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Introduction

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The Semiotics of computer games is a more or less entirely new discipline or perspective. Its newness is due not only to the fairly recent emergence of the computer game as an artefact of popular culture, but also because such games have not been systematically taken into consideration by semiotic studies until quite recently. This latter claim may seem a rather curious one, since computer games are apparently *de jure* an object of semiotic pertinence: a hybrid, technologically mediated form of expression that both reflects, and motivates, many important tendencies in contemporary culture; in cinema, dance, music, art, literature and science, to name but a few. Its logics and practices are highly contagious and are infecting not only the more immediately *interactive* material and practical spheres of cultural meaning production, but also the more ephemeral, imaginary and experiential spheres of our everyday lives too. However, we may also ask ourselves if this apparent lack of interest might not lie in a fear that the traditional model for semiotic analysis – the *text* – developed originally to interrogate and understand traditional literary aesthetic/artistic artefacts and other, more everyday forms of expression, is not *de facto* applicable to computer games? Indeed, most theoretical research so far in the field of computer games and gaming seems to have been carried on *outside* the confines of the international semiotic community (more strictly defined), and within a broader conceptual framework that builds on a distinction between *narratological* and *ludological* approaches to games and gaming. There is, however, a second such conceptual framework we believe is of particular relevance for semioticians wishing to deal with this complex empirical object. This is a framework that builds on a dynamic distinction between *text* and *practice*. As an introduction to this special number of E|C we shall offer a few brief remarks on the nature of the relationship between the two conceptual frameworks mentioned above. With this special number our aim is to develop and strengthen interdisciplinary ties, cooperation and dialogue between computer game Semiotics on the one hand, and other disciplines that deal with the same object from different or analogue perspectives, on the other.

1. Between Narratology and Ludology

Today, towards the end of an international debate that has lasted for about ten years, Narratology and Ludology have succeeded in defining central roles for one another in a contemporary research field generally referred to as *computer game studies*. Narratology as a discipline attempts to describe structures in stories that shape a reader's comprehension of what is being recounted. This involves a series of theoretical considerations regarding the figure of the narrator, the temporal order in which events are recounted, and so on. Transmedial structuring devices of this kind are certainly also present in, and important for, many computer games. But over time it has also become clear for both narratologi-

Introduction

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sts and ludologists that computer games have their own *proprium*, a specific characterising component that is *non-narrative*. There is, for example, no traditional story being recounted during the playing of a game of *Tetris*. For Narratology, the main interest, then, is in complex games that have adopted old or new dramatization strategies commonly used in traditional media such as cinema or theatre. A theoretically interesting example in relation to computer games in this connection is the role of the *avatar*, understandable in part in terms of classical narratological categories, while serving also in part as an incentive to revisit, revise and renew these categories. This kind of innovation potential is not seen as something external to the narrative faculty *per se*, but rather as an (important) modification of a fundamental mimetic pact that permeates and organizes literature and popular culture in general – Janet Murray (1997) for instance, claims that we are at the forefront of “a new medium for storytelling”, characterized by *procedural authorship*.

Ludology, on the other hand, has experienced a more recent process of institutionalization than Narratology, although a number of more ‘classical’ streams of thought have clearly been influential in clearing the way for a conceptualization of its object of study: play and games in all their forms. In computer game studies – a field in which Ludology is at present establishing itself – its focus is on a *proprium* not to be found in stories, and that stems from traditional games like Chess. The main focus in Ludology, then, is on game-player *interaction*, the organizing rules, the relative freedom of play, and the depth of simulation offered players by specific games. For both Narratologists and Ludologists, computer games do not possess any essential narrative core; *game* and *story* are in principle considered two clearly delimited cultural genres. But contemporary computer games – especially those that from a certain perspective

could even be called *prototypical* computer games, engaging players in narrative worlds – surely share properties of the two domains. In a wider context, it is also important to note that Ludology derives from earlier work in literary science and humanities computing, such as Espen Aarseth's (1997) studies of interactive narrative texts in the mid 1990's. Logical, mathematical, studies of games – which over time gave rise to so-called *game theory* in social science, economics, biology, computer science and AI research – have little in common with contemporary game studies. *Structuralism*, a collection of linguistically inspired strategies for analyzing cultural objects in ways that transcend the confines of literature, art and folklore, was one of the factors that first permitted a focus on the meaningful and combinatory *proprium* of games. And Structuralism is at the root of Narratology too.

Roland Barthes (1964, 1966) and Umberto Eco (1975), amongst others, shaped this new strain of cultural research into contemporary Semiotics. But how can we best position a Semiotics of today in the ongoing debate between Ludology and Narratology? A first easy answer might be to envision Semiotics as being closer to Narratology, by assigning it the same object of study: the narrative component – in the more traditional sense – of games. Both Semiotics and Narratology appear to share the idea of a fundamental continuity linking all forms of cultural production and interpretation processes, but the way this continuity is defined theoretically is not always the same, since the concept of *narrative* that grounds the analogy is different for each of the two disciplines. For Semiotics, the notion of *narrativity* is a grounding scheme that complements all other textual interfaces and devices that go to make up the “lazy machine”, as Eco (1979) refers to text. *Narrativity* as such acts as the limit case of the analogy among various forms of meaningful expression: it is the ‘deepest’ possible level of the text that can be conceptualised, and is describable only in highly abstract terms – as Algirdas Greimas (1966) has shown. Every meaningful artefact or activity is then narrative in this abstract theoretical sense, and all cultural productions specify the way in which they determine how a interpreter is able to understand and respond to them (thus integrating these interpretations into his/her prior cultural knowledge base). If we agree on this notion of narrativity, then computer games cannot but be narrative. It is a different task, endorsed in analogue but not always converging ways by both Narratology and Semiotics, to describe the narrative dimension in the more traditional sense of cultural products. And Semiotics cannot but look also for the other ways in which games produce *sense* for their players, especially if the most specific traits only emerge as such in the context of their *actually being played*.

Semiotics is understood today as a comprehensive vehicle for cultural research – a particular point of view or *perspective* that may be used to focus on, and to inter-

rogate, contemporary cultural phenomena and trends. Initially, there were two contrasting positions that principally defined Semiotics, out of which, over time, has emerged a third, more pragmatic, contemporary self-conception of the discipline. The first position sought to encompass the entire *field* of potentially meaningful phenomena, which were to be categorised in accordance with their specific granular traits as defined by a complex general theory of Semiotics. The risk here was to be unable to agree on uncontroversial delimitations within and between an apparently heterogeneous mass of cultural units with potentially unlimited meaning potential. The second position aimed to develop a strictly formal analytical (or descriptive) *methodology*, independently of any of the more specific characteristics of the actual objects and other phenomena it was supposed to be applied to. The risk here was not to be able to provide sufficiently valid empirical justifications for the speculative results generated by application of this theoretical model in specific contexts. However, a semiotic *plane* or level of analysis does in fact exist; it is intuitively easy to isolate, since it is precisely this analytical sphere in which both Narratology and Ludology operate. Some narratologists would say that even though they do not actually practice Semiotics as a discipline they do in fact have a semiotic object of study, a semiotic interest. They do not see themselves as developing a Sociology or Psychology of reading or of play, but are, rather, searching for ‘immanent’, hermeneutic traces or structures that may be used to characterise these as cultural phenomena. A ludologist would perhaps not declare him or herself a semiotician, perhaps also because he or she quite simply just perceives Semiotics to be Narratology (or vice-versa). But in any case, Ludology is certainly fully aware of the possibility of adopting a specificist, ‘immanence’ oriented, approach to games and play as cultural phenomena – even though it is perhaps less aware of their semiotic nature: that we play in language games where signs are continually being exchanged and interpreted by players and others who watch them play.

2. Between Text and Practice

Nowadays, much work in Semiotics is focused on the relationship between texts and the interpretative and other *practices* of their readers/consumers. Gameplay practices involve both game and player; and understanding a computer game has mainly to do with being able to grasp the interpretations players generate while interacting with it. What generally characterizes semiotic thought on this particular issue, is that *every* textual genre is seen as having its own particular configuration of associated interpretative practices. There are regularities, rules or *instructions* related to sense production that have actual effects on interpretation and textual reproduction practices. Some look as if they are highly action-oriented (“push the button”; “read the book to

the end to find out how it concludes” are instructions to *act*), while others seem more passive (“dogs are four-legged mammals” is a semantic instruction for understanding con-textual meaning). But this distinction may vary, depending on interpreters and their specific historical and cultural contexts. A description of an aesthetic experience, or object (*ekphrasis*) by an adult (“that is the haunted hollow”) might well be interpreted as a definition of fictional game rules by a child – and indeed, each of these two kinds of interpretations may easily be transformed into the other by way of intersemiotic translation. There is a clear continuity between what is *readable* and what is *writable/executable* (to elaborate on Barthes’ (1970) well known dichotomy). Greimas (1983) once analysed a recipe – the instructions for preparing a soup – in order to demonstrate their fundamental narrative character. Making soup involves interpreting actively – *ergodically* we might say, following Aarseth (1997) – these instructions. If we are reading a Zen manuscript or other sacred book, we may also try to perform a similar ergodic interpretation of what we read there. But we probably ought be careful *not* to follow the instructions on the cover of Moebius’ *Arzach*:

“Ingredients: A pseudonymous humanoid cartoonist, some volumes on painting, a cassette of science-fiction novels ... Recipe: Mix the ingredients. Make a decoction with Mexican mushrooms and cover your cartoonist with this. Tie him to the table. Beat him with the whisk until he delivers. Pluck his feathers. Cook until golden brown. Keep his head in the stock to drive out the bubbles. Note: there must be no bubbles in the Arzach.” (our tr.).

If we do, we would certainly not end up with the comic book we were perhaps hoping for...

With regard to the interpretation of instructions, studies of computer games can clearly tell us a good deal. Firstly: the computer itself is an interpreter of game rules, and in doing so it makes pragmatic distinctions between what is effective and what is not. In one game it may make no difference at all if I were to choose a male or a female avatar, in another game a similar choice might have wide ranging consequences (in *Resident Evil*, for example); it all depends on to what extent the design of the game engine facilitates the attribution of social or other values to gender variation. What is important (for Semiotics, at least) is to take account of the fact that cultural variation is always meaningful, even when it does not seem to be something that is integral to the game mechanics *per se*. A game, as a text, is a totality encompassing all its own levels of meaning and action potential, and its various units or components are not completely watertight in relation to one another. A game in which men and women are seen to have exactly the same social status is implicitly saying something about gender relations and cultural norms in general. The effects that certain systemic units or traits have, or do not have, in some games in relation

to others is clearly a crucial point for semiotic investigation; we always live and play in a game universe that is permeated with narrative meaning and thus not a void. Practices link the interpreter to this meaning universe. One and the same action/reaction pattern might be amusing when packaged as if we are cooking a meal (as in the case of recent *Nintendo DS* games) but frustrating if played out in a battle against someone else. The simulation of an object or gaming environment must display a certain coherence (or symbolic efficacy), and rule implementation must respect the distinct cultural identity and role of the various objects or situations they regulate – Eco (1975) refers to such objects and situations as *cultural units*. It could well be that the first computer games were about war and competition for a sensible reason: as an efficient way to integrate the new language of computer games into a player’s *encyclopedia* – his or her knowledge system – so s/he would easily be able to grasp what to do in this new environment in terms of already known stereotypes. Traditional games have always taken common cultural practices as metaphors grounding play: games for children often reproduce *in vitro* usual or unusual adult activities. Today, computer games and virtual worlds have re-elaborated many other well-known cultural practices like fishing, creating and displaying art (*Second Life*), taking care of a pet, managing a home, an enterprise or a city (*Sim City*). Many complex games seek to simulate and integrate aspects of everyday life, both with the aim of producing a *virtual life* for the player and in that of recreating an *artificial life* sphere within the machine.

The distinction between text and practice in Semiotics is a subtle one: I can analyse a greeting as a text if I maintain a certain theoretical *distance* from it; while describing greeting practices requires, on the other hand, a more detailed understanding of the various possibilities people actually have on hand while taking part in such practices, the effects they appear to be looking to achieve, and the actual effects they manage to obtain as responses. The various ways in which we *interpret* and *produce* texts are all practices – and among these we can discern many types of meaningful *actions*. The textual model in Semiotics is born from the notion of the death of the author and a consequently more active and cooperative role for the reader. Still, the reader that any given text ‘requires’ cannot become an author in the fullest sense of the term (“filling a much-needed gap”), or otherwise we would lose any plausible limits for interpretation – an *intentio operis* – and differences among texts would end up having no importance. But the activity of producing and re-producing texts is always an authentic expression of subjectivity, and is this that we need to analyse in order to understand authorship in all its forms (from the regularities of the hermeneutic traditions, to the innovations of the newer aesthetic paradigms). The textual model in Semiotics is powerful enough to attempt to build more detailed understand-

dings of the *openness* of meaning, of its indeterminacy and unsaturated web of possibilities – that constitute the active, cooperative role offered to the reader by the text. This general *text* model needs to be wedded to a complementary *practice* model in order to understand contemporary textual production processes, and the actual effects of an interpreter's *interventions* in interactive texts – such as computer games – where his or her possibilities of *action* go beyond those allowed to him or her by traditional (even if open) aesthetic texts. To experience something as a practice involves necessarily being situated *within* it, not only as observers (situated at a distance) but also as actors (in a situation that offers practical means to remove such distance). Indeed, as we and many of the authors in this volume have pointed out, the specificity of computer (and other forms of) games lies in the potential they offer for *immersion* of the player, with a focus on what she can manage to do by herself, on expressing herself as an active subject, on involving her in actively producing shareable forms of meaning. It mobilises her desire to experience the creative power of shaping *something*, of taking effective action among real alternatives, of realising choices. Indeed, in *The Open Work* (1962) Eco has described what he calls “works in movement”, which require the action of the reader/interpreter in order to be completed – in many ways, clearly an aesthetic predecessor of computer games.

Charles Sanders Peirce (1931-1958) observed that meaning comes into being only in through a continual exchange of signs – *semiosis*. Interpretation and action must always be seen as living in a closely coordinated working relationship with one another, since signs are both the result and the ground of all forms of action. Playing computer games brings into focus actions that I, as a player, am obliged to perform, my corporeal response to my encounters with the *intentio operis* of the game. In reading a detective novel or movie, I might come to experience the ‘feeling’ that the killer has. In a game, I might come to experience “how it feels” to shoot, to kill, by actually ‘doing’ this myself in an embodied fashion, while all the time knowing that my ‘actions’ in this case will have limited, manageable, consequences. Greimas’ (1970/1983) narrative grammar was originally developed in order to describe narrative roles and relations in text. In dealing with the actual textual practices related to playing computer games, the *actantial roles* Greimas outlined for characters in a text will be seen to emerge in the course of an ongoing process of *enunciation*. To understand gameplay as a form of activity we need to be able to describe in some detail the interplay between what players *must*, *want to* and *can do* (in accordance with the rules and other characteristics of the game environment), their actual *actions* and the more specific *consequences* of these actions, both within the game context and *off-screen* – pragmatically speaking, I may be winning or losing, satisfied or frustrated by the

gameplay. Strategies and tactics of play only come alive in the interactional space between the game text and its players, and this space is by no means an empty one – it is a complex, dynamic cultural space that continually facilitates the mediation of meaningful forms of understanding and action.

3. Contributions

Contributions to this special number may be said to be ‘semiotic’ for at least two reasons. Firstly, because they investigate how games as cultural phenomena are attributed – and produce – sense, or meaning, when played in certain ways. Secondly, because they make reference to a broader tradition of thought that is explicitly organized and conceived of as ‘Semiotic’. Clearly, some contributions you read here will, then, not be classifiable as semiotic in this second, stricter, sense, since they do not (for example) make reference to the semiotic theories of Umberto Eco or Algirdas Greimas. But as we shall see, much contemporary work on computer games by people from other schools of thought is ‘semiotic’ in the first sense of the term mentioned above.

This special number is divided into five thematic sections, to permit easier consultation and also to suggest a tentative reading order. Many conceptual links will certainly be discerned between the contributions to the various sections. A central concept broached by a number of authors is that of *immersion* or *immersiveness*. Defined and understood in many different ways – on which there as yet appears to be little consensus – this keyword seems for many to designate a truly *videoludic* paradigm, and it consequently runs as a red thread all through this special number, explicitly or otherwise.

3.1. Interaction

The first task for a Semiotics of computer games is to consider the transition from text – which is *open*, requiring reader cooperation – to game, which requires other forms of interaction. Gabriele Ferri (University of Bologna) argues that while many resemblances can be found between a single instance of game play (which he calls a *game-text*) and traditional types of textual production, computer games are best understood as *matrices* that afford the production of a unique game-text in each new gameplay session. Game-texts are “complex semiotic object[s] comprising different functions and different instances”. In each case, their instantiation is by way of *procedures* activated by players, and in this connection Ferri suggests looking at recent developments in Procedural Criticism. From this point of view, what is important to describe are *competitive* instances and strategies adopted by programmers/designers to *challenge* the gamer, morphing the game machine into a sort of second player.

Ferri then examines carefully one specific *figure* of play: transdiegetic phone calls, that have the effect of blurring the borders between the game world and the real

world, affecting players' self-consciousness of being or not-being at play at any given moment in time. What games obtain by the introduction of this figure is an *immersion* of the player's life in the game (or vice-versa), which "problematize(s) everyday experience by introducing a gap of uncertainty", while at the same time enhancing player engagement.

Otto Lehto (University of Helsinki) also reflects on the specifically semiotic nature of computer games. "They operate under a principle of reciprocal duality", he claims, since both game and player need to be present at one and the same time in order for play to occur. This double interactivity, although it may be traced back to the notion of the openness of the text, actually moves beyond it, since the response required of players "exceeds the code's phenomenological givenness". There is always a *player response* that precedes (or accompanies) the interpretative *reader response* – required by any medium. Games may be classified by looking at qualitative characteristics of required responses: some games are cinematic-narrative (immersive), adapting many textual strategies common to cinematographic productions, while others are more focused on how many degrees of freedom are given to players in exploring them, as dynamic systems.

A minimum account of interactivity is in any case required in order to constitute a game, and – all things considered – this remains its most important feature. A game world cannot be immersive (i.e. 'present' to the player) if its exploration is a mere "'guided tour', pre-planned and pre-canned". Real, meaningful interaction (*interactive immersion*) is thus the first step beyond static cinematic forms of experience. Playing realizes "freedom with a purpose, goal-setting intentionality", and *structure* (challenge, borders, rules) is a mere *excuse*, a "necessary illusion" we adopt in order to enter into the realm of interactivity.

3.2. Narrativity

Jack Post (University of Maastricht) makes use of Greimas' narrative grammar to partition and re-assemble an exemplary game that has been used by many authors to assert the non-narrative nature of computer games: *Tetris*. Going back to Barthes' idea that "a game too is a sentence", *Tetris* is characterised as an *actantial matrix* determining "the performative dimension of its 'gameplay'". The canonical schema of the *quest* is applicable here, and every step taken in the game is itself a *narrative program*, embedded functionally in ever more complex programs, all the way up to the emergence of the completed game as a meaningful whole. The machine itself implements a *counter-program*, demonstrating that also in games we find the same duality of the subject as in many other traditional texts.

Post argues against the popular distinction between narratives and games, based on the fact that the first

are backward-oriented while the second are forward-oriented. The multiplicity of outcomes found in *narrative prospective programming* does not mean that "the actant has no control over the action", due to the existence of several different logics used in programming action (as has been pointed out by Jacques Fontanille). Strategies and tactics documented by Semiotics in traditional texts and practices play an analogue role in games. Playing is by all accounts a *minimal story*, and "the interactivity of its gameplay can be analyzed in narrative terms".

"*Experiencing* a computer game is not only a matter of playing and interacting but means being part of a narrative universe", writes Alessandro Catania (University of Nottingham). Given that the relationship between narratives and interactivity is what characterizes games, and that computer games "ensure players a variable level of control on narrative developments", it is necessary to distinguish between different *layers of interactivity*. Catania uses Henry Jenkins' distinction of *macro- and micronarratives* to understand which moves players can carry out immediately, and which effects of his or her actions are projected into the narrative universe that the game exists in ("the main plot").

There are some games – such as adventure games – that do not give players much freedom at micro-level, constraining interactivity to a predetermined schema, while other games – such as first-person shooters – focus on assuring a high degree of freedom at micro-level, but do not recount any rich, structured, comprehensive story. Different types of games operate with different types of *immersive devices*: to be immersed can mean both to identify with a story, and to be situated within a game world, while "in contemporary computer games these two different families of strategies are almost always overlapping". Catania shows, through examples from the *Star Wars* saga, how it is most profitable to offer *both* hands-on interactivity and the power to manage narratives.

3.3. Body

As Agata Meneghelli (University of Bologna) notes in her contribution, the interpretation of videoludic texts has both a *performative* and *configurative* dimension, generating player *experiences* and player *practices*, where by practice is meant "a meaningful activity, a structured set of actions that involves a simultaneous use of multiple semiotic resources by participants". From a semiotic perspective, this means we need to rethink the concept of *enunciation* – in both its simulacral and pragmatic aspects – when applying it to computer games. Videoludic "enunciation in action" is *gameplay*, which is realized through a pairing of the in-game avatar with the embodied player.

Meneghelli then examines how this pairing works, considering various kinds of avatars as *digital protheses* that affect the degree of identification the player develops

with them. Protheses may be more or less characterized in both visual and narrative terms, be personalized to different degrees, and permit greater or less player control over them. They produce *immersive* simulated action when “the player is called to live through the body an *experience*” to such an extent that “it seems the player is really performing the action simulated in the game”.

Also Adriano D’Aloia (Università Cattolica del Sacro Cuore, Milan), examines the relationship between the player and the avatar, but his question regards how we relate to *others’* avatars and players. The avatar, a digital incarnation of the Self, “is the embodied manifestation of the player’s engagement with the game-world”; “it incorporates the player and disciplines his/her body”. The avatar is the means – the *position* – by way of which the player is able to function as an *actant* in the virtual world. It is not a fracture with the Self, but an extension to *another oneself*. But this redoubling (dual actant) interferes in the relationship of the player with Otherness (“the actual/virtual Other as a whole”): social relations in virtual worlds are actually *intra-subjective*, “wholly played out within the pole of Selfness”.

After showing that the visual perspective commonly used to access virtual environments is *semi-subjective*, D’Aloia argues that this does not allow a truly empathic connection with Otherness. Technological mediation frustrates the communication of emotions, and this is strengthened by the limitations of simulated worlds – whereas cinema, for example, has developed sophisticated techniques that, in part at least, overcome this issue. The *bodily-enforced* experience of computer games seems to have its own specific drawbacks.

3.4. Time and Space

Mario Gerosa (Politecnico di Milano, Milan), and Jennifer Grace-Dawson (Duke University, Durham, NC), point out how the experience of time in virtual worlds – such as *Second Life* – is organized into many different levels of sense/meaning. There are parallel *histories*, as organic evolution of cultures emerging in virtual worlds develop complex relationships with ‘real’ life. Different in-world activities and *endogenous movements* have their own times, trends and (overlapping) narratives – “there is not just one inner time” – while the styles and interpretations of virtual worlds change these time frames too – “Time is defined by the history of time”. Aging itself, in a virtual world is more a matter of continually being up-to-date, rather than merely growing old. User competence is a further sign of the passing of time: being a ‘newbie’, or not, is generally a matter of how much virtual time one has experienced.

Time also creates a more marked distinction between computer games and virtual worlds. If in computer games what counts is the “personal chronology of the gamer”, and “the speed of the game is defined by the skill of the player in making progress in the game”, in

virtual worlds “there is no termination or resolution of the narrative of life”, and “none of the rules of linearity pass”. Game “history is simply the story line that precedes the narrative into which the player enters”, while “the progression of a virtual life is as varied as a real life”. Not to mention the very different character that *death* has in these two worlds: a repetitive event connected with error in games, it becomes a matter of *choice* in virtual worlds (where biological limitations do not play a role for avatars).

Joaquín Siabra-Fraile (Consejo Superior de Investigaciones Científicas, Madrid) notes that the aim of the constitution of a virtual space is “the *immersion* of the player into a *virtual world*”: the experience of belonging to “a virtual *nature* with its own laws”, very different from the *identification* that can be found in traditional art. Video games have to “model the world where [a] plot can develop”, they are logical spaces where a work or text will be built.

It is important that the laws governing the game world and the possibilities of intervention for the player are clearly communicated to him or her. The virtual world builds its own *intelligibility* – also by defining a particular space. *Immersiveness*, then, is to develop an understanding of, and an acceptance of, the logical space that constitutes the virtual world. A comparative analysis of two very different platform games, shows that they have a common functional structure of possible actions that characterize them (and their genre), while facilitating their actual conceivability; where the underlying core concept of this basic action structure is the simulation of *gravity*.

Claiming that “Games begin and end in space”, Alex Wade (Loughborough University) uses a modified version of Henri Lefebvre’s conceptual model of *trans-space* to understand the construction of the computer game. Trans-space is “the simultaneous habitation of one-or-more types of space at the same time and the mediation/movement between these spaces.” More precisely, it is the notion of dynamic interactions between *perceived*, *conceived*, *lived* and *digital* space that is necessary to understand computer games.

If much of the research literature to date has suggested looking at the game as “a separate space from the quotidian where preordained, special rules apply”, a trans-space approach shows that “subtle and rapid movement among spaces results in a state of flux which is paradoxically stable, such is its permanence”. From this point of view, the characteristics commonly attributed to Ludology and Narratology tend to reverse their positions, since cultural aspects of space are more defining than universal logics (of rules and moves) in building up and defining any given gaming space.

3.5. Authoriality

Some computer games open up new ways of playing, but *nihil ex nihilo*. For Marco Ben  t-Carbone (Scuola Superiore di Studi Umanistici, Bologna) the birth of computer games – a tortuous affair, not summarizable as one single step, nor as a clear discontinuity with the past – shows how this medium was born at the hands of people manipulating – as *bricoleurs* – selected aspects of already known, shared, forms of practice (such as sports, or traditional games), while “creating *new rules as they went along*”. Furthermore, we seem to arrive at this conclusion no matter what definition we choose for computer games, or by anticipating or postponing their initial appearance to exemplary proto-games such as *OXO*, *Tennis-for-two*, or *Spacewar!*.

For Ben  t Carbone game development is fundamentally rooted in the flow of cultural history, and there is absolutely no room for so-called ‘game-creationism’: “What the theory of enunciation suggests is that the *invention* of games should be considered as a guiding concept, a question mark”. This line of argument leads him to the pragmatic conclusion that “while there are reasons to demand a specialized analysis, it would be anachronistic to ultimately try and look at the medium of video games as an ideally separated form of textuality.”

Filippo Zanoli (University of Milan) discusses one computer game in which a specifically *linguistic* practice – the introduction of an artificial *langue* – is used to instantiate and model a certain type of gaming practice. The romantic idea of language as a creative device has been realised in the form of the game *Tabula Rasa*, which constructs a fictional universe in which a magical iconic code permits the player to intervene in the game world by ‘speaking’ by means of this code. This blends the notion of play with that of speaking a language: something which is possible since both are rule-governed semiotic games that produce specific effects through their fruition.

However, Zanoli questions whether or not this game actually represents a real innovation, or if author Richard Garriot has merely used a system of commands (an interface) already developed in role playing games, thus giving it the *appearance* of a language, while failing to construct a truly communicative tool, and failing, too, to arrive at a new way of playing games. This might, he speculates, be due to some inherent semiotic ingenuities in the basic design process, and a more general lack of integration between elements of the game-surface and the deeper structures of the artificial *Logos* language itself.

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