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Would an Inter-actors body be a determinant catalyst in merging media such as cinema with video games?

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Abstract: Since the end of the Eighties, cultural industry mainly Hollywood's motion picture and a growing number of academia throughout the world are working relentlessly to combine movies with video games. Nowadays, as the Danish industry video games specialist, Espen Aarseth, underlines it, this “marriage” is not yet conclusive. Theses of Brenda Laurel and J.H. Murray, which inspired most of the leads researches, are suggesting that integration of an inter-actors body would manage to merge narration and interactivity. However, even though a majority of researchers agrees today in saying that Holodeck's quest becomes a quasi utopian view, but potentiality within this trail still stands. It's a matter of fact, where video game's industry today markets regularly to the public new amusement interfaces offering a larger place for body's input, like in the “Eye Toy” from Sony's camera for “Playstation” or more recently from the Nintendo's “Bongo DK” for Game Cube. The scope of this article tries to reveal from the present field, avenues from where the body could play firsthand a role in combining narration and interactivity while bringing added value to the end user, not to mention all of the requirements within their limitations that are at stake.

1. Introduction

Subtleties in going to the movies, involves a trip where oneself experiences in preset conditions a symbiotic feelings allowing proportional emergent identifiers to the story. If magic takes place, disembodiment carries us along. Generally as soon as the movies ends, this withdrawal of fairy substance would cause anyone to miss having been only a simple mortal witness: How many times are we not agreeing as story unfolds or do feel a miscast in the choice of a character! When ego matching with the film's hero overrides reason and pull us out of reality to live his adventure?

These questions must draw our attention in setting new limits for traditional movies making while raising the threshold of “sensory motor” breaking point as described by Gilles Deleuze, by grafting two new components to it:

- The first Interactivity: within the terms of computer science allowing us to impact on the diegesis.

- The second: the immersion in the image; this process would allow us to be in the heart of the action and in turn be able to choose ourselves where to go from there.

Thus ideally, we would obtain a packaged product of « immersed interactive cinema ». In order to get this hybrid medium to work, the solution would be to merge two existing media: traditional cinema in a video games setting. Then again this “alliance” seems so much afar to obtain that for some scientists will appear to be one of the up most difficulty and probably impossible for others.

In chapter 2, we will try to understand why. Then in chapter 3 and 4 we will open study in what this paradigm of the body can perhaps play a determining role in solving this challenge. Before concluding, we will sort out in chapter 5 an array of physiological limitations that the body dictates.

2. How combining cinema in video games setting could bring frustration

The concept of choice induced by a specific interactivity during a movie, imposes a pullout by periodically expelling the spectator out of the “show” in order to assess the course action related to his situation and acts. It is in what “X-Files” [1] or “Phantasmagoria I and II” [2] succeeded in by while funnelling the player into this digital portal a situation awareness menu freezes then, allowing him to make the right choice. This is what Alain Le Diberder talks about: « *Un film est avant tout un récit et un spectacle, le jeu est d'abord une performance ou une énigme.* » (Beforehand a movie tells a story in a show, the game is mostly a performance or an enigma.) [3]. We thus pass brutally these overlapped frontiers of two universes, which is not seamless and creates a reality awakening jolt, source of frustration. How in this case, speaking of an evolutionary stand point for traditional cinema, can we flick back and forth from awakening rupture in frustration?

As of today the solution hasn't been found. The “Holodeck’s” quest of Jannet H. Murray [4] seems to become utopian [5]. So much so that some of scientists, experts, journalists think that it will remain impossible to achieve: “If one speaks about dramatic kinematics experience, one should focus and realize that the player and the spectator are still left at the bottom of a same tightrope”. Thus positioning defended by Margaret Robertson, journalist of Edge Magazine, tells that respectively interactivity and narration [6] convey antagonistic natures.

In his view, Espen Aarseth, professor at Copenhagen university tells that Hollywood may find it as a beneficial operation in marrying cinema with interactivity pushing in turn many Industry-Concerns tempted at all costs to make this successful, however the intricate complexity to recombine games with movies remains a major task [6].

Here is how the questions lies, summarized in its arguments at the time of the international conference “Hybridisation of the images: emergence of a new cinema?”

“which was held at the Toulouse's ciné-club the 2, 3, and 4 February of 2004 [6]; abstract: “Cultural industry tried with more or less success to marry film and video game. What are differences and resemblances between the two media? Would video games be also assimilated to stories and likely to be adapted for large screen and conversely? Or does there lies a blatant incompatibility between these two formats? “ For Espen Aarseth, merging these two formats would be a “marriage of connivance”. For the time being it should be mentioned that partisans in the dismissal of this thesis, are claiming that the hybridisation of film and the video game is possible, however they do not have yet any concrete piece of evidence on any ground work to hold their views. Meanwhile, some breakthroughs projects such “Facade” of Michael Mateas, Andrew Stern [7] or ID Tension of Nicolas Szilas, researcher in Paris VIII [8], might be able perhaps to link interactivity with narration. But as long as these products are not finalized, we should stay put before claiming any victory.

Are we in a dead end? Let us go back in Monaco February first of 2000. At the « Imagina » convention, Mr. Philippe Chiwi, C.E.O of « De Pinxi » company, specialized in virtual reality devices intended for general public, made a conference on this topic: « *La réalité virtuelle dans un cinéma immersif et interactif: le pont entre cinéma et jeux vidéo* » (Virtual reality in an immersed and interactive cinema: possible link between cinema and video games) [9].

This title is evocative. Virtual reality seems here to allow the cinema and the video game to be combinable, if such is the case, what would be in the realm of virtual reality, the catalyst component enabling this association? « *To stick academically to the term of “virtual” it is appropriate to indicate that is a mode of production with the usage of certain sensory simulations – from visual, audible, tactile, kinaesthetic - which are resulting from uninterrupted in real time interaction between a computer's modellings and inter-actors input* » [10].

This excerpt defines also “virtuel” according to Claire Béliste, Jean Bianchi and Robert Jourdan in clearly showing the concept of an interactivity as an “uninterrupted” two ways link between an “inter-actor” and “a computer”. Where consequently here is devoid of any blanks banning frustration, comforted by Philippe Chiwi's demonstration which holds great promises in breaking new grounds.

Terms such as « Tactile » and « *kinaesthetic* » relate in that context the bridging capabilities of an immersed inter-actors body.

This leads us to believe that the body may play a major role in being an initial catalyst which in turn would make possible to be the platform to combine narration to interactivity.

Let us address this hypothesis.

3. Taking under consideration viewers body capabilities as an interactive platform.

The team of virtual reality Marie-Helene Tramus, Edmond Couchot and Michel Bret of the university Paris VIII are working to introduce body language into their virtual device in order to study limitations of interactive motions. Their test bed, a role-play

called "Dance with me" [11] puts in scene a digital being which must learn, thanks to a neuronal link, dancing steps which are taught by humans via a gyroscopic sensor fixed for that matter on the waist belt. Once the steps are assimilated, the virtual dancer will execute even accompany the dancer's choreography in rhythm and in real time. According to Michel Bret, to interact with the body, is to be first in direct relationship with our emotional intelligence, the « emotional substrate ». He thus refers to « Damasio works [12] for which the emotional and rational components are strongly intertwined (the second who cannot exist without the first) ». It is quite the same type of relation that a spectator weaves with a scenario, because according to Pierre Jenn the emotional value is solely based on the affect:

« The spectator is much less aware of his need to be informed that for his desire to be persuaded of what one tells him. In other words, its request is much more emotional than rational »[13].

Of course while being subjected to a story we feel plenty of emotions, but our decisional process with the outcome and direction are like disconnected. Emotions are generated and orchestrated by a third hand, the film director.

Integration of the body in the scheme provides a more complete pallet of extra sensorial components to convey. Tony Manninen, researcher and professor who studied multi-players video games has made a diagram which indexes twelve main categories of interactions (Eyepiece, verbal, sound, kinaesthetic...). One of them relates of "physical contact". linked to this category, subcategories, which are for now five: aggression, tactile component, defence, signals and... emotional component. In its diagram, which is not carved in stone, only the "physical contact" component is connected to the emotional one [14].

Try making love only from the eyes; Except for the gifted who will preach a spiritual greatness from such experience, we would consider as shameful to benefit the joy of intercourse occulting the touch!

Simply referring to the basics that we carry since baby's first touch among strange objects

in this new world contact gives us a spectrum of information on the uniqueness of features that not only eye scanning could provide. Besides from the purely basic informative nature there is associated to it an emotional dimension as following exempla shows:

- Touch of sacred monuments, shaking hands with celebrities or any other emotional experience, for instance the newborn finds it almost vital to be held wrapped around against moms breasts initiating a life long bond or on sadder tone for a dying person, holding hands can facilitate the passing.

Some people talk about "hands memory". This practice make it possible to memorize an experiment, and this hand memory escapes sometimes from the unique visual reference.

Are we entering in the digital communication era letting our body play a second role? What a paradox, when researchers such as Espen Aarseth or Stephan Natkin and Lilliana Véga while telling us otherwise; "foremost playing remains within the realm of a spatial experience"! [15]

Edmond Couchot, in his work entitled « La technologie dans l'art » (technology in art) emphasizes:

« Far from being abstractive, it seems that the body is seen as an enabler with new possibilities interacting with the machine thru perception. Nothing, at least from a technological device itself (it goes from there differently with its impact on socialization), should draw any conclusion on the subject towards a systematic alienation of the body. It appears to the contrary that transmission and reception of inputs are regarded more and more as having to take a decisive role in communicating "life like" effects and not exclusively subjected to language (written or spoken) and solely coming from the two-dimensional playing fields.»[16].

Such leap comforts us in the idea that interaction through body's interface has to offer formidable new horizons to venture in; Hopefully the new meaning of feedback will cater to bring us an unsurpassed reality like environment as video games and motion picture have provided so far at their level!

4. Does body's interface triggers bridging capabilities between life and synthetic reality.

Forensic precedents such as works from Claire Bélisle specifies it; the body tactile function induces connectivity with reality [17]:

« All considered, physiological condition exert , for all living beings, unavoidable mediation between oneself and his surroundings; where any conceptual or imaginary variation in the field by means of input-feedback dictates from an inalienable law by which any living state will react from given captors; where Merleau-Ponty (1945) referred to in speaking of that metaphysical dimension acknowledging from its environmental taught process by grasping the span validated by means of precursors: involuntary motion or twitches, sensory representations, affective feelings. In the same time as the sensory activity and the calls for representations are integrated, the reflection on that perceived synthesis must take into account the properties of the reality to which the interest sticks and the aiming of the perceiving subject clings».

Far from occulting reality with the usage of a virtual device, it appears to the contrary that it

would be relevant to let it show throughout, thus enhancing the depth of perception in this universe where the body is funnelled thru. By questioning Robin Barrière, an impassionate film enthusiast and video games who produces, engineers and trains at ACT in Toulouse, this witness brings interesting positioning on the question; "Interaction with the body in a video game environment", told his experience with the game Metal Gear Solid created by Hideo Kojima [18].

This game represents a futuristic military infiltration, along the way, the player encounters an opponent who claims to have telekinesis capability. To prove it, this character asks the player to let go the joystick. The being then holds with his hands his temples and starts to meditate and all of a sudden the joystick starts to shake! (The explanation of this gismo lies in the vibratory function included within the joystick).

Then the character brags to be unbeatable. Indeed, the player by using a rigged joystick will not be able to reach his adversary...

To overcome this handicap, the player has to find a practical solution within the realm of our physical world, reality. Thus, by disconnecting the joystick and re plugging it on another port of the console; this manipulation could not just be a simple detail, flabbergasted the character asks what the hell had just occurred ... having no more control on the joystick... the player then would stand a fair chance to beat him.

Another element calling upon reality awareness check in this game, is from another character requiring the player to punch in a specific code. Guess what! Amnesia got to him and you have to deliver if you want to go any further, he will give you however a hot trail that eventually could lead to it telling you that is somewhere in the back of a box in the game, in his world. By logic, the player will explore all the universes within to find the box... rapidly trails runs cold and soon the player will have to resort into a reality check to solve the problem before calling the hot line is may be a good idea to look behind the packaging box of this game, where evidently the code is!

These anecdotes in Robins challenge once again stressed out the point where real and virtual flirts, ably manipulated by the concoctors the dimensions in which we evolve seemed to be overlapped by pulling us in and out at will, in turn creating a blur in our thought process.



Fig. 1. Ateliers d'Oz, "Taranis, virtual bicycle", 2002/2004

For Fabien Brizzi, producer and scenarios writer on behalf of «Atelier d'OZ», a Toulouse company specialized in the development of interactive devices catering to general public needs, this parallel, between the virtual and reality, exert a fascination on us which is of the same order as those that the illusionists operate on the public. These magicians handle reality to show to us impossible things, to touch irrational things... For example, Fabien Brizzi quotes a device which its company had worked out it two years ago. This one invites us to ride a bicycle which is connected to a video screen. On the screen ways bucolic sceneries of the Tarn in subjective sight are projected. According to speed to which we ride, the images unwind more or less quickly. At the convention, this device attracted a lots of people. Fabien Brizzi, thinks that the success of the attraction is related to the mingling of real transposed in the virtual world.

Finally, he adds, we do not invent anything again. We are in the ancestral logic of the spectacle whose vocation was to make people dream. We are in same logic as Méliès which in its time at the beginning bluffed us with his picture tricks in a similar quest. He had pursue a career of illusionist till he got interested motion picture. His wish was to marry its career long experience with the emerging technology in this field, to play tricks with images appearing or disappearing at will, erasing someone as by magic. He used for that systems of trap door, pulley and mirrors...

5. Body's constraints and limitations to be taken into account in a synthesized environment.

Yes, our physiological envelope has also its soft spots. Fabien Brizzi reports that certain users of the bicycle had nausea. The culprit would be the brain, which while perceiving distorted feedback asynchronous to body's perception, does not know how to process fuzzy input in turn causing a collapse of extra sensory markers. In the same way, according to Nicolas Szilas, researcher in Paris VIII, isolation in a cave triggers just after three days number of trauma such as “sudden ailment” of the inner ear. We do know little on the side or long-term effects of altering by means of artificial stimuli the body information's processes. Could that generate ahead more serious considerations?

The example of Otakus, young Japaneses, who lock up themselves in their rooms refusing an external world, is perhaps a harbinger of a new breed of symptoms which are likely to strike the "inhabitants" of these immersed worlds: Fleeing from human reality to worlds of virtual life seems to be a new frontier and the new challenge for humanity, where unsuspected mutation of behavioural processes could even alter our evolution, not to forget to remain within the calls of physiological needs, then it will be necessary to assert all those considerations, if not we incur dramatic outcomes suggested by science fiction as "virtual intolerable" to learn after all to appreciate reality?



Fig. 2. Interactive Institute, " Brainball", Smart Studio, 2000, Stockholm
http://smart.tii.se/smart/projects/brainball/index_en.html

All shaded views will display fx-driven hardware shaders, rather than the Max built-in view.

However, “unpreparedness of the body” already to date made the interactive diversions. Robin Barrière reports the existence of a variation of the game « Tetris », where the speed of the parts is proportional to the rate of heartbeat of the player. It is thus necessary to keep its self-control, to preserve its body to go as far as possible. But there is another amusement principle which exploits in depth this concept. Thus an interactive play called “Brainball” (2000) of Interactivity Institute, Smart Studio of Stockholm proposes to two players to be capped with cerebral sensors and to sit to debate. A ball is placed between the opponents and will approach to the most stressed participant. The solution is to try to slacken down to move away the ball from its camp. The player ends up approaching a state close to sleep in order to reach victory! As far as we know this is a first when a game allows to win while being in a physical state of idle...

The immersion of the body in total relaxation brings undeniable advantages, but brings also its batch of disruptions. The weaving between reality and virtual requires a good study of the required reactions, which goes beyond the simple physical representation and aesthetics that we wish to place onto the play. It is certainly important to convey emotions. But too many emotions can inhibit inter-actors capacities even endangering him. For example, François Provansal is active member of an association “Le temps d’une histoire” [19] which organizes live role-playing. This game consists in playing in the nature or the existing masonries, and to incarnate its character while being disguised. It’s to some extent an hybrid of the role-playing mixed with theatrical situation. He tells : At the time of a part of a live role-playing, one player was brought to explore by night a cave which sheltered according to its information bountiful spoils. While penetrating this virtual portal, the fear starts to mount. After having walked ten meters, he sees finally the spoils laying on a desk. Ready to seize the loot, a bluish gleam lit the corridor located on his left panic starts to paralyse him. The player sees in the light a strange character, with black clothes, without face, which undoubtedly approaches him, frightened, he in he escapes tripping his legs in his bow slips and fall. But carried by fear, he rose again and was able to flee. In this tour, during the fall, the player could really have been hurt knowing that the ground of a cave is strewn with stones and rocks. It is necessary thus to gage the emotions according to the targeted public and to distil to them same manner that one manages dramatic tension in a linear film.

The scenario must, as for him, to take into account that the inter-actor travels permanently between virtual in whom they are plunged and reality. A real element makes it possible to establish the link between these two universes by creating magic. It is thus important to find the metaphor which will be able to operate this bond. The illustration is given to us for the example of the real bicycle evoked by Fabien Brizzi to walk in the virtual landscapes. It is important to tune in the metaphor that will link. Thus Jean-Pierre Jessel responsible for the department virtual reality of the IRIT in Toulouse III, tells the following anecdote: “to advance soldiers in a virtual landscape, the researchers were asking them to ride a bicycle while at same time were to handle a rifle. The situation did not transcribe a real and curled to be ridiculous! The researchers thus chose a conveyor belt thereafter“.

6. Conclusions

At this stage, it appears difficult to imagine what the interactive cinema would be, where the spectator would have simply to seat and make choices, can function following the example film *Cluedo* (Jonathan Lynn, 1985). The latter not having had success, this can reassure us in that assumption.

Of course, as Nicolas Dulac [20] explains it, immersion of the body does not do all: It must also combine with “cognitive interaction” (Observation of the universe put in presence, comprehension of its operation, listens to dialogues, anticipation on the evolution of the intrigue...), which is complementary for him. On the same basis of a scenario in a movie can seek its balance while playing with the feelings and the reflexion, we must try to play with these two parameters to work out our interactive stories. This balance is however not easy to reach. The play which is sometimes a intellectual challenge, sometimes a pleasure of the directions is a distribution between two poles which was indexed by Roger Caillois in 1958 [21]. The pole “agôn” ask a intellectual effort, it is referred to films or the plays of the “narrative” type;. The pole “ilinx” who supports the pleasure of the directions reports himself to films or the plays of the “attractive” type. According to Caillois, the conjunction between these two poles would be impossible. As for the principle of the communicating vases: The more action would be proposed, the less deep the scenario would be and conversely.

Is Brainball, perhaps, the demonstration by the ludicrous that this conjunction is possible? Without action, nor reflection, the play exists and functions. In this context, perhaps the opposite is plausible?

Let us remain also attentive with the fact that for Espen Aarseth the problem of the interactive narration is not dependent that with the medium, but the 3d, the 2d, or the plays in text mode concern also. For him, the basic problem, it is that when a framework is given to the players, they use it in an unforeseeable way, and are disappointed and frustrated when they are constrained to follow a history in an artificial way. Except if the human intelligence in real time is used, as with a Master of play in D&D (Role play). But there too, Espen Aarseth notes that many were tested there, but nobody still succeeded as yet. [22] Obviously, the body can contribute a share to the interactive narration, but it is only one of the ingredients of a recipe which still elusive.

[1] *The X-Files The game*. Video game of Fox Interactive, Hyperbole Studios. Distributed by Electronic Arts, 1998

[2] *Phantasmagoria I et II*. Video game of Sierra, 1994-1996

[3] Alain Le Diberder, "L'interactivité, nouvelle frontière du cinéma", *Cahiers du Cinéma* (Aux frontières du cinéma), hors série, avril 2000, p. 124.

[4] Janet H. Murray, "Hamlet on the Holodeck - The Future of Narrative in Cyberspace", MIT Press, 1998

[5] Remarks collected during the interventions of Stéphane Bura (ElseWhere Entertainment) and Sandy Lochart during the study day : « Jouer avec une histoire ; un défi pour les média interactifs », December 2004 the 16th, CNAM, Paris.

[6] Remarks collected by notes via a translation during international conference « Hybridation des images : émergence d'un nouveau cinéma ? » , cinémathèque of Toulouse Février 2004 the 2nd,3rd and 4th.

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- [13] Pierre Jenn, "Techniques du scénario", FEMIS, 1991, p. 107. (Translated from french).
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- [15] Remarks collected during the intervention of Stéphane Natkin (CEDRIC, CNAM Paris) study day : « Jouer avec une histoire ; un défi pour les média interactifs », December 2004 the 16th, CNAM, Paris.
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- [21] Roger Caillois, "Les jeux et les Hommes. Le masque et le vertige", Gallimard, Nrf., Paris 1958.
- [22] E-mail exchanged between Espen Aarseth and Julian Alvarez, February 2004

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