissance* of the programmer? Interestingly, when I asked the CEO of Delta about his initial motivation to design visualization tools, he revealed how the ‘enjoyment of playing’ conceals a more confident and more powerful ‘enjoyment of programming’:

I suppose because *I was interested in science-fiction, things like that*, I thought it was quite interesting that you can actually create a 3D visualization just from a few lines of code and you can actually sort of share and explore that. (…) I can remember I used to have games; some of them *you can break into and see the codes that is used to make them work, I was finding this more interesting than the game.* (my emphasis)
The illicit enjoyment of ‘breaking into’ the code constitutes a more intense excitement than the ‘official’ pleasure of playing. The political enjoyment and its *erotics of transgression* materialize the ideology of the programmer and its particular mode of identification. The fantasmatic logic which is revealed here, through the detour of science-fiction, helps us understand that the game functions not so much to entertain the users, but as an *alibi* for the programmer to design other kinds of software. What truly matters for him is the code making the environment work. This political logic is thus sustained through the fantasy-scenario of a programmer/demiurge. By confessing the biographical truth about himself, underneath the gamification rhetoric, the CEO clearly adopts a position of authenticity.
Table 3. Assemblage of logics presiding over Unity’s adoption

<table>
<thead>
<tr>
<th>Logics</th>
<th>Social</th>
<th>Political</th>
<th>Fantasmatic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Institution</strong></td>
<td><strong>Gamification</strong> (adoption of new practices:</td>
<td><strong>Community spirit</strong></td>
</tr>
<tr>
<td></td>
<td>(accreditation, big publishers, high budget)</td>
<td>simulation and training, virtual reality and the automotive, architectural and advertising industries, military and gambling)</td>
<td>‘game playing population of the world’</td>
</tr>
<tr>
<td></td>
<td><strong>Elitism</strong> (elitist practice of game design for entertainment with high budget, performances required and artistic costs).</td>
<td><strong>Democratization</strong> (Anybody with a minimum of programming skills who wants to make a game can)</td>
<td>‘Cadillac Escalade’</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Subjectivation</strong> (work identity of indie programmer)</td>
<td><strong>Heroïsm</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Success narratives of the heroic Indie Developer who bypasses institutions.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Programmer as an all-powerful architect of its environment</td>
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</tbody>
</table>
Table 4. Comparative table of Unity and its competitors (Opensim, UDK)

<table>
<thead>
<tr>
<th></th>
<th>UDK</th>
<th>OpenSim</th>
<th>Unity3D</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Subjectivity</strong></td>
<td>Modder/Programmer</td>
<td>Artistic</td>
<td>Programmer-centric</td>
</tr>
<tr>
<td><strong>Genre</strong></td>
<td>Unreal/First-person shooter</td>
<td>SL/Virtual World</td>
<td>Defines itself as visualization tool</td>
</tr>
<tr>
<td><strong>Accessibility</strong></td>
<td>Elitist/hard to use/Expensive</td>
<td>Graphics skills/ Edit the world</td>
<td>Cheap/easy to use/Drag and drop</td>
</tr>
<tr>
<td><strong>Politics</strong></td>
<td>Game Industry-secured / Big publishers</td>
<td>LindenLab has control over the world</td>
<td>Start-ups/ Programmers have the control over the world</td>
</tr>
<tr>
<td><strong>Usage</strong></td>
<td>Entertainment games</td>
<td>SecondLife, simulation and training, corporate virtual environment (IBM Virtual Universe Community)</td>
<td>Entertainment, gambling, simulation and training, virtual reality and the automotive, architectural and advertising industries</td>
</tr>
<tr>
<td><strong>Affects</strong></td>
<td>UDK perceived as efficient but cold and painful to use (socio-ideological axis)</td>
<td>SecondLife has a strong ambivalent connotations towards sex, community life</td>
<td>Unity intersects the pain for utility performance and the appeal of an easy</td>
</tr>
<tr>
<td>and freedom, exciting but somehow deviant (socio-ideological axis)</td>
<td>interface (politico-ethical axis)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In this chapter I have drawn on a multi-sited ethnography to show how change has occurred within the gaming industry, and to demonstrate how Unity’s regime has progressively transformed the meaning associated with the practice of game design. Looking specifically at both the strategic actors’ discourse and the rituals of Unity’s community, I have shown that this process is not innocent, but in fact reveals the emergence of a political logic which is articulated against the existing social logic of game design. Unity deploys itself beyond entertainment in areas including gambling, the military, architecture etc. This political logic contaminates other spheres of discourse, including the members of the community and the start-ups adopting the product. Finally, I have demonstrated that adopting Unity secures and strengthens both the mode of enjoyment and the fantasmatic logic of the programmer over the 3D artists.
Chapter 7: The Problem of Acceptance
How do designer imagine the users? How and why may certain assumptions about technology use be accepted or rejected? In this chapter, I will address how game designers deal with the problem of acceptance by examining the case of a serious game designed for elderly people, namely Elder Move. Elderly people constitute a new market for game designers, and it is unclear whether, at this age, they would opt to play the game and enjoy it as young people do. I will first describe the aim of the chapter by positioning my framework within existing positivist and constructivist views on acceptance. Then, I will address the case of Elder Move, designed by the firm Totem, and the failure of the design team to gamify the product. Finally, this case renders visible the point that technology functions not so much as a technical issue, but as an empty signifier.

**Aims of the chapter**

Using my framework, my aim in this chapter is to demystify the practice of design, which is here understood as shaping a user’s experience in a way intended to conform him/her to a particular set of expected design patterns. While existing approaches adopt a positivist standpoint or a constructivist/institutional one, I will argue that design is rather an unstable arena involving speech, affect and identification.

The scientific approach to design holds that ideal game design features can be empirically tested, predicted and then applied. This heuristic approach is well exemplified by Malone’s PhD thesis, published in 1980, entitled ‘What makes things fun to learn? A study of intrinsically Motivating Computer Games.’ Malone was a social psychologist from the MIT who was interested in developing a heuristics for the design of computer games by focusing on three specific features, namely challenge, curiosity and fantasy. This is also the ambition of the TAM model (see above).

A less predictive way to conceptualize technologies and the process through which they are accepted and institutionalized is by constructing an *organizing vision*. From this
perspective, game designers envision (in their heads, on computer screens and on paper) the machine-to-be (Bechky, 2003), around so-called ‘organizing visions’ (Swanson and Ramiller, 1997), which can be defined as focal community ideas for the application of IT in organizations. The development of the organizing vision is motivated by institutional forces and, among these forces, the community’s discourse plays a dominant role. In contrast with the scientific design approach, these authors shed light on the impossibility of predicting the future of these evolving technologies and of foreseeing the applications and situations which might emerge from the use of these technologies. Nevertheless, the notion of organizing vision, while acknowledging the social construction of design, still assumes that institutions producing visions have control over the actors.

In contrast, the subject-based approach to agency helps us to capture phenomena that are pre-institutional, psychosexual forces which are not yet symbolized. Design is enacted in situ, and unexpected forces emerge it is the designers’ job to assign them a meaning. Reframing how designers conceptualize technology acceptance involves looking at design as a more unstable micro-political scene involving power relations, identification and affect. In contrast with the scientific design or sense-making approaches, the Lacanian theory of act suggests that this process is driven by unconscious psychosexual events which are retroactively assigned meaning by designers. How do particular terms come to be ordered in sequence, and how does a particular signifier come to gain a position of mastery and change the sequence of order? Members of a particular community or organization accept or refuse representations offered by important others. How and why does this hierarchization take place? How does the construction of master-signifier preside over the process of acceptance?
Framing the case

What is Elder Move?

There are several reasons why elderly people are reluctant to travel or walk; the elderly tend to lack the confidence to cope with physical impairment, the fear of being lost and the feeling of insecurity. Even easy tasks such as purchasing a ticket for public transportation, withdrawing money from a cashpoint or paying for daily shopping (the bakery, supermarket, doctors, pharmacy) can be perceived as a risk or a danger. The project does not propose solutions to reduce physical impairments such as innovative wheelchairs, for instance, but seeks to provide home-based physical and cognitive training in order to increase the elderly’s self-confidence when addressing those everyday issues of life outside the home.

Elder Move do this by providing contextualized help, based on innovative gaming platforms such as the Wii and the Kinect, and specifically develop mini-games based on the game engine Unity3D. Solutions to track user behaviour and movements on different geographical scales (e.g. public transportation access and usage, etc.) are made available, as well as improved social inclusion and accessibility through Web 2.0 technologies and tools. Social networks, chat, voice communication, professional aid/support and other relevant services (e.g. theatre ticketing) are also made available.

I shadowed the development process of an EU-funded project featuring serious games designed for the elderly and using the Kinect with a threefold purpose:

1. To inspire confidence in users so that they are able to achieve and manage limited physical movement.
2. To inspire confidence in the users’ mental ability by asking them to perform cognitive agility activities, and by providing positive reinforcement via verbal and visual feedback.
3. To inspire social confidence to encourage users to go outside their homes and interact with other people both inside and outside their social circle.
Finally, user acceptance appears to be a crucial challenge in this project because of the age of the target audience, a generation which is not necessarily technologized and are more vulnerable to the safety implications of using the Kinect for physical exercise. Hence, the project also features the issue of acceptance by medical staff and home care providers.

**Elements of context**

Various elements of context regarding this participant observation are now required. Although I gained access to the field thanks to a contact inside Totem, the serious games specialist, two different entities were working together on this project from the same office located at the Coventry Innovation Park: namely Gamma (the project manager and the programmers) and Totem (the instructional designers and the 3D artists). In this context, members of these two organizations present their work to partners and consultants of the project. Thus, the case indirectly involves employees from a third company, namely the partner Omega, which is an Austrian company with a focus on providing learning and knowledge solutions, including consultation, training and guidance, as well as developing training content materials. Omega was mobilized to examine the social aspects of the Elder Move project and the human interface of devices.

I will therefore follow the process through which this signifier Elder Move is invested in by various actors of the firms and beyond the firms. In particular, my aim is to understand this signifier as the site (objective) where the designers’ *rapport-de-force* (subjective) takes place. How do designers *imagine* technology use (*Imaginary*)? How can subject-based analysis be used to identify when gamification dysfunctions, when it does not work and when it *resists* predictions (*Real*)? Why do assumptions about users come to be rejected *in fine* whilst others are accepted (*Symbolic*)?
A failure at gamifying

As I highlighted in ‘Methodology used for data collection and analysis’, the Lacanian approach to ethnographic observation should pay attention to the trajectory of the signifiers and the chronology of meaning. I will therefore analyse the findings according to the three phases which I have identified. Phase 1 includes the primary construction of the concept design and the demo release – at this stage, communication with the partner is non-existent. We can label this mode of attachment of the designers to their product and its technical properties as imaginary. Then, the meeting involving the partners in Austria transpires to be a ‘turning point’ towards a novel approach – phase 2 where the Real emerges, an event and even an act which produces social actors as subjects. Phase 3 is the consolidation of this novel way, the inscription of the product within the symbolic and its acceptance by the group.

Phase 1: Before the meeting: imaginary identification with the thing

Retrospectively, it is possible to describe the programmers’ decisions as imaginary, as they designed the software according to an image of what they believed to be the video-game required by the European Union.

They have not yet entered the symbolic register of social relationships and confrontation with the Other. They still follow, literally, the guidelines of the EU, or more precisely their interpretation of these rudimentary guidelines, namely, to design: ‘missing quote’. In the Concept Design document as presented to the client, the thematic of Elder Move is organized around the topic of ‘Park Life’, and the art style is introduced as such:

Preference for a specific art style for this project that is not hyper realistic. Would prefer to have something that is cell shaded. The look and feel needs to be friendly and cheerful.

Moreover, John, the young project manager, describes the park to me as follows:

We could have several environments to choose… we thought a park was a good one as it’s not an intimidating atmosphere and we can do all sorts of things in there, really, targeted towards an older generation. If we chose something like a street, it gets more difficult
A key element of the instructional design pertains to the environment in which end-users are expected to evolve. The environment is set in a park, where the user will be able to explore and launch ‘mini games’ which are each designed around Physical, Cognitive and Social aspects. The following map of the park was drawn by the instructional designers:

**Picture 6. Map of Elder Move’s park**

The choice of a non-realistic art style was made to protect the elderly from anxiety by featuring a less intimidating or threatening atmosphere. Louisa, a 3D artist, describes it as cartoony but not patronizing: in her words, ‘not kids’ cartoony’:
We tried to keep things quite simple… wasn’t a harsh environment, wasn’t too threatening to them so we used, it’s not a cartoon style, it’s just more, it is cartoony, it’s just quite soft, it’s not like kids’ cartoony, simple colours and quite non-fashion, like for example the carnival part of it, the hoopla game, I was doing a really old-fashioned like carnival style.

The following dialogue, captured from the intranet of the firm, shows the debate about how the design choice, including colours and style, (game versus corporate) was derived from an assumption about what the users would be willing to accept and assumptions about how the users would experience the colours emotionally. Hence, for one of the partners, red is harsh and it symbolizes danger.

**Picture 7. Instructional designers discussing colours on the intranet.**

During my ethnographic observation, I found the art style a bit childish for elderly people, so I asked one of the programmers about this and he did not see it as a problem. More precisely, he didn’t want to think about this pessimistic scenario, which is typically the sign of an
alienated desire or, to put it simply, Chris was blindly following the majority without getting involved personally.

**RESEARCHER:** Do you expect to meet resistance among the users? They might find it childish?

**CHRIS:** We haven’t really talked about that. We kind of mentioned the idea that, how if they just outright, reject, all of the Kinect controls, we haven’t really talked about that very much because it’s not a situation that we want to, oh yes that’s totally gonna happen, then we’ll design everything (laugh).

Retrospectively, we can say this is an imaginary speech act, as it misrecognizes itself and overemphasizes the agent’s own potency (‘we haven’t really talked about that very much because it’s not a situation that we want to’). The laugh, as we shall see later, shows the overconfidence of the designers. The irony expresses a sense of self-detachment, which is symptomatic of a cynical lack of involvement.

Yet, in a conversation thread on the intranet of the project, one of the instructional designers, Jessica, had an early intuition that the art style might be too flowery, and asks her male colleagues whether it was too feminine or not:

**JESSICA:** Chris it seems you have nicely combined everyone’s feedback here! Can I just ask the male members of our team if it appeals to you? (sorry ladies… I’m just wondering if it’s a little feminine/flowery for our whole audience). If the guys say yes, then it’s a goer for me.

**JOHN:** I like it. I don’t find the flowers particularly girly.

**CHRIS:** Jessica I really like the logo(s) and feel they are fairly gender neutral. Ideally we will want to run them past a focus of the target audience though.

**JOHN:** Top middle for me as well.

Jessica acts within the symbolic as her intervention asks for, and takes into account, the desire and the gender of the others (the ladies and the guys). Another interesting aspect is that she also speaks from an ambiguous androgynous position (‘sorry ladies’). Her sexual ambiguity will be of importance later on, when the roles will be reconfigured within the team.
However, her feeling is still not recognized at this stage, and the males of the group keep blindly following the imaginary majority.

The demo was designed based on the above instructions and decisions before being presented in Linz to the partner Methodica. Prior to the meeting, the demo was presented online to the partners on several occasions, so they knew about it and what the designers were doing. However, on the day of the actual meeting in Austria, one of the partners saw it for the first time and made a wholesale objection, as reported by John:

His negative attitude was directed towards us because he thought we were working in our little world. It was quite a frustrating meeting. We need to make sure there is more communication between the different partners. We realized there is not enough communication between the partners and it’s resulting in all different parts of the projects looking at different things.

The issue here is presented as an issue of communication. John clearly acknowledges the lack of communication, a lack of symbolic exchanges, of integration of the Other, of the others in general. They were working ‘in their (own) little world’ – in their imaginary world, so to speak.

The shift from imaginary identification to symbolic integration by the Other functions through the emergence of the Real, a shock within the team, which will re-articulate and sediment the symbolic network organizing the group.

**Phase 2: During the meeting: emergence of the Real**

The Real can be described as a psychosexual *event* in which the subject experiences him/herself as a subject of *jouissance*. From this perspective, the acceptance of design features is seen as the subjection of technology designers to important actors.

When presenting the project to the partner, the biggest criticism comes from the *loudest voice in the group*, a partner who tries, and manages to, get everyone else onto his side:

Within 20 seconds when going into the game, the first thing… one of the particular partners, a guy, he’s very sort of the strong character of the group, he’s not the leader of the group, but he’s...
a very strong character, he’s the loud voice of the group, he kind of saw it as a kids’ game; his words were ‘kindergarten’. At this point, we were literally just going into the park, we hadn’t done anything onto the games

The style of the partner contrasts with the style of the game itself, as he is perceived as a masculine and intimidating figure. John describes how he was impressed by the masculine characteristics of the man (male, very strong character, loud voice) whose role is unclear, as he is not formally a leader. The character stands out as ‘one of the particular partners’. In this case, one signifier emerges that is going to organize the sequence. Thus, John is still puzzled by the meeting and retroactively reconstructs the trauma as such: ‘he kind of saw it as a kids’ game; his words were ‘kindergarten’. The Real can be described as a trauma in the sense that the realm of sexual relationships is always a traumatic experience for the subject. John encircles the void of the shock, retrospectively reconstitutes the scene and remembers the exact words chosen. The use of the foreign language – here German, but that is not the point – fosters the feeling of entering into another territory which is not familiar and is less safe. The words ‘at this point’ show that John retroactively posits the signifier ‘kindergarten’ as a point the capiton which preempts the practice of visualizing the game (‘we hadn’t done anything on to the games’). In Lacanian analysis, the endless movement of signification is halted by the predominant role attributed retroactively to master signifiers such as ‘kindergarten’.

Yet this is not enough. The word ‘kid’ is double-edged. To comprehend John’s sense of castration which is at stake here, we need additional signifiers. While subsequently interviewing Jessica, the instructional designer, it emerges that John was not an experienced project manager, and that this was his first experience of project management:

This is a really bad thing, what I am going to say, but before John doing the project we were two other people that did that role. Consequently Mark came in part of the way through; he’s not an experienced project manager, it’s the first time he’s said he’s done it, he hasn’t received any
training or anything so he’s sort of thrown in and then consequently because of that situation we ended up with an ineffective brief (Jessica)

The reference to the kindergarten resonates also because of his obvious and unspoken lack of maturity contrasted with the *realism* of the decision-maker. Fortunately for us, Jessica is here to break the code and make that unconscious truth explicit: ‘This is a really bad thing, what I am going to say (...)’ This self-transgressive enjoyment is not without a connotation of sexual domination; she knows it is a bad thing, but nevertheless she is indeed doing it and is obviously enjoying it. Not surprisingly, John is described as a ‘virgin’: ‘it’s the first time he’s said he’s done it; he hasn’t received any training or anything so he’s sort of thrown in’ John was ‘thrown in’, so to speak, like the baby out with the bath water.

Now, another set of questions emerges. Why does Jessica feel the need to recuperate the signifier ‘kid’ as constructed by the ‘man of Linz’? After all, she could merely defend her colleagues and their teamwork to which she too has contributed. Moreover, one can also note that Vicky’s version of events contradicts the dominant position that Jessica seeks to endorse:

I think they were really shocked that they had that kind of reaction. They were expecting to have a much more positive reaction than that, so it’s very weird, Jessica did actually take this guy side and just said quietly to him: ‘We have shown you all of the documents.’ (Vicky)

Whereas Jessica rationalizes the trauma by justifying this failure through John’s lack of experience and maturity, Vicky describes Jessica as being *shocked* in front of the man of Linz, saying to him *quietly*: ‘We have shown you all of the documents.’ The emergence of the Real is experienced by subjects as an affective trouble, something very strange, and which impels subjects to identify with a new or old signifier. Jessica also describes this situation as an unusual feeling:

So he really highlighted that this one guy, first of all the visual style doesn’t blend with the rest, secondly the look of how you play it, doesn’t feel quite right.
It seems that the first phase of the design practice *does not tick right* any more (Glynos and Howarth, 2007). How then shall we understand Jessica’s shift? The missing details appear quite clearly later in Jessica’s interview, when she emphasizes the fact that John had requested her help in order to mentor him:

> Today for the first time since Linz we might sit down and make some progress, relooking at the project you know, I mean, I have been helping John because I’ve got a lot of experience in managing European projects that he hasn’t, so he asked me to mentor him. I’ve been doing this for 20 years: many, many different projects, different kinds, you know- I’ve got that experience.

That experience which was lacking in ‘the kid’ John is now filled by Jessica’s excessive (‘many many’) *jouissance*. Moreover, Jessica ambiguously endorses a symbolically masculine role (she *has* the experience) in this phallocentric reconfiguration of power, which also confirms her earlier fear of having a game too ‘girly’.

Interestingly, John did not mention to me that he had asked Jessica to mentor him, but never mind, as the subjection to the partner had already operated within the team. As we have seen with Jessica’s promotion, affect-laden recognition subjects people to power, but also enables them by facilitating negotiations among new positions (Kenny, 2012). After the shock, the roles were re-articulated, and John accepts, not without frustration, the new relationship of domination:

> He’s just sort of a consultant in the project; the meeting was in Linz and he lived in Linz and he was like the man of Linz, he was comfortable in his own environment, he was ‘a big man of that town’, but he did certain good points, but he was very negative on his feedback, he wasn’t really constructive, whereas other people liked what we did.

Now we can understand the big picture. The man of Linz, fantasized by John through the highly *politically-charged metaphor* of ‘a big man of that town’ or the ‘man of Linz’, who has no specific formal power over the team, simply posited ‘the kid’ as a key signifier in order to obtain a position of mastery. Interestingly, employees from Totem never articulate
his name specifically, yet adopt an affect-laden identification to designate him: ‘this one
guy’, the ‘man of Linz’, ‘a big Man’ etc...

In sum, Lacanian analysis demonstrates the articulation of a new law of desire, the right
way to enjoy, subjecting designers in a new way as well as producing very concrete objective
effects and new technical features incorporated in the new realistic art style.

**Phase 3: The symbolic map after the meeting**

The new art style is now extremely realistic and connected to a “‘Street-view” type of
animation’ with geo-localization tools, GPS or satellite images. The system is now very
detailed, including a timetable and an exact position on the platform. The following extract is
an example of a scenario as imagined by the team after the decisive meeting.

**An example of scenario**

There is that concert in this new event venue, Fred ‘our’ senior has wanted to visit for a long
time. Tickets can be booked online and are sent by email. Nothing new for someone, who has
dealt with online shopping and secure payment most of his life. But the city has changed,
traffic is more intense and louder than ever and everything has become more confusing over
the years. The system not only shows the distance to the location, but also suggests a safe and
quiet way to reach it. Fred has developed problems discerning sounds and is often startled by
cars and bicycles rushing by. So, the system suggests a route along the river, which might
take a couple of minutes longer, but is much better suited for people like him. In a ‘Street-
view’ type of animation, the system shows Fred the way to the new concert hall on his big
TV-set. Fred, like in an engaging video-game, can navigate with his hands and choose
between alternatives routes suggested by the system. If there is public transportation
involved, the timetable is shown and the exact position on the platform is marked, where the
‘easy-access’ door is located, when the tram stops. The system precisely shows every detail
of the route. It choses the ‘right’ side of the street, where the sidewalk is wider and is not shared with a bicycle lane. It shows the exact location of zebra crossings and if a button needs to be pushed to get a green light. Planning can be done in cooperation with friends attending the same events. They can share their routes, give each other suggestions and even fix meetings places on the route, from where on they will walk together.

The identification of the software with the genre of video-games has now switched from an imaginary identification to a symbolic or metaphorical one (‘Fred, like in an engaging video-games’). After the meeting, the CEO rationalizes the software as a construction with a more adult feel, a more legitimate mode of *jouissance*.

I think it’s going to be something along the lines of… something based on transport. Some viewers got an adult feel to the game, that it doesn’t feel patronizing anyway ‘cause I think that’s one of the things they picked upon because that style of graphics, they felt like it was for a younger audience, so you know I think it needs to be more adult in feel.

The outcome of this intervention is a switch from a cartoon lifestyle to a realist lifestyle, and from a serious game to a transport simulation. Officially, this is because they wanted to avoid the graphics appearing to be patronizing, and to avoid the resistance of any users who might regard themselves as infantilized. However, this decision was made before any focus groups occurred, and was still subject to change in the later phase of the design, following my ethnography.

In fact, the CEO is not overly interested in the genre that the software belongs to. The CEO is engaged in another symbolic battle, at an institutional level. The content of the game does not matter for him, and this can be camouflaged via different discourses, depending on who the target audience is. Nathan does indeed use different rhetorical strategies: when he talks to elderly people, he emphasizes the fun element; when he targets care-home managers, he emphasizes the medical aspects:
You can camouflage that in a game or a simulation or fun, the words you use are different to different audiences, so if I was selling this sort of game to an elderly person, I would say “come and let’s have some fun…blah blah blah”. If I sell this simulation-game to an institution, I would say “look, this can really help with the cognitive element, you can do some movement with the body, you can develop your social skills, yeah, yeah, there is a little fun to it”. The main objectives are there to add some different environment, but it’s always different to different people, whoever you speak to. (Nathan, CEO)

Here the CEO mobilizes a functional discourse signalled by the word *camouflage*. It is not clear what the real designed object is, whether this is a game or simulation etc. It is posited as a fantasy *object* in order to seduce one audience or another. Here we can sense that the CEO is camouflaging himself under the Machiavellian logic of cynicism. Yet this would be to forget that the CEO himself is a subject with his own logic of desire, as we shall subsequently see: *that* is nothing more than an *object cause of desire*, an empty space, invested by different fantasy scenarios.

**Elder Move as an empty signifier**

In this section, I will demonstrate how the conceptualization of the software is shaped by various perceptions of the tool, differing according to the role endorsed, namely the instructional designer, the project manager and the CEO. In other words, the software is *polysemic*: it is an empty signifier, a *place* open to various forms of identification and modes of enjoyment.

Jessica, the instructional designer, sees the game as a *personal development tool* tailored to elderly people, and she has the idea of motivating users by using a *wheel of life*, a device she borrowed from the coaching literature and which includes rating tools. The following two pictures are extracted from the scrapbook mock-up:
This is related to Jessica’s biography, as one of her previous job was in training development, mentoring people who wish to start their own business or disabled people who want to start a new job. She had specific expertise in personal development, motivation and confidence building. Her experience in training and her qualification in life coaching and performance coaching was then rolled into some of the concepts of the game. The wheel of life helps identify areas of life where users can improve or do some work. This classification tool was discussed by the designers and finally tailored to the context of the elderly:

What we’ve done is say ok, our target audience is not going to probably be working so career, we scribbled that off, cause we know they are not interested in that, so there are quite a number of things in there that we felt that perhaps they wouldn’t be so interested in, we ended up by simplifying and super write down to these social, physical, cognitive ideas, which is almost where we started.
Some criteria, such as career, are ‘scribbled off’ and the wheel of life is translated to the context of the elderly. The wheel of life is a self-report system which ostensibly helps the users to engage in self-reflection. The pictures below represent the wheel of life as well as the scoring mechanics used, namely a 3-star system inspired by Angry Birds, a successful video game on smartphones, and probably unknown to the elderly.

**Picture 9. Scoring and feedback mechanics.**

### 7. Scoring and Feedback Mechanics

**7.1 Mini Game Progress**

Records progress/top score in the mini games.

Each mini game will have score bands linked to 3 star system (like in angry birds). The score boundaries are yet to be nailed down and will only be decided once we know average time it takes to walk around the lake, number of faces we have and average number of hoops achievable.

At this stage all numbers/boundaries should be configurable for game play balancing.

**7.2 Self-Reflection**

Wheel of life concept where players can self-report against a series of questions.

Questions will be rated out of 10

Each slice represents an important element of life:

- Family & Friends
- Growth/Exploration
- Nutrition
- Mental Stability/Calmness
- Etc (exact slices TBD)
The interface of such self-reflection is typically presented as a mirror-image: ‘Be honest with your reflection’. At this point, it seems that everything is conceptualized as a genuine reflection of the user with himself.

John, the programmer, is designing a fun game for educational purposes with the possibility of networking and comparing scores, and thereby creating a sense of competition as in World of Warcraft. Another technical feature of the Elder Move project is that it can potentially be connected to a learning system which enables one to track how people are progressing with the game, whether they are scoring well etc. The learning system operates in the manner of a social network, or a form of social base multiplayer environment:

There’s been a sort of shift from hitting a button to move to next page of content to more game reacts- you have to do the interaction and the game reacts and if you take from different ways, trying different scenarios and it can report back the information to say a learning system for people to track how you are doing within the game. There is lot more of that rather than game
before you were playing in your own virtual world and no one was involved. Rather, now you
can have people interact with an administrator or something who is like the teacher or the
trainer, it’s not only about you being on your own in the game, you can interact with a number
of people.

The users, instead of being in a virtual world on their own, can interact with an administrator
or ‘something’, which could be the teacher or the trainer. Here the scoring mechanics and
chat between users is used to increase the pleasurable experience associated with the competition. In
contrast with the self-reflection tool above, the idea of tracking the data and comparing data
from one user to another is here explicitly mentioned. This is presented as a game-react
mechanics to create a ‘sense of competition’.

The CEO is not directly involved in the project, and has in mind other issues of large-scale
data collection, wherein the game is only a means. Game is the practice through which data
are collected. From the CEO’s perspective, the scoring mechanics have here a different
meaning, as they can operate as a tool for data collection. Data are collected in order to make
the tool more legitimate, and to generate evidence to support the fact that it has a positive
impact on people. For him, game mechanics are not so much oriented towards the pleasurable
experience of the users, but more towards the collection of data which enable the legitimization
of the game towards medical institutions. His concern is more about how much data users can
get out of this game; if this game is produced and thousands of users are using it, it can
generate some meaningful data which can be benchmarked and analysed:

This is my vision: we have this game in thousands of places and data collected and data
analysed to where people are, that’s what I want to do in terms of the data is to analyse this, but
also give feedback as well, so the people are moving up the scale, down the scale, and build up
the evidence to say how good the game is- so we got the variables, we do the benchmarking,
collecting the data, is there pattern there, is there a pattern with different people around the
world, is there a pattern in terms of age, in terms of when it’s played in their home or in their
care home? The patterns that may come out from the game- that’s my vision. (Nathan, CEO)
Here the game mechanics are provided with a very different meaning from that of Jessica and others; they are here associated with feedback, benchmarking and evidence building. Thus, the firm can gain some legitimacy and evidence to identify patterns of usage, how people’s social, physical and cognitive developments are progressing and with different people around the world. This is why Gamma’s CEO is working with the Warwick Institute of Digital Health: to gain legitimacy, to obtain the evidence from the data that they extract from the game. The words ‘That’s my vision’ constitute not so much a vision shared within the organization, rather the enjoyment of the CEO in enacting the role of cognitive mastery associated with his position in the firm.

Furthermore, a crucial aspect is that this process is never global – the CEO is not pulling strings. In other words, the CEO is not manipulating his employees towards a big data vision. Furthermore, in a way, it would be impossible to do so without breaking the comedy sustaining the practice of game design, and the economy of enjoyment sustaining the project would collapse. There is no organized ideology; or, if you prefer, there is no organized vision, since we know that this process has much to do with institutions. There is no sensemaking either, as different layers of rationality co-exist, different ideological interpretations accorded to the different roles; their effectiveness depends on how they can be condensed and given an imaginary substance through the production of the empty signifier.

In sum, Elder Move is again the empty signifier at the crossroads of various interests and various trajectories of meaning or fantasy scenarios. It is not merely equivocal, it is the place of a constant misunderstanding. Whether this is the site of local dispute and rapport-de-force between John and the Man of Linz, a personal development tool for Jessica or the CEO’s Trojan horse for the expansion of the collection of strategic data, the game is irrespectively the fantasy object mobilizing enjoyment and energy. It is the object cause of desire around which the economy of enjoyment of the organization is organized.
As can see from the picture below, where designers test the product, using the Kinect, one might ask: Who is the puppeteer? Is the human or the game itself fascinating and seemingly hypnotizing the users? Naturally, the object does not really have agency, but its fantasmatic appeal, the idea it constitutes in our psyche, does have very effective material consequences.

**Picture 11. Using the Kinect.**

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In sum, in this chapter I have described a case where gamification dysfunctions, where the gaming features get eliminated for being too naïve and childish. I have demonstrated that design decisions are neither planned nor applied by institutional vision, but rather emerge from the interaction of discourse and psychosexual events. In particular, where gamification is intended to generate trust and diminish anxiety among the elderly, it paradoxically generates the exact opposite effect: anxiety and *coup de force* among the design team itself, and a redefinition of the project and attribution of roles within the team. Finally, the design of Elder Move appears not so much as a technical debate, but more a rapport-de-force and battle for recognition over the attribution of meaning around the key signifiers.
Chapter 8: Inscription of Ideology
In this chapter, I will look at how ideology is inscribed in the technology, and particularly at the role that the notion of genre plays in this process. I will study why it is meaningful to name a work practice a ‘game’ or not, and what the implications are for the programmers and for the clients. In particular, I will consider two projects of the same company, Delta. The first project deals the visualization of data in 3D, and gives us insight into the centrality of enjoyment/excitement in the analysis of an increasingly huge amount of data, a phenomenon usually known as ‘big data’. The second project is a virtual world designed for teaching geology and conducting virtual fieldwork with PhD students. This project involves geologists, but also includes some earth scientists who are against technology and defend true fieldwork in the curriculum.

Aims of the chapter

In this chapter, I would like to problematize the notion of inscription. The design of computerized systems has often been conceptualized as classification work and, from this perspective, IT and systems developers can be seen not merely as designers of technical tools, but also as architects of organizations themselves.

Existing debate in social theory addresses the role that categorization plays in the struggle over the control of social identities (Sacks, 1979). Sacks looks at how persons assigned to a place in a system of categorization, imposed from outside, engage in acts of resistance by developing categories for themselves (in Sacks’ example, ‘teenagers’ develop the category of ‘hotrodders’ as a revolutionary act). Implications of this debate in information systems research have lead researchers to study how the inscription of formal representations in technical systems contests how our relations to each other are ordered and by whom (Suchman, 1993). Sacks’ hotrodders or the users of THE COORDINATOR in Suchman’s study are tied together by the belief that they must be brought into compliance with a particular conventional order.
The link between inscription and classification is, for example, offered by Bowker and Star: ‘What a difference a name makes: The classification of nursing work’ (1999). The genre is a particular mode of classification. Work classification systems are central in management and their development is the contested site of a quiet politics of voice, work and values (Bowker and Star, 1999). In their study of a system for classifying nursing work, these authors describe the process through which a Nursing Interventions Classification (NIC) were designed by asking nurses to describe what they do, so that it could be classified, standardized, and integrated into a billing system. The nurses’ list of interventions includes beyond the usual practice of nursing, less expected situated and subjective action such as 

*humour:*

> How can one capture humour as a deliberate nursing intervention? Does sarcasm, irony or laughter count as a nursing intervention? How to reimburse humour, how to measure this kind of care? (Bowker and Star, 1999)

Now that computer developers have the power of classification, do they have the temptation to exert power on embodied behaviours, to mobilize their power of compliance in order to serve specific ends, usually disguised under apparent value-free imperatives such as utility or productivity?

Van der Heijden (2004) applied the distinction between hedonic and utilitarian products to classify information systems. Van der Heijden argues that hedonic systems seek to provide ‘self-fulfilling value to the user, in contrast to utilitarian systems, which aim to provide instrumental value to the user and increase efficiency.’ In its purest form, interacting with hedonic systems is designed to be an end in itself. Literature inspired by motivational perspectives has acknowledged the *problem of consent* in the playfulness (or intrinsic motivation) associated with managerially-imposed games (Mollick and Rothbard, 2013).

Thus, the cognitive labels or script associated with the task (play versus work) also affect intrinsic motivation (Cellar and Barrett 1987). For instance, Vinkatesh measured the effect of
game-based learning on perceived usefulness (extrinsic motivation) to account for cases where users would dismiss game-based learning for being ‘just a game’.

In this chapter, my aim is to interrogate the work/game distinction which operates no longer as a contradiction in terms, but as the programmer’s act of cultural inscription, where work constitutes the Real, the psychosexual contingency, to which the meaning ‘game’ is attached. What cultural regime arranges the interaction between technology and body, and what interventions into this ritualistic repetition are possible? How do we struggle with the categorization? Under which conditions do we forget the category associated with technology? When do we ultimately feel immersed in the game?

Framing the case

What is DataVisu?

DataVisu is a data visualization tool designed by developers from Delta, and it is based on the game engine Unity3D. DataVisu is designed to maximize human analysis by optimizing the display of data: it is a virtual world for visualizing, which means that users can navigate inside the data, move around and through the data and view them from a wide variety of viewpoints, either from the inside or out. The use of a 3D environment significantly increases the amount of information that can be sensibly displayed, and the sense of immersion appears to help the brain to identify any patterns, clusters and anomalies in the data.

Thus, the visualization tool is designed not so much as a serious game but as a more engaging way of looking at the data. It is not an automated analysis tool although it can be used to visualize the outputs of such tools. The multiple datasets are plotted in the same subjective space. The tool enables one to import and to plot large amount of data, rising to over 1 million points, derived from web services such as RSS, Twitter and other feeds and real-time data. It also enables to dynamically map and re-map data parameters onto plot features.
What is 3D Skiddaw?

3D Skiddaw is another project from Unity’s developers. It reproduces the geological fieldwork experience in a 3D immersive digital landscape created using real world data from the northern Lake District in the UK. The experience is focused on the rocks around an outcrop of the Skiddaw granite, and takes the form of an investigation into the metamorphosis that has affected the landscape. It is the subsequent re-shaping of these rocks, in terms of their structural features, which occurred 400 million years ago, that is of particular interest to geologists.

The developed software is a browser-based 3D simulation using Unity software. Geology researchers insist on keeping this simulated world open to external, legitimate sources of knowledge, such as the virtual microscope, data from the field by integrating real pictures, sounds (one geologist has recorded the sound of the wind and birds in Skiddaw) and specific features such as various maps, including geological or metamorphic views.

Picture 12. The aureole of the Skiddaw granite (based on Eastwood et al., 1968).
Exploring Big Data through DataVisu

Competing forms of enjoyment

As an alternative to the established practice of visualizing data in 2D graphs, the developers propose a practice which is supposed to replace the previous one and provide it with an emotional appeal.

DataVisu provides an easy way to use immersive 3D environments in which users can visualize and interact with data from almost any source, from financial Excel spreadsheets to live social media feeds, including Twitter or Facebook. Here, the ideological process consists of using a signifier which connotes administrative and bureaucratic boredom: the spreadsheet. In order to mobilize users, programmers make jokes (interviewees are here usually smiling or laughing) that using DataVisu is more exciting and ‘cooler’ than using a spreadsheet. This complements the serious argument that a spreadsheet displays data as lines of information, making it easy to miss key information. In contrast, 3D visualization tools offer a different way to explore, visualize and see the data, i.e. to understand the story of the data:

I love the product I think it’s really cool. It kind of gets you excited about data (laugh) which is not something a spreadsheet does. I think 3D environment gets you excited about things

(Programmer)

It’s a different way to explore your data and visualize and see it because sometimes spreadsheets for example, can be you can miss key information because it’s just in lines of information

(Programmer)

Any kind of data that you have, numbers, and you try to understand the story of the data, what the relationship might be (Programmer)

This rhetorical and performative operation typically shows the work of subjectivity. At a technical level, the product is described as ‘subjective space’. A spreadsheet (which typically refers to well-known competitors such as Excel, Tableau or the statistical mapping tool R) is
a boring way of looking at data and a 3D environment is an exciting way: after all it is like a video-game. We know that this is not the case, and looking at data whether in 3D or 2D will always be, ultimately, a painful, analytic process (this is indicated by the moderator ‘kind of’ and the laugh after: ‘kind of get you excited about data’, which show the self-transgressive ironical distance). This is especially true when dealing with serious purposes such as medical or climate data. However, here the ambiguity of using game technologies is used to provide a connotation of pleasurability. The operation of the game engine here is not so much technical but affective; the signifier ‘game’ is the mask preceding the technological change, namely from the practice of visualizing data in 2D to 3D. A mode of enjoyment is competing and potentially substituting the other, potentially generating not only the emergence of new practices, but also the consolidation of a new habitus:
Pictures 13, 14 and 15. Marketing materials of DataVisu:
and another - being able to make sense of unstructured data like twitter can sometimes be great fun.
Of course, the emergence of new ways of feeling and acting, the destabilization of existing institutionalized feelings, is far from obvious. It involves taking the risk of bizarre acting out, dealing with ambiguity and disharmony, experimenting with emotions which have never been displayed and for which we do not necessarily have a word. For example, let us consider the excitement of displaying data in 3D via DataVisu, which tends to be somewhat overplayed by the marketing team in the following extracts, taken from the marketing Facebook pictures above, where a manager comments on pictures of the software:

and at a touch of a button we can make the red spheres totally invisible so only the auto-tag tweets show! Making it easier to spot the weather stations. Lol. Latest tweet closest to the map. capturing live tweets in 3D around the west of England on datavisu #3D #datavisualization spotted more weather stations! More pics to follow☺

and another – being able to make sense of unstructured data like Twitter can sometimes be great fun!

These examples are excessive, even ‘nerdy’, but render visible the overall project, namely the replacement of one mode of enjoyment over another. They remind us that affect is different from emotion; it is always ambiguous, resisting the work of categorization, and the attempt to orient its force and provide it with a language is the ideological intervention par excellence.

In fact, the function of the signifier, in Lacanian semiotics, is that of a metaphor. It is like a video game. The experience of designing a 3D environment is connected by the developers to a network of inter-textual references to pop culture, for instance first-person-shooting games such as GTA, Doom, Wolfenstein or RPG, or role-playing games like Ultimate on the World, Final Fantasy 7, World of Warcraft or science fiction movies. In the words of the programmers, the navigation metaphor is similar to a videogame:

The navigation metaphor is like in a video game; it would become a game or a serious game if we started giving you points for zapping things and they disappear, that would cross the boundaries for being a visualization to be some sort of serious games.
Interestingly, this quote exemplifies the rhetorical twist used by Delta’s programmers by using of a formal (and therefore imaginary) definition of game (a game typically requires a win or lose condition; there are points in a game). On the one hand, this definition functions as an impossible horizon, in order to reinforce the public prohibition supporting the law of desire: ‘This is not a game’. On the other hand, it provides the tool with the legitimacy necessary to convince the business and scientific decision makers about the relevance of adopting a 3D world for their work practice.

In a sense, the social game is closer to what a game really is; because of illusio, the ignorance of acting within a pre-established field is stronger. More than a category inscribed in the machine, the game is the metaphor of the 3D visualization, and it sustains the fiction enacted by the developers.

**The spectacle of enjoyment**

The practice of 3D visualization is described as a fiction, not an instrument. Data are described as something to look at, rather than something to read. If looking at the data is more entertaining, it becomes easier to spot trends and associations.

However, at a more informal level, which Facebook materializes very well, the smileys or abbreviations above show not only the visible enjoyment but, in their excessive over-use, they show the desire to exhibit the enjoyment seductively, the provocative meaning of jouissance. Enjoyment is something that is stolen from the Other, jouissance is the byproduct of the subject and the big Other: it is what is stolen by the subject from the gaze of others. This is why, when it is displayed, it is fascinating and repulsive, as it constitutes a scandalous ‘theft of enjoyment’. The excessive aspect and the ridicule or bizarre effects it generates, however, are also the sign of a process that is too conscious of itself; in Lacanian terms, a fall into the imaginary register, which is the other side of the coin of taking gamification seriously
and making it systematic. In fact, these computer games designers are in the process of ‘getting it’ (Nandakhumar et al., 2013). As a programmer puts it:

I think it is more immersive. It makes you feel like you are actually involved in something. I think it helps you retain it because it’s something to look at rather than just read, I would say, a sheet of paper or rather a book, pretty much really, especially on the training side of things. It makes you feel you are actually living through the experience of actually doing it, rather than just watching a video or reading through the exercise. It helps you judging completely and actually makes you feel you are actually experiencing it in real life.

Here we might question this imaginary power of technology: Why is reading a book less exciting than using an immersive environment? Does this all depend on our investment, the way in which we engage with these two activities? In fact, the programmers seek to seductively mobilize the users’ subjectivity, to capture their enjoyment, to provoke them by showing them not so much the content on the screen, but by showing them how they perform and enjoy themselves using the tool; they want to understand that feeling:

So the thing about the client is that a lot of the time, they want to understand; even if you take them, yes this is on his way we are working on this, they won’t really understand until they see it on the screen themselves.

It has to be realistic, exciting and believable. We know perfectly well that it is fake, but we keep acting excessively, we pursue our action as if it was serious. This libidinal excess requires necessarily an element of comedy to be articulated: after all, the programmer uses the metaphor of the spectacle (to look, etymologically).

During a meeting, developers raised the point that while algorithms get democratized, data science tools might replace data scientists before this field has even taken flight – a prolongation of the classical deskilling literature in organizational studies. In fact, data science is neither a science nor engineering: it is a spectacle. Machines never have the deep understanding of the tools of data science, machines never enjoy the tool, they do not experience the frustration and thrill of displaying data in 3D. The practice of data science
involves a libidinal mode of investment which makes the tool material, bringing it to life, although this truth will never be admitted officially *in fine*.

If you put that into DataVisu it gives you the ability to see in holding light and maybe spot in as you might miss stuff when you only go through a list and part of my job is try to make people see that.

I think it’s much better if you are a creative person, because it takes creativity to do something in a 3D environment. If you’re not very creative, you gonna fight, you gonna struggle to display the data that you have in an interesting way.

People found it easier to spot some features, and also were less stressed when doing research.

That looks like the physical world and the brain find it easier to cope with that. The aesthetic and pleasurable makes it less stressful to look at data. This is the reassuring function of fantasy, in that this storyline conceals the radical contingency associated with the exploration of big data. In the current context of increasing amounts of data and information, data analysis is a material practice involving aesthetics, subjectivity and enjoyment – not an automated process, a certain pain that becomes pleasure, the enjoyment to be rewarded for a pain. The programmer stresses the creativity required to display data in a 3D environment, but also the idea that work is a drama, a hand-to-hand fight with the machine: ‘You gonna fight, you gonna struggle to display the data’. Thus, designers do not use categories to inscribe fun properties into the game, but to metaphorically perform the ‘theft of enjoyment’ which hooks the clients not so much to the imaginary content on the screen, but to the visualization practice itself.

This case manifests a classic configuration between programmers and potential clients in various spheres; the machine may challenge the work of the data analysts, but this is not so much addressed here. More work needs now to address the resistance of those clients who are losing skills, and how this is addressed.
Table 6. Existing organisational fantasy and alternative ideological fantasy

<table>
<thead>
<tr>
<th></th>
<th>Existing Routinized activity</th>
<th>Alternative Fantasmatic Frame</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Data</strong></td>
<td>2D data visualization</td>
<td>3D data visualization</td>
</tr>
<tr>
<td><strong>Software</strong></td>
<td>Excel, Tableau, DataVisu</td>
<td>DataVisu</td>
</tr>
<tr>
<td><strong>Associated emotions</strong></td>
<td>Administrative, boring</td>
<td>Creative, fun, exciting</td>
</tr>
<tr>
<td><strong>Mode of enjoyment</strong></td>
<td>Read/functional</td>
<td>Look/pleasure</td>
</tr>
<tr>
<td><strong>Logics</strong></td>
<td>Social</td>
<td>Political</td>
</tr>
</tbody>
</table>

3D Geology Fieldtrip

From fieldwork to 3D simulation

In parallel to the ethnographic work I conducted with the design team, I conducted detailed, semi-structured interviews with the clients, who were researchers and geologists from a well-known university with strong distance learning curricula. The aim was to understand the perceptions from their (the academic) side.

One of the earth scientists, Sofia, makes a distinction between the users’ and the programmers’ perspective: for a programmer, she argues, a box with shoe written on it would be technically correct; but for the users, this is meaningless, and this is not related to real experience. In her words, the design of Skiddaw’s user experience is above all the design and features of a particular feeling, in her words, a real-life feel:

It is much closer to the real-life experience, and the whole idea behind this geology trip is that you are bringing in a real-life feel for people who cannot go for a real trip. They come and get an almost real-life like experience, therefore you have to use features and design which are very similar to real life.
Of course, the first question that comes to mind here is: who has the authority to say what a real-life feel is? Who decides and counts what really matters? What is the material experience of being a geologist? In fact, this question is far from innocent, but is rather the locus of the Real, a fundamental schism—very similar, metaphorically, to the metamorphosis’ which transform our landscape—around which the geologists’ discourse about Skiddaw is constructed. As Thomas, another geologist, put it:

I think much professional scientists, they love fieldwork, they’re coming to sciences because they love going outdoors, looking at rocks and doing fieldwork. 90% of the professional scientists explicitly value that, so the problem is that you often have a loyalty to fieldwork, I suppose. You have invested a lot of your career in fieldwork, and you feel instinctively, you learned a lot of geology through fieldwork, you realize that this is a valuable, very rich learning experience. You also have a suspicion that sometimes it is hard to pin down exactly why, but you think that some of the learning achieved through fieldwork would be very difficult through a distance learning environment.

The main resistance (the ‘problem’) emerged from these ‘90% of the professional scientists’ who love fieldwork and ‘feel instinctively’ that this should be the right way to practise and learn geology. The real work associated with fieldwork and structuring the discourse of the geologist is located beyond consciousness, and always escapes representation: ‘Sometimes it is hard to pin down exactly why’. We are confronted here by the impossibility not only to capture work, the idiosyncratic experience of being a geologist, but also to talk about it meaningfully, as it is a profoundly subjectivity experience. In the following part of the interview extract:

There are a lot of people for whom fieldwork is quite daunting; some people literally do not like going outside at all. This is a revolution for most scientists—they cannot imagine people unfamiliar with the outdoors, wouldn’t enjoy or even be quite daunted or scared by going outside and looking at the natural environment, particularly kind of rocky mountains areas.
The emotions traditionally associated with the real of *jouissance* emerge as a locus of excitement/thrill or anxiety which can be accepted or rejected, as some people ‘wouldn’t enjoy or even be quite daunting or scared by going outside’. The Real manifest itself is a *dislocation* (‘this is a revolution for most scientists’) where existing professional identities are threatened (‘they cannot imagine people unfamiliar with the outdoors’) and new forms of identity are legitimized and rendered possible.

Although the Real is described as an impasse of representing what it means to be a geologist, this lack produces logically an ideological attempt to cover over this lack. Antagonistic forces emerge around the dislocation of what it means to be a geologist:

- Others are still very entrenched, very traditional views, and they are much more focused on trying to keep real fieldwork in the curriculum, as opposed to designing online experiences which kind of mimic or replace that. And I would say that that split occurs across any institutions, regardless whether it is distance learning institutions or not.

The design of Skiddaw can be read as the replacement of a privileged mode of enjoyment by a new one. This is a war of positions between two camps ‘entrenched’ in different positions, two conflicting social and political logics. Deciding whether to keep fieldwork in the curriculum is also a highly strategic decision, involving choice over the kind of *jouissance* which is promoted and institutionalized. In the words of Thomas, there is a ‘split’ between this position and a new generation of geologists who find fieldwork dangerous, and prefer to familiarize themselves via online simulation. The debate is about what is painful and what is pleasurable, what is exciting and what conversely provokes anxiety. Thus, the design of Skiddaw is the arena of a *rapport-the-force* and political struggle over the legitimate way to enjoy geology, to feel like a scientist and to enact a scientific identity.

This promotion of a new form of enjoyment associated with geology is not limited to the controversy which is inherent within an academic institution, but also involves the programmers working on the project.
The problem of the genre

The second step of my research strategy was the shadowing of the design of the storyboard of Skiddaw until its presentation to the clients. Many of the design decisions were made once the clients had been exposed to this initial 3D boarding. On the 18\textsuperscript{th} of October, the CEO gathered the development team, the 3D artist, two programmers and the project manager to discuss an early sketch of the storyboard, prior to meeting the client. To extend the metaphor of the spectacle, this is the last rehearsal before the \textit{show}. In particular, the introductory section of the game is discussed, including the choice of avatars and the kit selection (boots, compass, glasses, hat etc.) before starting the excursion.
Pictures 16 and 17. The storyboard

PROGRAMMER: Here we are bordering the line of gamification

CEO: I know, but if they want more they have to pay for that

PROJECT MANAGER: Some boobs might help (joke)

PROGRAMMER: We could also randomize the weather to give some rationale. Then they can select a t-shirt or a sweatshirt and decide which one they want to wear

CEO: Yes but they will have to pay more

PROGRAMMER: How about the items on the table, is that too gaming, not too gaming?

CEO: I would prefer not too much.
In the dialogue transcribed above, the schoolboy enjoyment of the programmers is confronted by the neutral tone of the CEO of the development company. The CEO enacts and instantiates the superegostical formal Law of the programmer, the usufruct (you can enjoy, but not too much) guaranteeing the distribution of jouissance. He does so in a way which combines financial imperatives and ideological consistency as intended by the use of the word ‘gamification’. Thus, the notion of ‘bordering the line of gamification’ clearly places gamification as an imaginary horizon, an ideological fantasy, an asymptote towards which the affective enjoyment of the programmers is directed, but also limited.

On the 24th of October, the team finally presented the final version of the storyboard to the clients. When addressing the kit selection, the client asked for reasons and a rational scenario behind the choice of items, such as, for example, meteorological conditions and safety procedures. The idea of adding a sequence of a car park boot to the storyline for introducing the trip is discussed by the clients, but the CEO found it very expensive. Aesthetically very similar to the genre of adventure video game or RPG, the visualization also fitted the real-life feel expectations of the client. Clients found it not to be artificially gamified. In the course of the meeting, the CEO compared the 3D images with photographic imagery from Google Earth to confirm and compare the level of realism between Unity and the real world.

This meeting reveals a core opposition around which the debate is organized. Sofia explicitly theorizes (let us not forget that she is an academic!) the ‘tension’ between a ‘logic of immersion’ which pertains to the integration of ever more game mechanics within the software and to what is intended by the programmers – and a ‘logic of openness’ which pertains to how users actually use the software and enact their own methods. She clearly adopts the second stance. It is vital to understand that the site of the contestation here is not so much the technical features, but the genre of the software itself, the game as a signifier, the game as an ideology, so to speak. In the following excerpts from interviews, we can observe
how the programmers encircle the Real, how they struggle to name the product, how they make sense of this dislocation which Sofia has theorized as a tension.

At an official level, the description of the finished product on the website does not mention the genre of game, but rather defines the product as 3D simulation.

The use of floating questions marks…that’s an element of gamification because it’s something that has a connotation with something like World Of Warcraft, so we decided to use quite generic floating marker, rather than something that has a connotation towards a game.

The navigation metaphor is like in a video game; it would become a game or a serious game if we started giving you points for spotting things. You could zap and they disappear- that would cross the boundaries for being a visualization to be some sort of serious games, but just because it’s not a game doesn’t mean you don’t have fun.

Based on the above, although some ‘connotations towards (sic) a video-game’ are progressively deleted, game mechanics and scientific features keep co-existing. For example, the ‘navigation metaphor’ or the ability to teleport an avatar from one geographical site to another, the ability to fly, are not even contested by the clients. The checklist of tasks is also maintained. In fact, the game-like element needs to remain double-edged, between the lines of classification, as words such as ‘metaphor’, ‘connotations’ or ‘it seems like a game’. They are residual, in excess, elements of jouissance, side-products of the categorization. The focus is largely on the learning, on the serious side of it. This includes supporting materials such as a geology guidebook about the learning activity, the speaking voice of the teachers to make it more interactive and providing advice about safety procedures and ‘a good way to teach in light touch’ (Thomas).

In fact, Sofia is an active user of Second Life, and praises the community angle of virtual worlds, as opposed to the closed nature of a scripted video-game. When asked about the genre of the game, her position is very strict:
**It’s not a game (assertive).** There are no gaming elements, there isn’t a sense of competition, there isn’t a sense of a number of points: the only motivational tool is that you are given a set of tasks to do. So each side of Skiddaw in this 3D environment you are given a set of tasks and you have to complete those tasks; you are supposed to complete those tasks, but it doesn’t mean that, if I leave two tasks, I may be digging less points than my fellow students, it’s not driven by that.

Her *rhetorical twist* here is a metonymic sliding by providing the signifier game with a restricted content, such as ‘a sense of a number of points’, a ‘win or lose condition’ or the thrill of ‘competition’ which is, after all, only one of the many angles from which to define the word. This discourse tends to rationalize her initial anxiety towards competition, and makes sense of it retrospectively in a less traumatic way. Sofia’s interview also reveals her belief in the fantasy of community life associated with Second Life. The assertion “It’s not a game” typically depicts the structure of the law which is an enunciation, a speech act which turns an *impossibility* (of the direct access to the thing of *jouissance*) into a *prohibition*.

Scientific training for PhDs will always involve painful analytic processes and cannot be just a game; however, the interdiction opens an ambiguity, organizing the scientific logic of desire.

Thus, the antagonism between the programmers and the geologists does not really lie at a technical or generic level, but symbolizes a more fundamental dislocation, a more foundational traumatic truth. The scientific law distributes its specific modes of enjoyment and organizes its self-transgression. From the perspective of the geologists, it is not the programmed enjoyment in the interface which should be promoted, but the one enacted during the teaching experience by Thomas:

> Whenever I design teaching resources, the distance students in particular here, I try to inject a little bit of humour or surprise, that kind of just wakes them up, trying to make the interface, or the assessments, or whatever I am doing, slightly more enjoyable. (...) We had an event where we were demonstrating some of the open science lab in which 3D Skiddaw had some part of that. And the guy who is director, he came and said, you know we need a bit more fun in it, he
said, exactly what my attitude is, try to inject a bit more fun into it, the humour, the game aspect
if you like; it’s not integrated, it’s a little bit of a distraction.

Here the game-like element is introduced in a much more informal way; it is vague, as
indicated by markers such as ‘if you like’. In fact, there is metaphorical sliding operating here.
It is open to subjection and subjective appropriation, and so it is literally ‘not integrated’ as
traumatic, real, pre-symbolic enjoyment. The mode of enjoyment remains a self-transgression
of the scientific Law: a distraction. Gamification is seen either as a threat (Sofia) or ‘It is a
bit silly (laugh)’ (Thomas), not so much due to its intrinsic features, but because it covers an
ideological attempt to substitute the programmer’s Law for the one organizing the scientific
enjoyment. The question of the genre leads us to see categorization not merely as that which
structures and classifies, but more fundamentally as that which creates prohibition, a site of
punishable pleasure, that which organizes new modes of libidinal investment.

As we can see from the final description of 3D Skiddaw below, references to on-site
fieldwork as well as gamification are absent, vanished into oblivion, yet structuring the
description of the product through its metonymical redistribution:

Background and nature of the task

Virtual Skiddaw presents geological fieldwork in a 3D immersive digital landscape created using real world data from
part of the northern Lake District in the UK. The experience is focused on the rocks around an outcrop of the Skiddaw
granite, and takes the form of an investigation into the metamorphism that has affected these rocks, and the structural
features that provide evidence for how the rocks were deformed, around 400 million years ago.

We have used a digital elevation model derived from airborne LiDAR data and terrain imagery to reconstruct the
landscape faithfully enough to provide a real sense of presence for the user. The application is based around a 10km x
10km low to medium detail model of the terrain around Skiddaw with overlaid photogrammetry-derived mesh and
textual imagery, and augmented with in-built Unity terrain and flora. The sense of immersion is heightened by ambient
audio recorded on location, as well as spoken audio for teaching content.

In this 3D environment, you will be able to explore six sites within the Skiddaw landscape where each site is typically no
more than 50m x 50m - on the ground or from the air. You will be able to browse through the map overlays, cruise
around the whole area, or dip down to visit geological sites for detailed observations on the geology. You will be able to
view the rocks at all scales from a field sketch down to a slide under the microscope. In each of the sites, you will be
carrying out a number of activities such as sketching rocks, describing hand specimens of rocks, checking the regional
context of the sites, contrasting texture and mineralogy of two rock types, sketching exposures and describing
structural fabrics and features, and so on.
This leads to the contamination of the discourse of the geologists by one of the programmers – a passage facilitated by Sofia. The practice of doing fieldwork is replaced by a ‘real sense of presence for the user’ and a high ‘sense of immersion’. While these attributes are highly-contested within the field of geology itself, this gap is, of course, concealed in the discourse. The discursive formations of the geologists are confusingly maintained as being equivalent to their original experiences, such as ‘sketching rocks, describing hand specimens of rocks, checking the regional context of the sites’. Of course, the hand specimens are not hand specimens any longer, as this would involve the sensory experience of seeing, touching and smelling, but a continuation with the previous discursive genre of geology teaching needs to be maintained. While the trace of the game engine is not even mentioned (it’s been literally crossed-out), its effects are present everywhere: ‘3D immersive digital landscape’, ‘digital elevation model’, ‘textual imagery’, ‘augmented with in-built Unity terrain and flora’ and ‘3D virtual geology field trip activity’.

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In this section, I addressed the issue of inscription. My aim is to problematize the inscription of genre into technology-in-practice. What are the implications of calling the designed technology a game or not? What does Glynos’ Lacanian reflection on ideological fantasy bring to this debate? Then, I turned to classification, stating in essence that if people know that an activity is labelled a ‘game’, it does not work: it breaks the fiction of ideological fantasy, which has strong implications for those who call themselves gamifiers. I showed a case where new affects are promoted to visualize and enjoy data, because the promotion of enjoyment is a condition for big data analysis to function. In the second case, I show the opposite, namely how old affects are destroyed and rendered obsolete. What is at stake is the reproduction of the institutional fiction of what it means to be a geologist through other means and other tools. This is a political and affective process, in the sense that it may
involve the destruction of existing work practices but also the destruction of specific emotions.
Chapter 9: Discussion
In this thesis, my aim has been to look at the relationship between people and information technologies, from a subject-based perspective, which means an approach that highlights the materiality of affect and ideology. In particular, I have addressed three issues pertaining to game design, namely the hegemonic adoption of the game engine Unity3D, the acceptance of the graphics design of a serious game for elderly, and the inscription of the programmer’s ideology in visualization tools used by data or earth scientists. The ideology of the programmer’s is viewed not merely as the mastery of a technical know-how acquired and then translated to other contexts, but as a force which is never more powerful than when people have forgotten that they are unconsciously subjected to it.

**Discussion: Adoption as hegemony process:**

From a hegemony perspective, adoption of IT depends on both a practice of coalition-building but also a capacity to provide subjects benefits and enjoyment which bind them affectively to certain software by leading them to reject others.

**How Unity got mainstreamed**

The fieldwork revealed a tension between the established regime oriented towards the market of console games for entertainment and the new emerging regime of indie developers.

A key finding of this investigation is that the game industry is characterized by the unevenness of (financial and institutional) power between major studios and publishers of accredited video-games for consoles one the one hand, and a bundle of small entrepreneurs with low means developing mobile apps, on the other hand. Put it another way, institutional Goliaths such as Nintendo, Sony, Electronic Arts or Ubi Soft compete with the emerging masses of small and medium enterprises and independent developers of social and mobile gaming. As several indie designers confessed during the ethnography, nowadays programmers and artists quite often design an app or an asset and then sell themselves as a
service company to big studios. This asymmetry is the starting point which conditions the study of the articulation at stake in hegemonic relations and the reconfiguration of the market.

For carrying out this extension and hegemonise the demands and identities of new markets, Unity needs to mobilize forms of resemblance between such demands. This occurs typically through metaphors. Where metonymies highlight a logical relation between two elements, metaphors imply a relation of a subjective kind. Thus, metaphors play a role in partially condensing such demands into a more universal cohesion. In other words, metaphors aim at creating points of attachment that grip the subjects in particular ways. Central here is of course the metaphor of gaming (while there is no logical link between gambling and gaming, there is a metaphorical one). Unity's hegemonic strategy functions through a constant negotiation between the particular (game for fun) and the universal (Game, with a capital G, as a structure for social action such as playing, learning and visualizing). Hegemonic relations presuppose the product’s incarnation and adaptability in local situations. Reversely, no product can ever turn mainstreamed without being the locus of universalizing effects.
Why the strategy holds together?
We will now address the second affective dimension of hegemony which makes the innovative regime sustainable over time. The energy sustaining a new work practice depends on the successful knotting together of specific political and fantasmatic logics.

Firstly, a central point is that Unity seeks to construct and install the work subjectivity of the indie developer. The logic of subjectivation seems here positively articulated with the logic of heroism through success stories and invocation of historical entrepreneurial guru and stars. Ideological narratives seductively reinforce and secure the modes of enjoyment of the programmers—also at a community level. Yet this articulation is not without encountering deadlock and contradiction, such as when a programmer takes pride not being a UDK modder—a ‘heroic’ identification which is contested by another designer. In fact, the fantasmatic logic of heroism contradicts the political logic of democratization, as elitism is not so much a democratic value. It also ignores the perspective of the 3D artists who may
typically praise the elitism of the old regime versus the poor quality of graphics in the new mobile gaming generation designed through Unity.

Furthermore, the link between the logic of subjectivation and community spirit also produces considerable enjoyment-value among the corporation of indie programmers. Unity’s fantasy-narratives provide programmers with greater autonomy and transfers the creative agency from the artists to the programmer. This is evident when a Tony from Delta explains that he feels more comfortable with Unity because he is a programmer and not an artist. Such identity claim shows how the product sustains the ideological fantasy of the corporation of the programmer, seduced by Unity’s discourse, using it as a way to secure their own attribution of *jouissance* at a local level. This reproduces the politico-ideological axis with the risk of overinvestment and deception- as manifested by criticisms coming from other designers. The political logic of subjectivation, at a fantasmatic level, mostly disregards contingency, embodied by the 3D artists or other recalcitrant programmers.

Secondly, Unity’s logic of democratization is authentically connected to the logic of community spirit as indicated by the affectively-charged metaphor of the *family car* for children and friends: *anybody* in the world could design a game, including a dad for his children! This contrast with the coldness of UDK which designers use without enjoying it. Paradoxically, the logic of democratization can also be articulated with heroism, thanks to the true sense of empowerment via Unity- Rob’s account makes it clear that he is genuinely subjugated by the new possibilities offered by the tools. His enthusiasm is hard to deny and this sudden sense of empowerment can be called heroic at an affective level. In either case, the two logics of fantasy are registered within the politico-ethical axis which is more susceptible to foster sustainable innovation.

Thirdly, the logic of gamification is not as fantasmatically-charged as one might expect. At an affective level, it functions more as Unity’s developers’ ‘dirty secret’ than a coherent
ideology. It typically functions well when articulated with the *jouissance*—the guilty pleasure of the programmer and its demiurgic fantasy. However, the political logic of gamification is not articulated with the fantasmatic logic of community spirit mainly for a reason of credibility; it is seen sceptically by the adopters and even rejected by the decision-makers. In contrast with early adopters of Second Life, Unity’s users are here at the right distance from the fantasy associated with the political logic of gamification and thus genuine in their identification.

<table>
<thead>
<tr>
<th>Political logic</th>
<th>Fantasmatic logics</th>
<th>Enjoyment-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subjectivation</td>
<td>Community spirit</td>
<td>Overinvestment</td>
</tr>
<tr>
<td>Subjectivation</td>
<td>Heroism</td>
<td>Overinvestment</td>
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<tr>
<td>Democratization</td>
<td>Community spirit</td>
<td>Authentic investment</td>
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<tr>
<td>Democratization</td>
<td>Heroism</td>
<td>Authentic Investment</td>
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<tr>
<td>Gamification</td>
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<td>Authentic Investment</td>
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<tr>
<td>Gamification</td>
<td>Community spirit</td>
<td>Authentic Investment</td>
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</tbody>
</table>
**Eldermove: a case of resistance**

In the study of the design of Elder Move, I have mobilized discourse analysis for discussing the conceptualization of the content of the medical serious game. The designers finally rejected the initial gamified art style and adopted a restorative logic in its design.

**Disorganized vision**

The Elder Move case contributes to the literature on the conceptualization of technologies in organizations. From a subject-based approach, the design of technology is viewed as a contingent, historically and culturally located configuration of sexuality and language, where particular acts subject designers in a new way. Further, the findings of the study challenge the argument that designers imagine in their heads the machine-to-be, from so-called ‘organizing visions’ (Swanson and Ramiller, 1997). Although business actors of course mobilize such visions, ideologies are always subjected to psychosexual forces which constantly destabilize them. Practitioners are neither in control but nor are they naïve. Their job consists in managing the tension between the emergence of subjective processes and their own conceptualized aspirations. The orchestration of events is akin to an open art style where various actors seek to displace the center of its poetic emergence, the locus of agency. Such material-discursive processes are not driven by rational or institutional sense making but by affective and unconscious rapport-de-force.

**Metaphorical causality**

This study has enabled to trace the chain effect inaugurated by the vanishing term. A finding of this study confirms Contu and Willmott’s point (2006) that organisational actors invest the technology with fantasmatic properties that far exceed its concrete materiality. For instance, the developers think about designing a park which is not threatening, not intimidating, etc. Later, the man of Linz will precisely intimidate John who uses threatening political metaphors to describe the Austrian consultant. There is, so to speak, contamination between the technology features and the designers’ emotive language, as if the object was the
prolongation, the prosthesis of the affects of the speaking subjects. Further, affect-laden recognition mediates the circulation of signifiers between the software and the people. Some particular signifiers are invested with excessive enjoyment-value. Specifically, I have demonstrated how terms such as ‘kid’ provide certain subjects (Jessica and the consultants) with a position of mastery (Parker, 2005). Affectively charged processes articulated with gender, geographical, professional and age connotations constitute the symbolic field of a battle of recognition during which some ideas get dismissed and others promoted. The contents associated with the graphics style’s features (cartoony or realist, feminine or masculine, Austrian or English) do not preside over design decisions. Their integration is due to their subjective articulation with key signifiers, depending on contextual (e. g. the distribution of roles within the firm) and biographical (e. g. Jessica’s previous job; John’s lack of experience because of his age but also because he only worked on e-learning project so far) explanations.

**Annulment of the vanishing**

The case of the Man of Linz exemplifies how a subject-based theory of the act highlights the primacy of affective component of agency over structure in organizations. Thus, agency is here located at a pre-symbolic and pre-institutional level: the man of Linz is a consultant and has no formal authority over the design team. He is hardly a partner of the project. However, his act has the effect to re-articulate the structuring properties of technology-in-practice. In its turn, the subject-effect has an impact on other signifiers and produces its environment through the following metaphorical sliding: Jessica as a male, John as a kid, and the Man of Linz as a big man. To use the Lacanian metaphor, while the game seemed already played (the framework of the European Union explicitly made a call for a gamified medical training software), the man of Linz’s act has thrown the dice anew and subjected John and Jessica in a new way.
In Badiou’s terminology, the Man of Linz embodies and instantiates the *annulment of the vanishing* which leads to the return of the repressed heterogeneity: the *serious* of ‘serious game’. The emptying of the genre of medical training from its realistic and serious attributes generates the *lack of lack* of anxiety: gamification turns from being desirable to being the exact opposite, namely to generate anxiety. Thus, the subject-effect is this unpredictable bifurcation which appears in second place (Badiou, 2009). The Man of Linz knows intuitively that the only chance of success of the software is to break with the project of gamification itself; the only chance to provide the product with a decisive force, is to act, to cut, the project from its original trace. Thus, the subject of anxiety throws the dice anew.

When anxiety closes the possibility, the metaphorical sliding, either the project fails or *act of courage* occurs which reinvigorate it. Is this not the same with the Man of Linz? Then the Real (contingency), the acting out emerges, under norms and images. Let us summarize: the man of Linz is acting with *courage* (he is not in a formal position of ascendance) and *throwing the dice anew*. Like any act of pre-symbolic *jouissance*, the fullness emerging from the lack of lack bears a mixed element of joy and *destruction*, and John is symbolically the victim of this emergence, through the metaphoric operation of the signifier ‘kid’ or the ‘big man of this town’ (John is symbolically sacrificed and shortened). The symbolic violence imposed on John (and metonymically his version of the project), turns his symbolic destruction into the cause of a new chain of signifying effects, sustained by Jessica’s excess enjoyment to take the lead on the project. That self-destructive episode provides the employees with a new energy towards the design of the software.

**Foreclosure**

The *efficacy* of the turning point ‘kid’, consists in transforming the impossibility of identification with the lost fullness of enjoyment – the *fantasy-kindergarten* – into a *prohibition*: this is now serious stuff, this is not touchy-feely nonsense, kids are not any more
in charged! Access denied. Importantly, there is no primordial foundation of the law outside the subject. It is like that, because the man of Linz says so and the others obey the law that he instantiates in this context. Kindergarten is also a translation which leads to the subsequent question: what is lost in translation? In Lacan, the ‘lack in the Other’ is before all the lack of jouissance (Stavrakakis, ), a lack of a pre-symbolic real enjoyment always posited as a lost fullness- i.e. the part of ourselves that is sacrificed and castrated. ‘Kindergarten’ functions typically as the halting-point, the foreclosure through which the consultant’s claim is accepted. It is the null object reducible to its sonority haunting John’s memories (evident when he emphasizes dramatically: ‘his word was Kindergarten’), the subtractive object (enabled by the linguistic switch from English to German) which materializes the fact that there is something unconceptualisable – the Real of the subject.

To summarize, I have represented in the following table the chain-effect of the subject, namely the chronological sequence of the signifiers used to describe the software. The first column shows the vanishing of the genre of medical training software. As we have seen, there is metonymical/metaphorical causality in the sense of a signifying displacement between the designers’ affects and their tools. The second column addresses the annulment of the vanishing leading to anxiety… and the restorative courage of the Man of Linz. The third column designates the term the foreclosed term, materializing the presence of the subject. The turning point is in bold. The vanishing terms are crossed as such. Finally, the foreclosed terms are also crossed out – like this.
Figure 6.

Vanishing (metaphorical causality)
- serious game for elderly
- not realistic
- not intimidating
- cheerful
- friendly

Annulment of the vanishing (anxiety and... courage)
- [we need a] big man of this town
- [the Man of Linz is] that one guy
- [John has] no experience
- [Jessica has] that experience
- realistic art style

Foreclosure
- Kindergarten
In a way, the Elder Move project never overcomes lack of lack, resulting in anxiety and resistance. What, then, makes ideology consequent and durable? Delta’s programmers were definitely more cunning. Working with scientists, they knew that the inscription of ideology was not a positive inculcation of norms and values in the minds of geologists or data scientists, but a process of self-effacement, of setting the stage for the abolition of the trace of lack.

The case of Skiddaw adds a level of complexity because it involves a third actor, another dialectics within the scientific corporation of the geologists – between those academics who are pro and those who are anti-technology. The practice which is here contested is the ‘real experience of doing fieldwork’ and its associated skills (going outside and looking at the natural environment, including dangerous mountain areas). Fieldwork is now associated with negative emotive language on the part of the new generation of geologists (daunting, scary, not enjoyable, not comfortable) and this discourse is also taken up by the liberal cost-reduction policy within the British education system (‘that is becoming more and more costly’). Delta’s CEO attributes the deskilling/degradation of such work not so much to the intrinsic effects of virtualization, but to the gaming element itself: ‘They (sic) are some of our clients and their users, when you gamify things, it does denigrate it, it reduces it’. Sofia avoids this difficult question and takes pride in designing a ‘real-life feel experience’. The way she mobilizes her identity as a geologist versus programmer is through this idiosyncratic feel, which does not require going to the field any longer and no longer contests the reality of the virtual experience.

As we have seen through the study of Skiddaw, Datavisu or Unity, existing routinized practices (looking at a 2D graph on Excel or Tableau and spotting trends and correlations, going to the field to collect data or manipulating a slot machine in a casino) are first
abolished and then substituted with computer interaction. Here, the latter becomes metaphorical of the former (although we do not need a slot machine technically, we keep the signifying practice to maintain the specific enjoyment associated with the ritual of gambling in the imaginary decorum of the casino). In the case of Skiddaw, the experience of ‘going outdoors’ is annulled by the introduction of a virtual practice which is a substitute for the ‘real fieldwork’ a ‘real-life feel experience’ of looking at rocks through a virtual microscope; in the words of Sofia, real fieldwork experience (real-life feel experience). In fact, the successful integration of ideology requires an element of forgetting. The passage of the force, the ideology-effect, involves the destruction of previous practices – loss which turns lack into a cause and provides a new emerging practice with its consistency.

This element of destruction leads us to understand the pivotal role of lack in the relation between human agency and materiality; it radically challenges the way these notions have been conceptualized in IS studies (e.g. Leonardi, 2011). Virtualization technologies transform the materiality of fieldwork, not in the sense of magically converting the material into the virtual (even virtual network as such requires huge data centres and high energy consumption to function, elements which are heavily material and environmentally harmful), but in displacing the Real of work: its subjective kernel. Skiddaw not merely simulates the original feeling associated with fieldwork, but more fundamentally constitutes a threat in terms of the disappearance of a traditional feeling and mode of acting – the sensory aspects of going to the field, developing relationships and group cohesion, etc. Logically, anxiety emerges primarily among the defenders of traditional fieldwork in the curriculum, ‘very traditional scientific, very entrenched’, who are more virulent in criticizing the project. This anxiety results from being suddenly confronted with the lack inherent in the practice of geology, and with the disintegration of one’s fantasmatic frame, coinciding with the feeling of a ‘loss of reality’ (Zizek, 1997).
The design of Skiddaw involves a conflict over who organizes affectivity: whether it is the tutor using the software in the classroom, or the programmer making assumptions about the users, and over who controls the production of institutional identity and thereby excludes or includes the right way to enjoy. Skiddaw renders visible the ideological assumptions constituting what it means to be a geologist. Drawing on a Lacanian metaphor, Skiddaw constitutes a fault (in a geological sense) in their work identity; a slip between different land masses or tectonic plates, a point at which various subjectivities have broken apart. The geologists throw the dice again over what it means to be a geologist – they joyfully take the risk of ridiculing themselves and losing legitimacy. Skiddaw is located at the crossroads of antagonistic subjectivities – between the clients and the programmers, and between the highly conservative scientific views on fieldwork and those scholars who are more open towards technologies. This war of position over the law has at stake the attribution and distribution of jouissance, namely the abandonment of previous affects associated with a practice such as the excitement of 'going to the field' (e. g. touching the rocks, smelling the grass, seeing the views etc.).

Yet the destruction of previous skills is in fact an affective realm, not a functional one, and this by no means should be confused with the end of work and a twilight replacement of people by machines. In the case of Datavisu, the boredom associated with using a spreadsheet is replaced by a 3D environment which is cool and makes you excited about reading data. This is inarguably related to the Big Data debate: judgment vs. automation. Can algorithmic data science tools replace data scientists before this field has even taken flight? Data analysis is neither a science nor is it engineering (Forbes, 2012): it is a subjective process. In the current global context of increasing amounts of data and information, data analysis is a practice involving aesthetics, subjectivity and excitement – it is not an automated process. Consequently, destruction only applies to the boredom of reading a spreadsheet where you
might miss key information, because it consists only of lines of information. Far from being replaced by automatic software, Big Data requires, in contrast, a libidinal surplus, a *spectacular element* to understand the story behind the data, an increased *believability*. I propose naming the type of materiality discussed in this chapter *enjoyment-in-technology*, and in the next section I will discuss how it is produced and structured.

**Gamification as fantasy-in-technology**

Social fantasy reveals the ambiguity of ideology: it is motivating to a certain extent, which is the *beatific side* of gamification; yet there is also a *horrific dimension* to it, when the genre threatens our desire by getting too close to it. This study confirms what was previously foreseen, namely that genre does not function as a category-structuring communicative action (as in Suchman, 1994; Yates and Orlikowski, 2002), but as the object-cause of desire, the signifier whose retroactive effect on developers organizes the fantasy that sustains the emerging political logic. A video-game is a provocation, an *excess-enjoyment* which must remain non-official, between-the-lines and inherently *transgressive* of the law, to displace the line of what is pleasurable and what is painful. In other words, the genre functions as the ‘deadlock of perspective’ (Parker, 2010): the place around which everybody turns tacitly, the unspoken, scandalous idea that scientific research can be just a game. The genre of game works as a *parody* of scientific training, in the Butlerian sense (1990); it is a signifying practice which destabilizes and makes apparent the ideological assumptions about *real work*. I have shown how the marketing team of Delta makes strategic use of social networks such as Facebook to promote this parodic acting – experimenting more or less convincingly with new ways of enjoying data visualization through images of Datavisu. The parodic repetition of the original work practice (doing fieldwork in situ, visualizing data in 2D) turns out to be nothing more than the parodic repetition of the *idea* of natural work.
Yet there is a limitation to this process. Institutionalizing the categorization ‘game’ or ‘gamification’ would disrupt the necessarily imaginary communication taking place in a scientific setting. Although an element of self-transgression (and even, as we have seen, self-destruction) is necessary in order to engage people; it is necessary to keep jouissance secret, because disclosing it would break the comedy that sustains the logic of the scientific narrative. The problem here, as we know, is that desire is ontologically characterized by lack; it is impossible to fulfil, and when it gets too close to our fantasy it generates the threat of the extinction of desire (lack of lack). As I have demonstrated, this element of fear associated with the signifier ‘game’ also emerges within the business decision-makers, in the words of Delta’s Director: ‘putting the word “game” frightens the decision-makers’.

More fundamentally, naming the excessive force would transgress the (scientific or business) code and it constitutes an identity threat for the scientists or the managers. In fact, the possibility for scientific jouissance is conditioned by the preservation of the scientific law which is never guaranteed. Consequently, Sofia strongly rejects the categorization, calling Skiddaw a serious ‘learning environment’, using her own exclusive definition of what ‘games’ mean: ‘There are no gaming elements, there isn’t a sense of competition, there isn’t a sense of number of points’. In particular, Sonia embodies the prohibition (‘It is not driven by that’ or her anxious intonation when she asserted ‘It’s not a game!’) which organizes the desire of scientific ideology. In addition, Thomas claims, ‘it can work to a certain extent but after that he can see it is a bit silly (laugh)’. In sum, gamification is the encounter of the skills of game designers and the organizational fantasy of business, medical and scientific practice, the unconscious motivation of their work. This means that fantasy differs from an organizing vision structuring the learning experience, but contrastingly works as a between-the-line discourse, non-official, surfacing but never legitimized.
The passage of force

In the above section, I showed the destruction involved by the introduction of game mechanics into scientific practices, such as data visualization or geological fieldwork. I showed how the discourse of gamification sustains an organizational fantasy parodying/transgressing the scientific law, generating not only enjoyment, but also anxiety. Because the signifier ‘game’ is the sublime object -excessive and traumatic-, its vanishing is also required in order to facilitate the passage of force (Badiou, 2009) from the social to the political logic. This is also the precondition for the geologists to ‘traverse the fantasy’ which structures jouissance in a way which keeps us attached to the Master-programmers and makes us accept the framework of the social relationship of domination (Zizek, 1997). This is also what the programmers mean when they talk about ‘bordering the line’ or ‘crossing the boundary’ of gamification. This crossing is condemned to fail unless - and this is the Lacanian twist - its origin vanishes once again. Thus far, I have identified the genre as the object-cause of desire; the ideological fantasy needs to be performed ambiguously, in the sense that programmers seductively empty the categories of their programmer-centric significance. It is because the genre is vanishing, because of its forgetting, that we can become fully immersed and release ourselves to Bourdieu’s illusion. Yet the difference with Bourdieu is that this process is double-edged, and the actors are not naïve about the implications of their collaboration. Neither are they unharmed: anxiety, jouissance and courage materialize the subjective drama between people and technology-in-practice. This is also the key difference between Bourdieu’s game-in-itself (the game as an objectified set of rules) and the game-for-itself (the game as subjectively appropriated and forgotten by people).
The passage of the Real gives us an insight into the symbolic integration of the programmers’ ideology, how the destruction involved in the re-articulation from a fantasmatic frame to an alternative one is accepted by the scientific community and made consequential. Now what the data makes apparent is that this process cannot be the work of programmers alone: they need allies, namely those earth scientists who are technology-friendly. The abolition of the trace of lack will be sustained and legitimized by the geologists. As a result of the annulment of the first vanishing of geological fieldwork and its collateral anxiety (starting from Sofia’s assertion: ‘It is not a game’), ‘game’ becomes the second vanishing term, sustaining the function of causality. One geologist mentions how he uses the game-feature to generate a way of teaching with a light touch, or to maintain a positive informal atmosphere: ‘I try to inject a bit more fun into it, the humour, the game aspect if you like, it’s not integrated, it’s a little bit of a distraction’ (my emphasis). A succinct discursive trace of this Lacanian knot also emerges from the mouth of a programmer: ‘It’s not because it’s not a game that you don’t have fun’.
Let us summarize the findings now. The study of ideological displacement has shown that, although it had been accepted to move from outdoors to virtual fieldwork, the switch from science to gaming had been rejected. The following figure summarizes the chain of causality:

**Figure 8.**
Overall contribution

Contribution to paradigms in IS research

In the following table, I have summarized chronologically and topically the contribution of the main paradigms to the field of IS research. I have detailed in the table the research areas, the phenomena under study and the agency. This historical account is also motivated by my will to render visible the coherence in this evolution, and its underlying emancipatory logic through an extension of human agency, from the machine to the structures (organizations, institutions) and finally, from the practice to the subject.
Table 7. A paradigmatic contribution to IS studies.

<table>
<thead>
<tr>
<th>Paradigms</th>
<th>IS research areas</th>
<th>Phenomena</th>
<th>Agency</th>
<th>Key studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constructivist (structuration studies)</td>
<td>Duality of technology Virtual structures emerge from these interactions and shape users’ behaviour Users appropriate or not designers’ assumptions</td>
<td>Technology structures, organizations, institutions</td>
<td>Mainly designers</td>
<td>Orlikowski (1992) (DeSanctis and Poole, 1994) Jones, M. and Karsten, H. (2008)</td>
</tr>
<tr>
<td>Critical</td>
<td>Affective turn. Materiality of the signifier and inseparability of the affective and the political</td>
<td>Subject-based studies, rituals, logics, materiality (sexuality)</td>
<td>Decisions made by people assuming position of mastery</td>
<td></td>
</tr>
</tbody>
</table>
Contribution to hegemony studies

Another key contribution of this thesis is to complement the theory of ideology and specifically hegemony studies by offering a response to criticisms regarding the ‘poststructuralist methodological deficit’ identified by Zienkowski (2014: 504). I have demonstrated through ethnographic methods that politics and hegemony operations operate silently in contexts such as technology design, which does not necessarily invoke public contestation and radical demands (West, 2011). Furthermore, the study highlights the centrality of IS design in current hegemony practice in parallel with, say, governments or banks. Yet the transition from the field of political to innovation studies is not obvious, and requires a careful adaptation of the vocabulary to the context of the study – for instance, what does an ‘oppressive regime’ would mean in the context of software innovation? The point is not to offer paranoiac interpretations of IT phenomena but to recognize that their effect is not merely technical and restricted to the programmers but bears social and political implications.

Subsequently, another crucial point here is that, in technological matters, the acceptance of ideology does not manifest itself through the threatening language of oppression and domination, but through a soft rhetoric which involves a more sophisticated understanding of the psychosocial implications of ‘the organization of consent’. Gamification and the Technology Acceptance Model are two of these soft rhetorical tropisms surfacing in the world of IS, such as the highly-ambiguous motto of Google: ‘Don’t be evil’. The findings of this thesis contradict Venkatesh’s claim that current and future forms of computer technology will cause a reduction in the distinction between work and play. In contrast, empirics show the necessary role of prohibition in organizing desire.

Contribution to innovation studies

An understanding of adoption as hegemony practice contributes to the adoption literature, and leads us to re-examine the notion of interessement. Callon argues that to interest other actors means building devices which can be placed between them and all other entities who
want to define their identities otherwise in a network that combines the humans and the non-humans. However, Callon’s underpinning belief in technical features is overstated: adoption decisions are never primarily technical, even though technicalities constitute the object of discussion. In fact, technical decisions are always subjected to signifying operations; i.e. in simpler terms, informal chats diffused through information networks, news feeds, videos posted on social networks (LinkedIn, Facebook etc.), community events and marketing materials. Unity’s ideological machinery, well-acted by the designers, spontaneously contaminates their users through information networks and becomes more powerful and mobilizing than the objects per se. Unity seeks interessement by generating identification, investment and… love. This affective contagion of innovation has very little to do with the device intrinsically, but much more to do with how we talk about it and why we fail to talk about it differently. Hence, technology adoption is above all the adoption of, and consensus around, a particular mode of jouissance, enjoyment-in-meaning, holding the community of users and designers together, rather than a mythical functionality.

Thus, the conceptualization advanced here profoundly challenges the instrumental view of fantasy offered by the game design and Technology Acceptance literature. The impossibility of this view is that software cannot be fully gamified without excluding the enjoyment of the users and threatening their identity. This is to forget that fantasy functions as an informal transgression of the law, or as a resistance to official disclosure. It cannot replace the law. This leads us to distinguish between imaginary and real acceptance. On the one hand, imaginary acceptance, such as the acceptance of the tool by the team in phase 1, consists of a passive or cynical acceptance which relies on alienated subjects (attached to official discourse, and the organizing vision of the EU) rather than subjective integration. On the other hand, real acceptance is contingent, always enacted, and not without involving a certain thrill and erotics for its participants. In this sense, a subject-based study restores the role of
pain, the symbolic-affective violence of ideology, so to speak, in any process of acceptance, and it therefore destabilizes the foundations and intentions of the gamification project itself.

Finally, the question of inscription is not a process of assigning positively information or data to the machine, it is a process through which an *ideological effect* is conquered word-by-word through allusion, suggestions and between-the-line evidence: this is the fantasmatic dimension of fantasy. Its inscription should maintain an intentional vagueness, and never be direct. In this thesis, I have provided an account of the Real of technology implantation, how it cannot be inscribed in the technology and manifests itself when technology implantation dysfunctions: when it resists, when it produces us as subjects of affects and, more specifically, as subjects of anxiety:

> Whether through error (misperception, lack of understanding, slippage) or intent (sabotage, inertia, innovation), users often ignore, alter, or work around the inscribed technological properties. (Orlikowski, 2000: 409)

As a result, the inscription of ideology, in order to be successful, needs to revert the supposition of explicit ‘inscribed technological properties’. What is inscribed is the abolition of the trace of lack; it is only when the genre of game has vanished entirely that the ideology-effect can truly function and that the passage of force operates.

Based on the above, I can now wrap up my findings in the following figure:
Implications for policies and ethics

The framework adopted in this thesis enables us to conceptualize a psychosocial ethical framework to the policies addressing the issue of Big Data. How data are used and collected is a highly sensitive issue; Morozov’s work, including *The Net Delusion*, is full of examples of how dictatorships and strong capitalist regimes have mobilized the game industry and entertainment to secure their power. The emergence of Big Data also raises questions about the use of entertainment to collect large data when the consent of the users is not given. To illustrate this tendency, let us look at the following definition of a serious game which was offered during a presentation at a specialized academic conference in game design in the UK:
Serious games are games that engage the user, and contribute to the achievement of a defined purpose other than pure entertainment (whether or not the user is consciously aware of it). A game’s purpose may be formulated by the user her/himself or by the game’s designer, which means that also a commercial off-the-shelf (COTS) game, used for non-entertainment purposes, may be considered a serious game. (my emphasis added)

This example typically shows the ignorance of the ethical dimension associated with the use of game mechanics. The question of consent is not even problematized here, and yet it is a complex one; in addition, a full subject theory can clarify between the desiring subject (who does not want to provide personal information or have his information used and collected) and the alienated and addicted ego absorbed in a particular fantasy. This is clearly a question of ethics in the sense of the fundamental opposition (Glynos and Howarth, 2000) between the ideological logic of gamification, a hegemonic attempt at covering up the contingency (what if elderly people do not want to play, simple as that?) and the ethical logic of openness and acknowledgement of contingency or chance.

In this thesis I have also shed light on the anxiety associated with technology implementation and clarified the lack of lack from which it originates. Yet this subject-based framework assumes that, in certain conditions, it is necessary to protect/legitimize those who risk their lives by transgressing institutional laws for the common good. This leads us to understand somewhat differently the actions of hackers and whistle-blowers as symptoms of anxiety: it depends on the specific context to judge whether their act is courageous or catastrophic.

**Future research**

Future topical routes for the studies of ideology, affect and subjective processes may address more politicized technology, such as free currencies (e.g., Bitcoin), which are typically derived from in-world currencies used in virtual worlds.
First of all, cryptocurrencies demonstrate a significant development of the topic of games and play which I studied in this thesis. In my doctoral research I have noticed that virtual worlds such as Second Life or Cyworld were the first to implement digital currencies in their in-world economy, such as the Linden dollar or the Dotori. Furthermore, monetary incentive is increasingly being used as a game mechanic for motivational purposes. For example, FitCoin is a new app that allows users to monetize their visits to the gym. The mechanism is simple: the app is incorporated with popular activity trackers and wearables, and converts our heartbeats into a digital currency. FitCoin’s founders hope that this currency can be used to buy exclusive goods from partners such as Adidas, or to reduce users’ insurance payments (Morozov, 2015). Some authors even argue that Bitcoin itself is gamification (Werbach, 2014).

However cryptocurrencies are an original topic and a departure from my doctoral work because in-game currencies and general currencies (such as Bitcoin) are quite different in terms of their context. Thus, more work needs to scrutinize more explicitly politicized technology than videogames and virtual worlds. Cryptocurrencies will provide me with a more evident political context, which involves more specifically an element of ‘public contestation’, and which is more obviously political than fitness apps or virtual worlds. Thus, one of the limitations of my thesis is that the game design industry does not involve an element of public contestation, and that the emergence of a new logic of game design for serious purposes was driven by the market, and not so much by political values.

Finally, this topic would significantly expand my present theoretical work on ideology and hegemony; virtual currencies are very promising feature to examine, particularly in the context of the subprime crisis and Euroscepticism. Cryptocurrencies are one of the few serious alternative post-crisis models which may benefit from the rise and support of IT businesses. Thus, this future avenue also prolongs my first published paper (Pignot, 2015),
which addressed the corruption taking place in the finance industry and constituted a reflection on organizational ethics and the socio-political implications of the subprime crisis. Bitcoin typically questions the hegemony of existing financial institutions and our unquestioned relationship with money and the state. The LCE framework and the work of the Essex School of Discourse Analysis (Laclau and Mouffe, 1985; Glynos and Howarth, 2007) which I have mobilized in my thesis is extremely pertinent in addressing issues of hegemony. This thesis seeks to highlight the centrality of enjoyment in technology matters, to define the outline of a subject theory and to open a future avenue towards subject-based studies as an alternative to existing practice-based studies (e. g. Nicolini, 2010) for the study of technology in organizations. I do so by reinvigorating the poststructuralist theoretical tradition (Lacan, Laclau and Mouffe, Glynos and Howarth, Zizek, Butler, Badiou).
Limitations and reflexive thoughts

Reflexivity has become inevitable in organization studies and researchers are increasingly asked to acknowledge their subjective position and the limitations of their perception (e.g. Cunliffe, 2003). Given the crisis of representation (Clifford, 1986) in the social sciences, confessional genre of representation becomes relevant (Schultze, 2000). In particular, I have attempted to criticize a managerial ideology from within the community of information systems management. Thus, I will address epistemological, empirical and ontological limitations of my work.

The main (1) epistemological limitation of this work is, once again, that it is impossible not to acknowledge the unavoidable judgement in the analyst’s task of identifying and naming the logics and affects. The act of nomination and recognition definitely is political and may already be counter-hegemonic: for instance, even a slave might claim to be happy if he does not have at his disposal a language to think about his own condition and emancipation (Best and Connolly, 1982). Thus, Lacanian analysis does not claim to be objective, in a positivist fashion. The interpretation does not claim to be a truth-seeking, neutral operation and may be contested or adjusted with new signifiers, given that the researcher has only attended three or six first months of the design of serious games. Any ‘retroactive interpretive intervention’ (Badiou, 2013) implies the fact that there is no ‘proof’ for identifying a phenomenon such as jouissance, and that it is always the outcome of an act of recognition and nomination by the analysts.

This standpoint fits Nayak’s claim that the study of social process of organizing is not abstract but empirical, it doesn’t exist but acts, it partakes to the process of provoking thinking to ‘think beyond’ (2008). Any Lacanian analysis cannot suture the subjectivity of the author and the micro-political implications of his/her own mode of jouissance in analysing the data. As Thompson and Willmott put it (2015), researchers are likely to have to provide more confessional accounts of their own affective intertwining with their research subjects, their
own mode of jouissance. The author of these lines is French, although working in English, and an unconscious desire sustaining this thesis was also to engage a dialogue or a (modest) work of translation between two close European traditions, the Essex School of discourse analysis in the UK and the French Political philosophy at Ecole Normale Supérieure. Furthermore, Badiou’s work has been translated in English only recently, and its relevance in organization and information studies, has still to be demonstrated; in fact, my personal inclination fitted nicely the context of Badiou’s penetration within the English-speaking community. The most important point is that Badiou was providing me with the (political) theory of affects which was missing from the logics framework. Although affectivity is central for the second generation of Essex researchers (after Laclau), their account remains conventional, aligned with the practice-based sensitivity. Badiou more directly addresses the psychosocial and ontological implication of a subject theory and explicitly adopts affects as unit of analysis. In other terms, Badiou more clearly assumes the destruction of the practice-based imaginary. Badiou considered that a theory of the subject was missing to Marxism to succeed, hence its practical revolutionary ambition; my attempt, more modestly, has been to complement the theory of technological innovation addressing its subject-based roots.

Furthermore, the (2) empirics also bear some limitations. Chapter 6 does not take into account the view of 3D artists on Unity. More complete data collection within the community of 3D artists would have great potential. Thus, Stavrakakis (2010) proposes artistic practices, and more specifically contemporary art, as a way to materialize the acceptance of lack. When lack is co-opted by the dominant ethic of consumption and the possibilities for innovative reconfiguration are closed, transformative orientations need to re-direct their objectives, with the frontier of antagonisms displaced to a new position. From this perspective, Unity Assets Store typically exemplifies the operation through which lack is institutionalized, generating a loss of agency. From Stavrakakis’ perspective, artistic practices may play the role of a third
agency beyond fashion and institutionalization (Czarniawska and Joerges, 1996), which has
the function of re-politicizing the patterns of professionalism involved in the
‘institutionalizing of creativity’ (Zackariasson et al., 2006).

Moreover, in chapter 7, the interpretation that an ‘act of courage’ emerges from the
designers’ early conceptualization of the game could be contested and renamed as an anxious
and unproductive restorative act, in other words an act of skepticism. Again, more signifiers
would perhaps be needed. The point of a Lacanian critical intervention is ultimately to
transform the mode of jouissance of a subject or a community of subjects, so my own
subject-position lead me to adopt a strong critical stance towards gamification.

This leads me to the (3) final ontological claim; the reader familiar with IS and
organizational studies might wonder: is this a practice-based study? Of course, practice is a
useful level of analysis, specifically here the design practice of serious gaming, and I do not
deny its analytic relevance. However, the ontological stance adopted here contradicts the
presuppositions of practice-based studies, for which notion such as contingency or re-
signification are not immediately relevant, given that practice theory, as a genre, is the study
of mundane activity, not specifically of its transformation. Practice theories constitute
fundamentally an ontological project in their attempt to provide a new vocabulary to describe
the world and populate it with new ‘units of analysis’ (Nicolini, 2012). The approach adopted
is pursuing this endeavor from a psychosocial perspective. Organization studies have shifted
from the study of organization as things to the study of organization as discourse (linguistic
turn), and then to study of organizing as a social process (practice turn, see Clegg et al. 1996).
Therefore, this thesis examines the affective turn, namely the study of organizing as a
subjective and affective process. From this perspective, affects are not only the effect of
designed structures but also are significant in producing social relationships, institutions and
organizational processes (Barbalet, 1998).
There are in fact existing vivid confrontations between the two traditions: Bourdieu criticizing Althusser (1992) and, the other way around, Butler criticizing Bourdieu’s theory of practice (Butler, 1997: 154-155), or Burawoy discussing with Bourdieu (2012). In other words, this study use logics and affects as core unit of analysis and from that perspective, it does not belong to the genre of practice-based studies. However, it was not my intent in this thesis to destroy the practice imaginary, in a Badiouan act, given the very realist stance of information systems research. It is probably the work for another book to establish subject-based studies as a new genre-for-itself for work studies but I think it is worth mobilizing such a range of subject-oriented authors, not least to render this claim possible. However, I recognize this project is out of the scope of this thesis; my attempt here has been to raise a paradigmatic problem left un-thought by existing interpretive studies in IS and to exemplify and experiment the relevance of the corpus of subject theorists through the critique of the managerial attempt to turn work into play. Last but not least, the reader might be puzzled by how many different theories speak to each other. This raises two problems which pertain to the intellectual fuzziness which this may provoke but also to the relevance of applying heavily political frameworks to apparently mundane managerial issues. While political theorists mobilized in this thesis most obviously studied hegemony at the factory, I made the provocative claim that consent was produced through computer interaction, through videogames, in the digital age. What is more, the relevance of applying Badiou’s framework out of the context of the 20th century’s communist history which Badiou interrogates in Theory of the subject might surprise the reader. However, Badiou himself in his work applies his core framework beyond politics to various phenomena like arts or love (Badiou, 2013), to name a few. Further, the constellation of authors mobilized in this thesis all have in common the centrality of Lacan and the political which echoes the project of the thesis, namely to foreground the centrality of consent in IS implementation and provide an account of
innovation, as a politico-affective process. Further Althusser is central in Laclauian theory; Badiou replaced Althusser at the Chaire of Philosophy at the Ecole Normale Supérieure, after his death. Fundamentally, Lacanian subject theory is the invisible thread which I am constantly following and I hope I have managed to demonstrate that the empirics, the epistemological and the ontological claims were mutually constitutive and thereby were telling one and same story.
Concluding remarks
In sum, I have addressed the research questions raised in the introduction. First, my study on the game engine has enabled to identify that an authentic appropriation of Unity software is achieved through the particular knotting together of political and fantasmatic logic. These logics are enacted through rituals and discourse, which produce enjoyment-value. They constitute precious insights for communicational actions as well as for strategy-in-practice, however a careful awareness of the ethical dimension of engagement with logics is necessary for not falling into ideological subjection, derision and cynicism which are less likely to generate sustainable innovation. Second, I have demonstrated that imagined use resist the actual design practice. Derision is, in a sense, the topic of the second case where the logic of gamification in the study of Elder Move does not generate desire as expected, through lack, but generates anxiety, through lack of lack. Consent is not achieved, which leads to the restorative acting out of the Man of Linz and a final product version which is more serious in style. Elder Move’s administration of enjoyment remains stated at the level of ideological subjection. However, in the third case, the developers and their clients manage to traverse the fantasy of gamification and adopt an ethical mode of enjoyment. Their engagement is authentic which presupposes the forgetting of existing work practices, namely the feelings and affects associated with the practice of geological fieldwork.

Finally, it is crucial to re-politicize the debate and traverse the smoke-screen fantasy of gamification. Technology nowadays consists of more than tools; it consists of practices and even institutions. The democratic revolution that takes place in IT design consists not so much of its mainstreaming and hegemonic adoption, but rather of the reframing of technology-in-practice as a practice of articulation, where technology is primarily a *signifying practice*, an empty signifier open to contestation and polysemy: the logics framework provides the ontological apparatus to keep these crucial dynamics in place.
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