

# The User's Verbal Ability and Rationality: The Borders of Humans with Computers

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**Abstract-** What is the difference between experiencing the game and what comes out a discussion about it? How far goes the rationality of the user? What is his responsibility in his blunders, and what should be considered as a consequence of fate? All these topics are tackled by Lacan, and the psychologists of psychoanalysis, and we may apply the findings of his school of thought to game design and HCI. Stephane Donikian believes that we need to go further within language as we consider the user, and Lacan happens to be the most appropriate to that task. Others schools could be closer to the Wittgensteinian views as in Hutto, and consider the user as a game theory player, while we want to show that they are wrong: the experience of HCI is hard to speak of, we lack the words, and it varies greatly from person to person. Computers are rational machines while humans are not. Cognitive science has tried to find ways that are below language, while Lacan searches the subject in language. Hence telling the story of an HCI experience is more of a matter of a narrative event and contrasts with the unspeakable reality of the interaction. We used the concepts of symbolization and reality to discuss what is within human grasp in the experience, and what remains too far from our reach. For example a few features of HCI design could go unrecognized by the user or its behavior could be interpreted as voluntary while it could be unconscious.

**Keywords-** *Applications of Game Theory; Player Satisfaction and Experience in Games; Player/Opponent Modeling in Games; Psychology/Psychoanalysis Applied to HCI*

## I. INTRODUCTION

One of the most important consequences of presence is that a virtual experience can evoke the same reactions and emotions as a real experience [1]. Lacan works on the principle that we are far more divided than we have the impression: we are spoken and divided. What is the reality of the experience of the user [2]? According to Lacan, the reality is the impossible because it is impossible to imagine or to integrate in the symbolical order, impossible to reach in a general way. Hence the user in front of his interface finds himself in front of a symbolical dead-end. We think that the experience of the interaction is beyond the symbolical, in the real, and that we have to put words on it to speak of it and report it. The world of HCI is an immersive world. As Stephane Donikian puts it: "As soon as the universe in question is narrative, this immersion is not neutral at all, it is not enough as in classic video game to integrate the audience in universe in assimilating him to the main character, capable of moving in a universe and doing a certain number of actions, although we have to take into account the verb: taking the role of the hero or of one of the protagonists of a story allows a strong identification from the user [...]" [3].

It is time for the community to take into account the verbal skills of the protagonists of the interaction, and which theorist could be more appropriate than Lacan? We have picked out [4] our current models for the mind in the computer industry to the benefit of the automaton and the objective experience, they avoid the use of natural language and the point of view of subjective experience. We have to take into account the verbal capacity of the user in his sub-symbolical interaction with the reality. Lacan has inserted the human psyche since the beginning in the language, and he is also a master of psychodynamics, this is why we chose him.

Moreover, French psychodynamics are a valuable intercultural tool spread in the entire Latin world and can be powerful to describe, heal, and treat human features, while Fodor's followers have exclusive theoretical access to our game models. It is a good way to introduce diversity in our community. However, this has been made difficult because of the notorious problems of translation of Lacan those who continue his work in the Latin world. In addition, the research in dialectics has come to a stop in the English speaking community of computer science; this has been underlined by Chris Crawford too in his attempts of reuniting artistic and technical crews. We would like to show that there is something different, with a strong intellectual momentum that is designed to make engineers develop differently. Years of therapeutic experience in the field of clinical psychology has produced results that are taught in many countries all around the world, among the humanities and the social sciences. For instance, the discovery of the unconscious, which is not always applied in the common knowledge of the scientists, the knowledge that not everything is within the understanding of the human mind and so forth... But should not the humanities pervade sometimes the field of engineering? Because we are still very far technologically from natural language interaction, it is only as a prospective investigation.

Our goal is to deepen the models that are available with an easy to understand, Lacanian approach following the previous works of André Nusselder, Laurie Taylor – who has introduced Lacan in video games studies as a PhD student of the university of Florida, Bob Rehak – who has discussed issues regarding the avatar while playing videogames, and Graham Matthews - argues that reading computer games as virtual worlds which express the structure of desire enables a reading of the real world and the structures of power which sustain the consumer society.” [5-8]. The advantages of these works are that we can get a better grasp of the nature of humans involved in using a computer, while on the downside they are not really “fun” or easy to model. Fun is an important issue in games and playing a suicidal character is not fun. The model is more accurate but is not isomorphic to the computer structure of data.

We will first speak of reality and rationality to explain that algorithms and the interface are much of a different order than the human subjective experience – hence we believe that there is a break between the subjective experience, which is not rational, and the world of the computer experience which is supposed to be. We will characterize the rationality in humans with game theory;

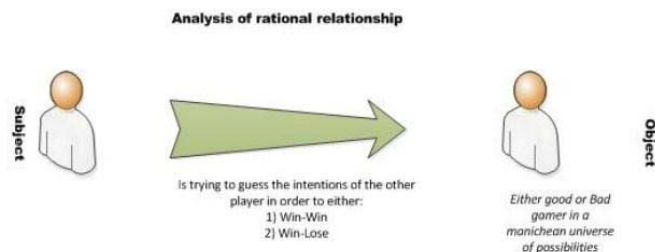
We will then speak of the matter of mistakes, responsibility, and luck in HCI. We will cope with a few important problems:

When the user makes a mistake, is he responsible or can we consider that it is a matter of destiny, tyche– in other words luck? Game theory considers that the user is rational, meaning that he does not have an unconscious. The field of mistake has been widely studied in psychoanalysis thus we have a lot of literature in this field to re-introduce that the user might not be so rational in his choices. We consider that enjoyment is a never-ending pursuit in games. And satisfaction of the user is a field that belongs more to the one of objective psychology or marketing.

Meaning to a certain point can we improve the system and what is the failure part to expect from the user?

## II. REALITY AND RATIONALITY

As long as Lacan is Hegelian or believes he is, he admits and repeats that “everything that is real is rational” [9].



If we follow the discussion of Schmidt [10] even rational individuals are not as rational as we might expect to be: ‘in bringing closer the hypothesis of rationality as common knowledge between players from the procedure of backwards induction, it leads in many games to a solution where an equilibrium of Nash is counter intuitive. The vast majority of people supposed to be rational, even when they are trained to game theory, do not comply with the behavior dictated by this theoretical solution, when they are confronted to the situations corresponding to these games.’

He adds ‘every solution concept has, to the minimum, to satisfy the reason of the players. The question is most of the time as exterior to the theory of games or at best, as meta-theoretical, we believe that we may show that it is untrue. But first we must be accurate in the way we mention that the rationality of the player is bounded.’ Game theory and math fail therefore to model the bounded rationality of the user, while the user fails to describe the reality of his experience – to the best as we will see he reconstructs a reality from it. It does not mean that the user will make the best decision in its interest, to the opposite. We will not go over the reasons that are linked to who he or she is, but it is a choice that is intimately the result of who he is and what the VR is making him feel.

*1) The story is not indispensable to the logic of the game in game theory while it is indispensable to the symbolization*

The storytelling in GT<sup>11</sup> is the situation that precedes the game and not the game in itself. For instance, in Baldur’s Gate by Black Isle studios (1999-2001) [11] it is the story before the fighting, or the situation before the quiz that will follow a dialogue. The designers especially when the game is very theoretical or depending on its purpose, try to find a story that they will find either analogous – in the case of a serious game like the prisoner’s dilemma or the deer hunting- or entertaining – in the case of a video

<sup>1</sup> Game theory

game. Every storytelling operates as metaphor of the game, and this is where we have the source for ambiguity. In serious games, and theory games the story that is chosen is only the narrative expression of the gaming situation, of which the theoreticians make use afterwards as a metaphor for the game itself. In the symbolization process this is exactly the opposite: the story is told from what can be symbolized of the Real.

This is due to the fact that game theory belongs to the reality – hence the rationality according to Lacan- while storytelling belongs to another order, the symbolical one. The real is what resists absolutely to symbolization or if we refer to the writings of Lacan: ‘it is the field that remains out of all symbolization’. In consequence we cannot say that the user is completely fully rational, but bounded rational, because of his unconscious primarily and yet believes he is rational. A third party and it is the case of our actual models could believe that it is completely rational too.

In the *Tractatus Logico-philosophicus* by Wittgenstein, the structure of the reality seemed given by the structure of language. It appears in *Investigations* that no strange isomorphism exists between language and the logical form of the universe: what seems to be the structure of the reality is nothing but the shadow of the grammar of our own language [12]. However, while the latter thinks that everything is solved in language, Lacan thinks that many things remain beyond or below language.

### III. SYMBOLIZATION AND VERBALIZATION OF THE USER’S EXPERIENCE

To exemplify the bounded rationality of the user we will use the following case:

Here is a quote from Nicolas Szilas at the AAAI [13,14]. At a general level, Marie-Laure Ryan provides an example of a linear negative case. She takes the example of a classical tragedy Anna Karenina, and observes that if the user were to play Anna Karenina, he would not want to behave the way she behaves and finally cause the death of his character. Pure tragedy, while consisting a perfect example of linear narrative, does not fit with the interactive context, because the user would not want to be more or less forced to go into such a tragic solution.’

To simplify the cases of game theory, there is always a relationship between the interest of the players, and of their preferences, as the game theory considers that no player will ever play against its own interest. Masochistic behaviors –moreover fate neurosis- are traditionally excluded from the domain of analysis of the game theory. But the principle is the lack of information on the interest and must be completed to allow the arranging in order the possible outcomes of the game in which they operate. In the context of a game that has a limited number of outcomes, or at least a discrete number of outcomes, game theory may operate, but may happen in the case where any kind of interest may happen in a real life context?

Although it is obvious that the death wish is at stake here, it does not work through the main player character. We can witness it by means of the direct effect of the interaction, in other words: a user does not want to see its character die if he is not in the mood to stop playing: it would create a dissonance to make him incarnate a suicidal PC<sup>22</sup>. If he wants to keep enjoying his play, as Marie-Laure Ryan noticed in the previous paper, some characters are more appropriate than others to fit as a main character. In our opinion this is because in the Lacanian theory, we are in an imaginary identification while playing a video game:’ this transformation happening in the subject when he fulfils an image.’ We have to be very careful what image we give him to endorse, otherwise it may feel like a sign mistreatment on the part of the designer. The sense of well-being in a player is generally due to the relationship with the author through the interface – and the non-player characters- whose center – a signifier in Lacan’s theory- is the ego ideal of the player, who needs to feel ‘satisfying as well as loved’.

There is no audience to entertain. And when comes the moment to report on his experience there are the problems we are confronted with: ‘The reality is without cracks [15]. It does not know the difference between the interior and the exterior “this distinction does not even have any meaning at the real level” [15]. This is the symbolical which introduces all sorts of fissures in the real. This means that with the experience of HCI the user does know any crack with the use of the symbolical order in other words language. What is reported to the contact with reality is therefore highly subjective [4].

Lacan adds to the idea that anything that can be reported from the subjective experience is only a subjective construct: ‘All there is to say about the truth is that there is no meta-language and that our language shall not tell the truth on the truth, since the truth is built on that it speaks, and that it does not have any other means to do so’ [9]. In that sense, every rationality is bounded. A user who would describe his experience would be limited in the truth that he may report from it, and on the other side the one who would try to understand the meaningfulness would be limited in his understanding of the subjective experience, in depth Lacan said many times, in a Benthamian style, that ‘the truth has a structure of fiction’ and that it is from the reality that it received this mark. [9]

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<sup>2</sup> Player character

Thus, to the best the reality reported is a construct or a reconstruction of the experience of the user. We infer that it is at the moment of the communication of the experience that the interviewer uses the discourse of the subject to make that he builds his truth. Because in spite of what some people think the truth of the psychoanalysis is not a memory, a remembrance or a discovery, it is a construction. However a construction can be itself true or false even though it does not consist in some adequacy of the discourse and of its object. How can we tell the truth else than in telling fictions? If a first proposition tells a reality and if we want to tell the truth of that proposition, we will only do it through a proposition that leaves the object of which the first proposition was speaking about. But the idea of Lacan, since the beginning, or at least since the first volume of the *Seminaire* is that psychoanalysis must tend towards a mathematical expression which avoids the difficulties of the meta-language as he explains in the *Écrits* [9].

He underlined that it is only when we will be able to formulate adequately the symbols of our action that we will make a step forward [16]. And yet the user's experience is reported in natural language with its imperfections, as any subjective experience is tangled in natural language. We would like to emphasize here that algorithms are not "divided" they are complete, without any lack. It does not mean that they don't have any technical issues, but the very need to talk naturally for a human being is the manifestation of a lack, a division, or even a need. This is a major problem in the realization of anthropomorphic systems.

#### IV. THE USER'S RESPONSIBILITY AND THE ODDS

The user may seem to have a lot of leeway in his behavior although he commits many mistakes, or remains locked in a certain kind of behavior, that is a manifestation of his unconscious. We believe that the best way to explain the bounded rationality is psychoanalysis. Why? Because since its beginning it tried to explain the irrational behavior of the user: revealing blunders, fate neurosis, fate & luck...

Luck, randomness are paradoxically linked to the notions of need and fate, which appear most opposed to it. We have to understand that, within the boundaries of those contradictory terms coexisted and were mixed in Greek tragedy. The classic Freudian psychoanalysis widely used it to express to the typical nodes of life – as in Oedipus. Hence if we follow Freud if a user ends up on a porn website at work by accident, we shall construe it, not as a misdirection made by bad intentioned web designers but as an unconscious desire of watching porn at work.

The Lacanian psychoanalysis in its claims for a tragic meaning of life went all the way, under the sign of Antigone, an ethics of the desire, an ethics of the desire which includes the unconscious obviously, since we are in psychoanalysis. The ethics of the desire seems to oppose the ethics of the law as it is impossible to see how the desire could become an implacable demand; although the desire makes us go from object to object, hopefully having us understand, if ever, that we only look for ourselves through these objects. Kant asks for a symbolical protection against the chances in life. This is not the case of Lacan who demands that the existence in ethics to grow to the point of claiming as if was us, everything that happens to us. The ethics must be one of being and of the reality; it shall not be made to protect us against life, or to help us demand this protection.

As a consequence a wrong clicking, a misinterpretation, a revealing blunder can have a meaning in the Lacanian theory, not necessarily the sexual one, while the general behavior of a third party would be to excuse the user for fate-related problem – or whichever poorly designed interface or software. For Lacan if there is a mistake committed by the user, there is a reason to it, and an interpretation that could come with it.

In other words, the programming mistakes and other luck related problems such as ending on porn websites at an unexpected moment should not be considered as simple human-factor errors, they have an unconscious meaning. Freud would have given it sexual one; Lacan tries to indicate that it is useless to avoid this responsibly. Sometimes the meaning is just unknown, or too hard to decipher. Therefore a use could be made of the knowledge of the responsibility of the user, but only if we acknowledge this fact: external factors have only a very limited impact on his blunders.

#### V. CONCLUSION

We all know the wide use of randomization that is made by the computer engineer. As a conclusion of his course on January 29<sup>th</sup> 1964 Lacan said the following: 'And we know what it is these days, to the point where we are of the modern mathematics, of the machines – precisely this network of signifiers-, here we are in our homes. The problem, you will see, to see the relationship, completely revise and define differently than Aristotle does, who speaks nonetheless admirably of the automaton – and what he defines as luck, to define precisely as the encounter with reality.' [2].

We believe it is time for psychoanalysis to take interest in the human-computer interaction, which appears to us as an encounter with the reality –and the human psyche- as a conceptual problem.

We have tried to show that the immersive experience of the interaction was on the reality side objective side of the experience.

And that its verbalization required much symbolization and that it was especially difficult. Game theory shows that rationality that we could be tempted of attributing to the user is not there: we are in a narration to describe a construction of the reality as far we are concerned, while rationality made the storytelling useless, the optimization of the result is the only thing that counts, in spite of the intrinsic bounded rationality of the user.

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