The Reader Can't Shoot
Computer games and interactive narrative

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Computer games and narrative? It is easy to imagine that the title of this essay might already appear somewhat incongruous (*and what's with the shooting, anyway?*). It is also easy to imagine that the topic itself might run into some resistance: for what do games and narratives have in common (*and what does it matter, anyway*)? It should therefore come as no surprise if the main thesis is also met with some incredulity – for instance, 'what do you mean by "some games are narratives" and "some narratives behave like games" (*and anyway, you gotta be kidding, right*)?' But yes, that is the thesis: that not all, but *some* games can be seen as narrative texts, and that, in turn, some narrative texts do behave like games (or attempt to, at least). The validity of this thesis, however, hinges heavily upon our definitions: which games exactly do we mean; what is narrative; what exactly do we mean when we use that word? Before proceeding, therefore, we should first clarify certain terms essential to this topic, and thus (hopefully) remove the apparent incongruity.

Some popular notions and even more popular misconceptions

It is not too difficult to think of computer games as texts: of course, not as 'ASCII text', but text as 'semiotic system' or 'sequence of signs' or similar – in the sense in which a ballet is also a text. Yet it is somewhat more difficult to think of them as narratives, at least as long as we identify 'narrative' with 'narrative fiction' or 'prose'. If, however, we accept a wider definition of narrative – *a succession*

of events, or better yet, *a mediated succession of temporally and/or caus-ally related events* – then we have agreed upon a term which admits not only 'prose' but also cinema, drama, epic poetry, ballet and – yes – computer games into its scope. An event, in turn, as Rimmon-Kenan observes, "may be defined without great rigor as something that happens, something that can be summed up by a verb or a name of action" (2) – even though we may as well define it with somewhat more rigor, following Yuri Lotman, as a transition from one semantic space into the next (e.g. house/forest, space-ship/planet) and by extension, as a transition from one 'semantic state' into another one (e.g. alive/dead, present/absent). For instance, as long as Little Red Riding Hood stays at home, nothing will happen; as soon as she enters the forest (a semantic space other than her own), she generates an event which leads to conflict which results in the story[1].

An event is thus the basic building block of a narrative, that 'what happens' in a story, and the story (or narrative) in its entire-ty can easily be seen as a sequence of such events. And while it is important to note that there can also be narratives (or is it anti-narratives then?) which consist of non- or pseudo-events – as post-modernism has convincingly shown – we can otherwise safely assume that where there's a story, there's a narrative too. Ballet, drama, mime, epic poetry – all these texts usually tell us some kind of a story; they all involve characters (of some sort), and they all consist of events which usually generate a conflict and are mostly organized into a plot. Most *contemporary* computer games are no different, and thus also constitute a narrative inasmuch as a ballet or a theatre performance does – albeit an interactive one. They contain all the basic narrative constituents in one or the other form: characters, action, setting (temporal and spatial); they

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1   For a detailed discussion of semantic space and events, cf. Lotman 327-340; in particular, cf. 332f., 338.

are comprised of a series of events which are mostly causally relat-
ed (and *very* teleological); and moreover, they often feature dia-
logue (thus: words, or spoken *text*) – something that ballet, for
instance, doesn't. In short, they offer everything that a decent nar-
rative should – and more.

If, however, the narrative qualities of computer games still pre-
sent a problematic issue, I suggest that we think in cinematic terms
for a while: if we take film – not narrative prose – as our exemplary
narrative form, then I believe the similarities are quite apparent.
Most contemporary games, in fact, include cinematic sequences
which usually serve as exposition and plot-forwarding devices.
Furthermore, narrative films can easily be converted into games, as
is often the case with action blockbusters and accompanying inter-
active products. The fact that the conversion from game to film, on
the other hand, mostly does not work so well is a problem that per-
tains to Hollywood producers and blockbuster 'production guide-
lines' rather than to game developers; it appears as quite plausible
that a game such as *Deus Ex* (discussed below) could even be con-
verted into a satisfactory cyberpunk *novel*, to say nothing of an
acceptable action blockbuster. That aside, I believe the relation of
games and cinema to be quite clear if we consider the analogy be-
tween printed and interactive prose: with that in mind, computer
games can then easily be called a form of interactive cinema – for
games are to cinema what hypertext is to a novel.

The fact that computer games are *interactive*, of course, tends
to complicate matters somewhat (*who narrates the story*, for exam-
ple? and how much can I change if I don't like that what I'm
told?). However, since I deal with aspects of interactivity below,
for our present purpose – establishing computer games as narra-
tive – I propose that we make use of the following trick: simply
imagine that you are observing someone else at play. You cannot
influence the sequence of events (the story) in any way. Then com-

press to a minimum all the 'action' parts (puzzle-solving, shooting enemies, etc.) and focus on character interaction, dialogue, cinematic sequences, and so on. What will you get? An animated narrative film – true, awkwardly filmed (the 'takes' will tend to be too long and the perspective at times inappropriate), and sometimes perhaps awkwardly told (all those voice-overs and cheesy dialogue), but narrative nevertheless.

Of course, if you just imagined *Pac-Man* (we said *contemporary*, remember?), then the 'film' you get will be cognitively inferior even to the *Teletubbies*, because it will have no proper characters, no dialogue, and no plot. It will also have no end – since all arcade games are essentially infinite loops, their difficulty increasing with each cycle: the only 'end' they know is that the player eventually loses. Therefore, to avoid any further misunderstanding, I can offer the following tentative list of game types which can be considered narrative, as well as of those which can be termed so only with difficulty, or not at all (I will assume that most readers are familiar with basic game typology).

narrative games:
–   all adventure and role-playing games, e.g. *Blade Runner*, *Baldur's Gate*
–   action games, if they contain a story (i.e. a sequence of different events) and verbal interaction (i.e. in-game conversations, both passive and interactive); in increasing order, e.g. *Tomb Raider, Half-Life, Deus Ex*
–   strategy (both economy and war), if they meet the above requirements; in increasing order, e.g. *Starcraft, Alpha Centauri*
–   simulations, if they meet the above requirements; e.g. *Tie Fighter, Freespace*

non–narrative games:
–   all card and board games, such as poker and Mah Jongg

– all arcade games, e.g. *Space Invaders, Pac-Man*

– all sports simulations (racing, football, basketball, etc.)

– all other games which do not meet the above requirements

To explain the above criteria a little, it would appear necessary to state that a 'story' should consist of different events, for it might otherwise be possible to interpret something like *Doom* or *Quake* as narrative (they consist of slaughtering everything that comes your way, and although both the opponents and the setting – i.e. level design – might vary a bit, this essentially amounts to a repetition of the one and the same event). Since, however, one could also argue that those are different events (due to spatial transitions), I chose to include 'conversations' as well, so as to eliminate the above possibility; after all, the interaction with characters in *Doom* and *Quake* consists of, well, slaughtering everything that comes your way – the game merely provides a brief description of your task (free the Earth from an alien infestation) and lets you get on with the business. To group such games with examples of proper narratives (*Deus Ex, Blade Runner*) would appear rather unfair – although it can be argued that even *Doom* and *Quake* are narrative to a minimal extent (and in turn, certainly more so than *Space Invaders*).

In addition, it should be observed that this essay entirely omits multiplayer games (such as *Ultima Online*), as well as the entire issue of multiplayer mode. The reason for this is, simply, that multiplayer mode – in which you play against live opponents connected by a computer network - cannot be called narrative. It could perhaps be termed 'performative' or 'dramatic' (in the sense of improvisation theatre), since only the parameters of a fictional world are given (i.e. the game's rules), but the entire story (if indeed any) arises exclusively through the players' interactions – there are no predetermined tasks, events, nor goals. As for the pre-

sence/absence of story, multiplayer experience mostly assumes the form of a death match arena, where the only goal is to kill as many opponents as possible (which hardly constitutes a valid story). In those rare instances such as *Ultima Online* where this is not the case – the game has seen virtual weddings, poetry slams, as well as virtual religions and newspapers – one must remember that these events are the exclusive consequence of the players' decisions: the players are thus both playwrights and actors in their own piece of fiction; the game developers merely provide a virtual universe and an interface to it.

Some problems of computer game research

Having thus adopted computer games into the family of narrative forms, we have to address another important issue: research problems. And admittedly, the biggest problem with computer game research *in terms of narrative and narrative structure* is – there is hardly any.[2] So far, this entire text type has largely eluded the attention of scholars working in the field of narrative studies, and has not yet been able to create an independent field of its own. And while this is not even so surprising, given that the text type is a young one indeed, it is possible to see this lack of research in a different, less flattering light as well: namely, that computer games still suffer from the stigma of *popular entertainment*. As if 'popular' (as in 'popular culture') alone weren't bad enough – today, popular culture studies do indeed find increasing resonance, but they are still

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2   The following scholars, who have examined computer games either in connection with narrative studies or as interactive phenomena in their own right, represent but some of the honorable, and readily acknowledged, pioneering exceptions to the above claim: in roughly chronological order, Anthony J. Niesz and Norman N. Holland (their essay appeared as early as 1984), David Myers, Brenda Laurel, J. Yellowless Douglas, Robert T. Kelley, Espen J. Aarseth, John-K. Adams, and J.C. Herz.

not universally welcome – but *entertainment* too? The concept of 'popular entertainment' seems to relegate computer games into the very gutter of academic interest, rating them together with basketball trading cards, amusement parks, circus sideshows, and similar attractions. Of course, I am not suggesting that we should (if I may borrow the motif from Don DeLillo) devote all our critical attention to studying cereal boxes and the texts that they contain, all in the name of 'popular' artifacts and 'popular culture' studies – *boy, them cereal boxes sure are popular, aren't they? but they sure as hell ain't narrative either*. What I am suggesting instead is that we should devote some of our attention to computer games, in the name of both popular culture and narrative studies – especially since the games themselves seem to have surpassed the base level of DeLillo's popular trivia and cultural *gomi* (i.e. what remains of a cereal box once you have emptied its contents).

Aside from mere popularity, the cultural relevance of computer games seems justified by the attention they have attracted in other academic fields: they have already been the subject matter of an occasional anthropologist, sociologist, and theologian; and they have certainly been the subject matter of many a work dealing with the psychological and pedagogical aspects of the form. While this form of research should certainly be commended, it contains some shortcomings as well: by focusing on the effects of violence on children, it neglects, first, those games which do not contain any violence, and second, a significant portion of the target audience – adolescents and adults. For the children of yesterday are the adults of today, and not all have kicked the habit of playing games. What's more, a number of games are targeted almost exclusively at adults: not in the sense that they contain pornography (though that is also possible), but rather in the sense that their themes are of little or no interest to children, and that their complexity tends to surpass the cognitive capacities of your average eight-year old.

How many kids can you name who would delve into *Railroad Tycoon*, *Sim City*, or *Der Industriegigant* – all of them trading/financial simulations, or *Wirtschaftssimulationen* – with such abandon as your average adult wannabe *entrepreneur*?

Computer games, therefore, demand our attention because it seems pertinent to know what they are, what they consist of, how they function, and *how* they do it, before we jump to conclusions about *what* they do. In terms of their narrative status, on the other hand, it appears desirable not only to analyze their structure in isolation, but also (having completed that task) to investigate their relation to and impact on other narrative forms: how do computer games affect other narratives, both digital and analog? what kind of expectations do they create? how do they affect our concept of 'reading'? and so on.

Interactivity and narrative before computers

While computer games are beyond doubt the most *popular* form of interactive text today, it would be wrong to assume that they actually 'invented' the whole concept of textual interactivity or, even worse, that they hold some kind of exclusive right to it. As is commonly known, reader-text interaction was the holy grail of both postmodern authors and reader-response theorists; some two decades later, hypertext provided the electronic ditto of same. Admittedly, the fact that the appearance of the first computer game (ca. 1960) actually precedes most of postmodern textual practice does appear somewhat disconcerting, yet it needs to be observed that the first computer games were bound to corporate mainframe machines and were thus anything but popular: their popularity begins to spread only with the invention of coin-operated arcades, TV consoles and the first 'home computers' in

the mid-1970s – a time at which textual interaction in narrative fiction was already a done deal. Also, due to their extreme simplicity, these prototype forms can only with greatest difficulty be referred to as 'narrative'. It is for these reasons that any overview of interactivity should begin with postmodern fiction – the first text type to promote the notion of interactivity on a larger scale.

But wait a second – postmodern fiction is paper-bound, permanently fixed, and thus blatantly non-interactive, so what does it have to do with computer games? It is obvious that we are dealing with two types of interactivity here – cognitive interaction in the case of postmodern fiction, and sensory/motor (or 'servomechanical') interaction in the case of computer games – yet the underlying concept is the same: that the reader is not a passive consumer but an active participant in the reading process, codetermining the final output of the text – its meaning (fiction) or its overall shape (game). Moreover, just because all games are interactive in the sensory/motor sense, that does not prevent them from being interactive in the *cognitive* sense as well, in which case the 'reader' would codetermine both shape and meaning – and indeed, recent examples do show signs of development towards that objective. A brief glance at cognitive interaction in postmodern fiction can therefore provide valuable insights as well as analogies to 'full' interactivity of electronic texts.[3]

The notion of reader-text interaction has been amply explicated by a wide number of theorists (Roland Barthes, Wolfgang Iser, Stanley Fish) and can easily be demonstrated by using virtually any of the texts normally associated with the postmodernist crew; in fiction, one of its more explicit manifestations is certainly John

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3   Of Course, a stronger version of reader-response theory would claim that *all* fiction is interactive in this sense (reader codetermines meaning) – which is a reasonable claim. However, the open form of postmodern fiction undoubtedly facilitates – even unavoidably demands – such interaction, which fact therefore appears to justify my limited focus.

Barth's teasing call to the readers that they should "fill in the blank" – voiced in a playful piece of metafiction which then consistently subverts its readers' attempts to do so. "Title", the story in question, interrupts the reading process by dispensing of content in favor of metalanguage, thus creating a puzzle that the readers, or so it goads us to believe, should attempt to unravel (although the point in this specific case is that such an exercise is futile): "Efface what can't be faced or else fill in the blank. With words or more words, otherwise I'll fill in the blank with this noun here in my prepositional object" (105); "the memorable simile that yields deeper and subtler significances upon reflection, like a memorable simile" (107); "A person who can't verb adverb ought at least to speak correctly" (108).

Creating puzzles which the readers must solve (or at least feel impelled to do so) seems to be one of the favorite strategies of postmodern authors; along with the ubiquitous question, 'who is speaking to whom', it ranks amongst the most prominent (and memorable) features of Barth's *Lost in the Funhouse*. This strategy is taken to the extreme in Samuel Beckett's "Ping" – a story which looks like it had been spit out by a random generator gone haywire (random, but somehow not *random enough*), but which, initial sense of hopelessness notwithstanding – does yield something resembling meaning(s) on closer inspection; at least, it allows us to perceive a pattern and to feel that *some kind of meaning* surely must be contained therein, even if we are unable to see it (perhaps 'the experience of death' might be a viable option, and perhaps it is something entirely different):

> Given rose only just bare white body fixed one yard white on white invisible. All white all known murmurs only just almost never always the same all known. Light heat hands hanging palms front white on white invisible. Bare white body fixed ping fixed elsewhere. Only the eyes only just light blue almost white fixed front. Ping murmur only just almost never one second perhaps a way out. (41)

> Ping of old only just perhaps a meaning a nature one second almost never blue and white in the wind that much memory henceforth never. White planes no trace shining white one only shining white infinite but that known not. Light heat all known all white heart breath no sound. Head haught eyes white fixed front old ping last murmur one second perhaps not alone eye unlustrous black and white half closed long lashes imploring ping silence ping over. (43f.)

Aside from such puzzles and word-play, postmodern fiction demands the reader's input even in those cases in which it behaves more like a 'proper' narrative. One immediately thinks of John Hawkes, William S. Burroughs or Kurt Vonnegut, for example, in whose works the readers are asked to navigate non-linear plots and try to assemble bits and pieces into a coherent whole – or, in case of Vonnegut's *Slaughterhouse-Five*, are instructed to see the novel as an assemblage of "brief clumps of symbols" which should be read "all at once, not one after the other", in which case they will "produce an image of life that is beautiful and surprising and deep." Accordingly, "[t]here is no beginning, no middle, no end, no suspense, no moral, no causes, no effects," continues Vonnegut in this *mise-en-abyme* description of his/Tralfamadorian writing (88).

A different, but perhaps even more striking, concept of reader-text interaction can be detected in the works of Thomas Pynchon. While retaining at least a superficial pretense at plot, linearity, and causality, his novels (in particular *Gravity's Rainbow*) immerse the reader into an immense network of information and then leave him/her to sort out the mess. At the heart of reading Pynchon lies the problem of filtering information out of noise, of separating figure and background, of, as David Porush puts it, perceiving "the presence of deeper patterns of organization, a 'plot' amid the 'universal rot'" (62). The readers, therefore, must actively embark on an information-gathering trip; without cooperating, without selecting data and attempting to combine it, they will be left with an empty mass of words devoid of meaning. "Works like *Gravity's*

Rainbow, in particular, punch certain cortical buttons that respond to the stimuli of indeterminacy, incompletion, paradox, complex metaphors, near-crystallizations of sense out of super-saturated solutions of information," writes Porush. "Pynchon's fictions are devices that make us aware of our own status not only as information processors, but as humans who are defined by our desire to make meaning out of information" (117f.). And even so, the fact remains that in Pynchon's writing, "the only totalizing system is the absence of a totalizing system or the evident lack of a complete and consistent structure of meaning that would satisfy the positivist in us all" (115). This seems to suggest that no two people will end up with the same experience of reading a Pynchon novel (a feature that computer games are very fond of boasting of). As Porush poetically phrases it, "[r]eading Pynchon is like listening to our own nerve-noises as if they were signals from an alien intelligence, or like trying to decipher the patterns materializing on our retinas under pressure as hieroglyphs of some other sense" (135).

The strategy of activating readers by inducing a state of information overload resurfaces in cyberpunk SF, a heavily postmodernized subgenre of science fiction best exemplified by the works of William Gibson. For there is surely an overload there, carried by cyberpunk's heavily compressed and accelerated style – and even worse, it is an overload of neologisms, of futuristic concepts and devices which are presented as implied common knowledge. And since a true cyberpunk never explains his/her inventions, the readers are forced to glean the meaning from the context, to decipher both names for, and uses of, things which do not exist, or understand the background of events which have not happened – yet (however, once this knowledge about a future universe has become 'common', cyberpunk fiction can open it up at full narrative speed – the device works as a marvelous form of shorthand for transmitting a maximum of information in a mini-

mum of time). Reader activation is thus achieved by maximizing information but 'blanking out' its meaning (i.e. refusing to make it obvious – not that there is no meaning). In addition, most of this 'implied knowledge' revolves around technology – admittedly nonexistent, but derived from, or referring to, the information technology of our day. By challenging our technological literacy (how can you be literate in something that does not exist?), cyberpunk thus inevitably draws our attention to the necessity of it – in one of its strongest achievements, it clearly emphasizes the importance of technoliteracy in a technologized world. Not only are all of its heroes technologically competent – it also makes its readers *learn* a technologically-infused language; by extension, it makes them aware of the necessity of speaking the language of technology itself.

Postmodern fiction and science fiction share another feature that might be pertinent here: they both require their readers to answer a set of ontological questions when reading the text. Much of postmodern fiction and virtually all of SF are marked by an ontological displacement or, as Darko Suvin phrased it, a 'cognitive estrangement' (which is in fact the essential characteristic of SF) – "a specifically ontological *ostranenie*, confronting the empirical givens of our world with something *not* given" (McHale 59). In other words, this type of fiction "offers us a world that is clearly and radically discontinuous from the one we know" (Scholes 29) and therefore prompts us to ask, 'Well, what kind of a world is it, then?'; as McHale observes, it "deploys strategies which engage and foreground questions like the ones Dick Higgins calls 'post-cognitive': 'Which world is this? What is to be done in it? Which of my selves is to do it?'" (10). Of course, in a 'displaced' world, everything is possible, and nothing can be taken for granted; since, according to McHale, readers normally "adopt [temporarily] the *ontological perspective* of the literary work" (33), determining the

parameters of the 'displaced' world is absolutely necessary for the process of reading (defining the ontological perspective, so to speak). Since this is clearly an active process on the reader's part, it would therefore also seem to fall under the scope of reader-text interaction; in addition, it is directly related to the process of 'reading' computer games discussed below – be it merely by the limits of interface, every game transports us into a 'displaced' universe whose boundaries need to be tested and whose 'rules' need to be understood if the game is to be successfully played.

Why is there no hypertext in this essay?

No discussion of interactive fictions can be complete without at least a mention of that (nowadays obscure) text type which gained sudden popularity in the 1970s: 'choose your own adventure' children's novels. Dispensing with cognitive interactivity, these novels instead operate along the 'forking paths' principle, offering their readers multiple pathways together with precise instructions, thus allowing them to construct 'their own' story: for instance, "If you try to escape, turn to page 12"; "If you stay in the car, turn to page 63" (*Cobra* 41). In this respect, such novels are a little bit like hyperfiction, and a lot like text-based computer adventure games. The similarity to hyperfiction ends with multiple paths and multiple outcomes; unlike these novels, hyperfiction mostly does not provide 'if-then' instructions, nor does it usually possess anything resembling plot. In fact, the reason that hyperfiction is largely absent from this essay is that, simply, most hyperfictions are in fact poetry (that is, not narrative) – and even those that aren't generally behave as if they were (in this sense, they are even closer to Tralfamadorian literature than even *Slaughterhouse-Five*).

The similarity to text-based adventure games, on the other hand, runs somewhat deeper: both are clearly narrative (eventful) and teleological. However, games usually do not provide neither precise instructions what to do next nor multiple endings; they are also narratively even less satisfying than choose-your-adventure novels, since they mostly provide you merely with a description of a situation and a problem to be solved. Yet nevertheless, they can be seen as a more *advanced* version of interactive adventure novels – at least for the fact that they offer a more sophisticated version of interactivity. To fully understand what 'more sophisticated' means, however, we should first adopt some criteria for evaluating interactivity.

A very convenient (and convincing) set has been provided by Brenda Laurel in her invaluable work *Computers as Theatre*. In it, she offers the following three variables of interactivity: "frequency (how often you could interact), range (how many choices were available), and significance (how much the choices really affected matters)" (20). Applying these variables to 'forking-paths' novels, we see that, cumbersome contraptions that they are, they rank quite low on our imagined interactivity scale: frequency is low, since readers normally have to passively consume anything between two and ten pages of text before they are offered a choice; range of interaction is also not very satisfying, because as a rule we are offered only a choice of two; it is only in terms of significance that such novels excel, for every choice effects a different narrative thread, and most choices represent a narrative node which will lead to a different ending.[4]

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4   For example, *The Cobra Connection*, quoted above, contains 15 different endings, yet it needs to be observed that some of these are 'dead' ends: they result in the protagonist's death or similar situations which make the story end rather abruptly – in one case, even after mere four pages of the text and only one 'decision'. As a result, these endings deserve to be seen as analogous to numerous 'dead ends' (deaths) in computer games – i.e. as failure to complete the game.

With text-based adventure games, on the other hand, these variables are almost exactly inverted. Compared to novels, frequency is high, since such games will offer you at most a paragraph of text to process before they offer you a choice, or a series of choices: for instance, you will read a brief setting description – something like 'You are in a locked room with only one exit. In the room there are some crates, and a table with a key on it' – whereupon you can choose to break the crates in the hope of finding something in them, pick up the found object (if any), take the key, unlock the door, and exit the room. Such a situation also entails that the range of interaction will be significantly higher than in forking-paths novels – especially since, once you're out of that locked room, you can usually move in any of the four geographical directions, sometimes up and down as well.[5]

Significance, on the other hand, is somewhat problematic: some choices are significant only inasmuch as they allow the game to actually progress – thus they are not really 'choices' but predetermined, necessary prerequisites (e.g. opening the door of the room). Other choices – going north or going south, killing or talking – control the actual shape of the game (its effected 'plot'), but none of these affect the outcome of the game in the sense that the choices in an interactive novel do. The text-based adventure, as a rule, does not offer multiple plots nor multiple endings, and knows of only two forms of outcome: success or failure. The apparently significant choices are thus significant only to the extent that they lead towards the completion of the game (i.e. they avoid the instances in which the player might be killed, captured, or caught in any such situation which makes the game end). Furthermore, this means that there is always only one correct choice – going north, east, and west will prove to be a dead end, reason-

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5   For a more detailed description/discussion of text-based adventures, cf. Niesz and Holland 115f.; 119-127.

ing with a dragon equally so – and consequently, that the player's task in playing the game is to detect, by second-guessing or by trial-and-error, the single correct set of choices and enact them, thus successfully completing the game (or otherwise failing to complete it and having to restart from the – hopefully – saved point preceding the wrong choice). In other words, the dragon will be slain, or not; the princess will be saved, or not – but it is not possible to slay the princess and marry the dragon, should one wish to do so; the text-based adventure game simply makes no provision for such an act – or any other which attempts to steer away from its strictly predetermined, teleological plot.

Behold the command line

The lack of any *significant* interaction might generate some disbelief regarding my claim that adventure games offer a more sophisticated version of interactivity in comparison to forking-paths novels, yet one must bear the following facts in mind: first, games are spatial constructs; in any game, including the text-based ones, players effect virtual movement in a simulated environment – they must enact spatial transitions themselves, instead of merely reading the text and acknowledging such facts. The same is valid for all events ('actions') – they need to be 'selected' from a variety of possible choices, then enacted, and understood as causes of future events; the process is thus significantly more complex than perceiving the causality of an interactive novel.

　　Related to this is the second fact: unlike interactive novels or hypertext, games present their 'readers' with tasks which need to be completed in order to advance the narrative development. In interactive novels, the only 'task' is to second-guess the possible implications of a choice; in hypertext, as in narrative fiction in

general, the concept of 'task' is an alien one. In games, however, there are puzzles to be solved, obstacles to be surmounted, objects to be found and manipulated, enemies to be disposed of, or turned into friends through skilful conversational persuasion (well, or skilful bribery). In fact, it appears that task completion is the *essence* of any game, with narrative components thrown in merely as a supporting framework, and with older titles this is most certainly the case; more contemporary examples, however, tend to lean into the opposing direction, since the narrative component is so overdeveloped that the main motivation to complete the game appears to be the desire to read/enact the entire story – to enjoy the dialogue, ideas, twists of plot – coupled with curiosity about how it actually ends, with task completion providing an enjoyable brain-storming delay of such gratification.

Finally, the third fact to be noted, already implicit in the above, is that all games absolutely require *active input*. A forking-path novel is essentially passive reception coupled with decision-making: the interaction takes place in the manner of turning to the appropriate page. With any game, on the other hand, you must communicate your decisions to the system via an input device: push a button to make your character move; point with the cursor and click a mouse button to examine an object; use the joystick to control the direction of your plane (as with the real thing), and the keyboard to control the thrust of its engines; and, in text-based games, *type in your decisions* (i.e. commands) in simplified English – in other words, talk to the system, talk back to the text you are 'reading'. The most important thing to note here is that you cannot progress through the text without active input: if you do not respond, the game will not proceed in any way; or, in case of arcade games, it will rather abruptly end – stop moving and you're dead. This situation is essentially different from all other forms of interactivity discussed here, and it is in

fact the only one of them which deserves to be called truly inter-active. Though it doesn't make very much sense, you can easily read a forking-path novel sequentially, disregarding the instruc-tions. Similar goes for hypertext: you can proceed in a perfectly random fashion, simply clicking on links until you have exhaust-ed the entire text (or yourself) – making an active, informed choice is perhaps required for understanding the meaning of the text, but not for its basic reception (try this approach in a game, though, and you won't get very far). As for interactivity in hyper-text, when clicking on links you are not generating an active input (as when typing commands or keeping your aircraft airborne) but merely engaging in an electronic equivalent of turning pages; after all, if you were reading even *this* text on a computer screen, you would have to do the same – progress through it (that is, 'interact') by scrolling the screen. You *could* of course modify this text as well – add notes, delete parts, rearrange the order – but you *do not have to*, in order to actually read it (nor are you meant to). All it takes is – just as in print – to turn the electronic page. With games, on the contrary, you cannot read unless you 'talk back' in some way: without your input, there will be no progress through the text. In fact, for all practical purposes, without your input *there will be no text*.

In comparison to interactive novels and electronic texts, com-puter games are thus a whole new ballgame: 'interactivity' here means first that the text is produced through the interaction of the reader and the system (even though this occurs along carefully pre-determined rules which account for the narrative component), and only then – in a second-degree interactivity – that the user can modify the shape and the actual outcome of the text (as in con-temporary adventures which offer multiple endings). As for pro-gressing through the text – well, cheating is always an option: in action games, you can fly through walls or jump to any desired

level; in adventures, you can print out the text files and read the end without bothering to puzzle/fight your way through the whole mess. But cheating is, well, *cheating*, and using it as argument amounts to a type of cheating as well: cheating relies on extratextual information and/or hacking skills – an external source (hacker friend, gaming magazine) has to provide you with the necessary codes, or you must hack the system files in order to attain them yourself. The argument is thus entirely unfair, because it is tantamount to saying that John Barth's stories cannot be read without consulting a bulk of academic papers which explain them – when of course, they *can* be read without such aid. And they can be *understood* too.

Romancing your virtual secretary

Dwelling some more on the archaic subject of text-based adventures, it remains to be observed that the concept of typing in your input poses certain interesting problems: for what exactly do you type, and what will your system understand – what, in other words, constitutes valid input? It is slightly ironic that one of the oldest types of computer games offered, in a particular sense, the greatest freedom of interaction: the interaction with an adventure game takes place through an open interface (written English language), which means that theoretically you can type anything you please – although most of it will not produce any meaningful result but only an 'error message' on the order of "I didn't quite get that." That is to say, you can type in "SAY TO DRAGON OLD WITTGERS ONCE WROTE 'DIE WELT IST ALLES WAS DER FALL IST'", but the only response you get is something like "The Great Dragon roars in contempt and reduces you to smoldering ashes" – the same as if you typed "SAY TO DRAGON KILL

PRINCESS" or "GIVE APPLE TO DRAGON". Of course, what constitutes valid input can mostly be deduced by following the rules of everyday logic (thus, "open dragon" and "kill door" are obviously invalid) or by observing the ontological rules of the fictional universe (while it is possible that dragons in computer games should wish to discuss Wittgenstein, this does remain rather unlikely). On the other hand, determining correct input in terms of language itself very often turns into a game-within-a-game, and one that was perhaps not intended at that: while this depends on how carefully the game was programmed, your system might accept something like "BREAK DOOR", but not "SHATTER DOOR" or "KICK DOOR"; if you parachute from a plane and land in a tree, you cannot "GO DOWN" until you remember to "UNDO PARACHUTE" (no other input will produce any effect). This can get rather frustrating: the interface is an open one, and you can apparently type anything you please, while in fact you have to learn how to talk to your text first if you intend to make some progress.

While certainly more sophisticated than interactive novels, text-based adventure games thus themselves appear as 'cumbersome contraptions' when compared to the more elegant solutions of today. Already in the early 1990s, the point-and-click audiovisual interface became standard: instead of reading descriptions and typing commands, players nowadays move virtual characters through a simulated three-dimensional space by clicking on the screen, see and hear what other characters have to say, and conduct conversations by selecting their response from a list of pre-recorded choices (no more discussing ontology with dragons...). This may seem to set back the interactivity a bit, but it does so only on a very superficial level: the point-and-click interface eliminates the possibility of invalid input and allows the players to concentrate on what might constitute a *favorable* input, as

opposed to doing/saying something stupid that will land you in trouble or get you killed. In text-based games, the range of 'proper' things to say was frustratingly low; nowadays, since the effort of second-guessing the rules of logic and grammar is removed, the complexity of choices is free to increase: in any conversation, contemporary games will offer anything between two and six options what to say (usually more than only two). Moreover, these conversations increasingly resemble real ones, especially if convincingly voice-acted; they are not limited to "say to X kill/open/break/follow/go/help Y" (which pretty much exhausts the conversational range of text-based adventures). While some responses are obviously counter-productive (as a rule, insulting other characters), others are not obvious at all; since you now indulge in lengthy conversations with multiple choices (i.e. choice is both frequent and wide in range), there is no easy telling what these conversations might result in – and what you say may very well affect the future course of the game, even critically so (and as I discuss below, not only in terms of success/failure). As for philosophical discussions with dragons, the underlying concept is preserved, albeit in a modified form: any contemporary adventure game minding its reputation will make provisions for non-purposeful – but therefore amusing – conversations. That is to say, in most games you can conduct conversations which do not directly bear upon the progress of the game (they will not generate any event), but which are therefore highly entertaining and which, instead of merely forwarding the plot, fulfill the purpose of indirect characterization (thus not: "you are a noble, valiant prince" but: you are a prince who is as he behaves, i.e. according to player preference), which enhance the sense of a simulated reality, illustrate the setting, set the overall 'tone', or are simply a nod to those of us who always sought to explore the limits of a text – that is, to find out what else you can do with a dragon except kill

him. For example, in *Grim Fandango* (LucasArts, 1998), where
you are an insurance salesman in the Land of the Dead, you can
discuss pointless marketing strategies with your colleagues, or –
in true hardboiled fashion - spend several minutes merely trying
to chat up that bitchy secretary just down the hall (well, she ref-
uses your amorous advances, but at least you gave it a shot). Even
more surprising is the presence of such moments in *Deus Ex* (Ion
Storm/Eidos, 1999) – basically an action game with adventure
components, set in a cyberpunk world ca. 2050, with you in the
role of a cybernetically-enhanced government agent at first hunt-
ing down terrorists and later unraveling layer upon layer of your
government's conspiracies (that is, you progress from doing your
government's dirty work to overthrowing your dirty govern-
ment). Although its primary interface calls for an almost inces-
sant display of the superiority of your sensory/motor coordination
(shooting enemies and related matters), *Deus Ex* is literally replete
with non-essential conversations on just about anything ranging
from metaphysics to everyday banter: you can discuss in surpris-
ing depth matters such as the existence of God, what it means to
be human, what it means to be an AI, what are the pros and cons
of globalization, how does multinational capitalism bear upon
democracy, what is good government, what are the implications
of information technology on personal freedom and privacy, and
so on. This will neither help nor impede your progress through
the game, and it is entirely optional – you can just cut the smart
talk and come to the point – but it adds an amazing sense of real-
ism to the game and helps you identify with your character (your
alter ego, so to speak) by establishing him as a *character*, not merely
a predefined type (of course, characterization will not arise exclu-
sively out of conversations, but also out of event-related choices
you make). In addition, in one of its finest moments *Deus Ex* lets
you have a brief talk on Olaf Stapledon's classic SF novel *Last and*

First Men (1931), a novel so seminal to the genre that virtually every true SF fan must be aware of its existence. In terms of onto-logical continuity – creating a linkage between an otherwise estranged SF universe and our empirical world – this reference is of immense importance, and it is anything but coincidental; rein-forced by references to Fritjof Capra, Gregor Mendel, and the Echelon surveillance network, to name but a few, it is a part of a consistent strategy comparable to William Gibson's use of iden-tifiable brand names (Sony, Braun, Mercedes...) for almost any object encountered in his early novels. At the same time, the reference to Stapledon is a part of another consistent strategy – namely, intertextuality – and it is well worth noting that *Deus Ex* is a rare example of computer games employing this textual device to a specific purpose (*Blade Runner* being another such case), for the mention of *Last and First Men* is more than mere cosmetics: it provides a hint, no matter how subtle, about the nature of your quest. It is, of course, not the only intertextual reference in the game (although the others tend to bear less significance): the use of an "ICE-breaker" is more than a nod in the direction of Gibson's *Neuromancer*; the mention of a lunar mass-driver accident sounds like something out of Robert Heinlein's *The Moon is a Harsh Mistress*; the presence of a character named Morpheus – who is, on top of it, an *oracle* – seems to suggest the Wachowski broth-ers' *Matrix*; and finally, there are also some mysterious men in black who look and behave, well, like *Men in Black*. *Deus Ex*, it seems, is a text hell-bent on asserting its textuality – while at the same time offering us a fictional (future) world clearly – and meticulously – extrapolated from our own. In this respect, too, it is very similar to the novels of William Gibson, and can de-servedly be termed the first proper cyberpunk game – 'proper' because, just like *Matrix*, it adopts cyberpunk's entire poetics, and not merely its themes or its style.

Who do you want to shoot today?

Naturally, much more has changed since the command-line days than the opportunity for ample chit-chat and incessant name-dropping. To continue with the same example, unlike games of earlier times, *Deus Ex* allows us not only to talk to every virtual character – each one will produce at least a couple of sentences before the conversation becomes futile (the game reportedly contains over 100,000 lines of dialogue, and credits some 150 speaking roles) – but also to manipulate *every* object in its simulated universe, be it merely by picking it up or breaking it. Those objects which cannot be physically affected can at least be read or examined – you can thus amass an amazing amount of non-essential information by just reading the newspapers and 'data cubes' which are lying around (that's where the reference to Heinlein comes from), accessing public computer terminals, or reading other characters' private email (yes, hacking computers is one of your abilities). While this certainly adds to realistic gameplay, it also appears to up the value of Laurel's 'frequency' parameter, in the sense that there is almost always something to interact with (quite aside from the fact that *Deus Ex* is a real-time game, thus demanding your constant attention – unless you push the 'Pause' button).

Similarly, the value of 'range' is greatly raised not only by multiple conversation choices but also by the fact that there are always multiple solutions to each specific task (while conversation choices are common to all contemporary adventures, this feature of problem-solving is rather unique to *Deus Ex*; at least, it is the only game so far which consistently implements this strategy throughout). What this means is that it is no longer necessary to find the key in order to open the door and exit the room (although it remains an option); what you can do instead is, for instance, pick

the lock, blast the door open, or simply look for another exit (the game will almost invariably provide an alternative). Depending on personal preference, you can either storm in through the front door and kill everyone in sight, or merely render your opponents unconscious – or you can disable the security cameras and carefully sneak past the bad guys (it is by no means necessary to dispose of every enemy character in the game).

Furthermore, the tasks presented within a particular segment ('mission') of *Deus Ex* often do not have to be completed in any particular order. This is a feature fairly common to most contemporary titles (but especially to adventure and role-playing games), which generally tend to provide players with significant freedom of movement and action within a determined setting – i.e. players can explore the space as they please and solve tasks as they encounter them. *Blade Runner* (Westwood/Virgin Interactive, 1997) is a case in point: in what is basically an interactive sequel to Ridley Scott's movie, you find yourself in the role of the eponymous bounty hunter, tracking down renegade replicants (i.e. synthetic humans) in Los Angeles of the future. Aside from fulfilling your tasks, however, the point-and-click adventure offers you the option of roaming about the city as you please (within limits, of course): if you get bored with detective work, you can always get into your vehicle and drop by at the police station to check out on your colleagues. You can go grab some food, or have a couple of stiff drinks in any of the several bars. Or, if you get tired, you can always go to your apartment, where you can play with your dog, watch some TV, check your phone for messages, or simply go to sleep (the game even requires you to do so at least once – the progress will stop until you finally decide to hit the sack – but the point here is that you can do this as often as you please). While at the beginning your range of movement is still quite restricted, a few hours into the game you're already able to visit various loca-

tions in the city in any order you wish, and regardless of your current task, you can always decide to go home for a break (that is, up to the point where a conspiratorial ploy kicks you out of your own apartment). You do not have to meet any requirements (e.g. complete your current mission) to do so – the length of your working day is yours to choose. The fact that your spare-time activities are limited in number – you cannot throw a party or go to the movies, for instance – should not be seen as a shortcoming: after all, computer games such as *Blade Runner* do not attempt to simulate life itself, but merely provide a narrative in which you are free to choose certain things; as narratives, there is only so much of non-purposeful activity that they can contain.

In respect of narrative, aside from offering downtime in virtual L.A., *Blade Runner* is highly noteworthy for increasing the *significance* of your interactions with the game world. In *Deus Ex*, we are offered multiple solutions to each task (range), but the game still requires that all its tasks be completed (though the order may vary); aside from minor aberrations, the overall plot of the game is strictly linear and predetermined – up to the final sequence, where it will offer you a choice of three, and consequently produce three alternative endings (other than failure, of course). Thus, while the approach to each task varies from player to player – meaning, the experience of playing the game will be different for each player – every player will eventually get from the same point A to the same point B: except for the very end, the resulting *narrative* structure will always be the same. The choices you make, while they may greatly improve your odds of ever reaching the end, do not critically affect the outcome of the game. In *Blade Runner*, on the other hand, we have an exactly inverted situation: there will mostly be only one solution to each specific problem (the old door-key setup), but there are numerous 'critical' choices which will steer the plot into a different direction and result in a completely different

ending (the game reportedly has 13 different endings, though I can attest to figuring out only seven of them). With *Blade Runner*, we return to the forking-paths situation, but this time in a fully interactive and vastly more complex form: while making the right choices still improves your chance of survival (i.e. reaching the end of the game), there are also numerous situations where there is no right choice – or better, any choice is 'right' since it potentially leads to a satisfying end (i.e. other than your death). The decision you make is highly significant, since it will produce an entirely different plot, but the decision is entirely yours. For example, you can either choose to follow your job description and eliminate the replicants, or you can decide to switch sides and help them in their struggle for freedom; of course, if word of this gets out on the street, you'll run into problems with your former colleagues from the police department (it is even possible to fight both parties, though it does not make much sense in the context of the game). Additionally, if you kill your first replicant, further cooperation with the renegades will be more difficult, but still possible; if, in turn, you decide to fight for them right from the start (and spare the first 'victim') you will be offered an alternative ending earlier in the game than in other cases – the option to escape from the city with a charming young lady and simply leave the entire sorry mess behind: the final showdown takes place without you, the police and the reps can duke it out on their own.

In all, *Blade Runner* shows very convincingly how a high degree of interactivity can successfully be combined with a prominent and satisfying narrative structure, and it is no surprise that many other games are attempting to achieve a balanced mixture of the two components. In fact, it can be concluded that a successful integration of high interactivity (i.e. high value of all three variables) with a strong narrative component (basically, a good and complex story) pretty much represents the holy grail of today's

game developers – and it is thus pleasing to observe that in their
respective ways both *Blade Runner* and *Deus Ex*, as well as a variety
of other games, show signs of progress towards that goal. That
high, unconstrained interactivity is in demand should be no sur-
prise to anyone: as Warren Spector (main designer of *Deus Ex*)
observed, "I'm not sure you can have too much interactivity. [...]
giving players the power to express themselves through their
interactions with a gameworld is the Thing That Differentiates
Gaming From All Other Media. How could we not want to do
more?" (Largent [n.a.]). Quite obviously, 'more interactivity' en-
tails a more complex and sophisticated – ultimately, more reward-
ing – experience, and is therefore highly welcome. Yet an increase
in interactivity alone is not enough – as Laurel notes, too much
interactivity without any constraints can be counter-productive: a
hypothetical game in which the users could do whatever they
wished "might be more like an existential nightmare than a dream
of freedom" (101; cf. also 99f; 106f.). As she further explains:

> A system in which people are encouraged to do whatever they want will prob-
> ably not produce pleasant experiences. When a person is asked to "be creative"
> with no direction or constraints whatever, the result is [...] often a sense of
> powerlessness or even complete paralysis of the imagination. Limitations –
> constraints that focus creative efforts – paradoxically increase our imaginative
> power by reducing the number of possibilities open to us. (101)

In other words, no task, no fun. Tasks – or obstacles to be over-
come – are an excellent way of channeling our creative energies.
In turn, why should we care about a task if it isn't integrated into
a larger structure – a story that endows the entire construct with
a sense and a purpose? It appears, therefore, that narrative struc-
ture can function as an ideal constraint: while it should not ham-
per interactivity, it provides us with an overall goal and inter-
mediate tasks, and thus focuses our imagination and offers a source
of motivation; in addition, it transforms an amorphous game

world into a consistent fictional universe (by determining setting, establishing characters, and delineating the ontological boundaries of that universe).

Of course, even though narrative structure might be a convenient form of conveying constraints, it is merely an optional one: all computer games, whether narrative or not, are bound by a strict set of rules – and one might conjecture that it is precisely this quality which makes games so appealing, for, although at times complex, these rules are finite and ultimately knowable. The fictional world constructed by a narrative game, on the other hand, need not be finite and may well – as any narrative fiction – leave certain questions unanswered. What results is a creative tension between narrative openness and performative closure: the 'world' may well contain its share of mysteries, but there is only a finite set of things which you can do in it; if that were not the case, the game would most likely not be playable.[6]

On the other hand, one might ask whether there can be *too much* narrative in a game? The presence of numerous cinematic sequences of exaggerated length will certainly turn any game into a frustrating – that is, less interactive – experience. This, however, is entirely a design issue; that aside, doesn't the very concept of narrative structure somehow impair interactivity? After all, one might observe the numerous complaints by the 'gaming community' regarding the exaggerated *linearity* of most computer games. While these complaints are entirely justified, they have very little to do with narrative, though. It is not that games are linear because narrative structure should demand that – as *Blade*

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6   Furthermore, one must note that narrative structure alone *cannot* impose all of the rules which determine a game's universe – it 'merely' tells us a story, and therefore its primary functions are to present this universe and focus our actions in a specific direction. In contrast, something like the fact that, in *Deus Ex*, you can read email but not write it is not a narrative issue at all but a consequence of restricted interactivity (a rule which defines the game's universe yet which has nothing to do with the game's story).

Runner and *Deus Ex* show, it is perfectly possible to combine narrative with a high degree of interactivity and non-linearity (at least on the level of microstructure, in the case of *Deus Ex*). Rather, many games are linear because their overall interactivity value is still rather low, for the reason that it is much easier to construct a game in which there will always be only one correct solution than it is to devise a game which will leave ample room for player preference and which will 'adapt' to each player's behavior. Most players complaining about linearity and the feeling of 'being led by the nose' are indeed aware of this fact, and do not fail to acknowledge the value of a good story. And since the gaming industry appears to pay attention to the demands of its customers, we have reasons to be optimistic: just as graphics, sound, plots, dialogues, acting, and the overall complexity have gradually increased over time, the same could (or should) happen to the nexus of narrative and interactivity; in the near future, narrative games with high interactivity values could well become the standard of the genre.

Coda: shooting back – so what's the score?

So what, ultimately, is the entire point of this affair? What's the score with computer games, and why should we keep our narrative eye on them? Unfortunately, at this point I can only haphazardly throw in some wild conjectures and inconclusive remarks, and hope for more clarity and consistency in some future research, yet even this is perhaps better than nothing. I can thus point to a very interesting and plausible observation made by J. C. Herz in the introduction to her history of computer games, namely, that early arcade games brought to attention the new concept of interacting with electronic media and helped their players to learn to manipu-

late digital data:

> But whereas TV turned kids of the fifties and sixties into a nation of screen watchers, videogames have created a cadre of screen *manipulators*. When you grow up playing *Missile Command*, you come to expect some kind of causal relationship between the choices you make and images on a screen. [...] If you can handle *Virtua Fighter* 2, you can handle computer banking, electronic tax returns, and the American Airlines online reservation system. [...] Videogames are perfect training for life in fin de siècle America, where daily existence demands the ability to parse sixteen kinds of information being fired at you simultaneously. (2)

There seems to be quite some significance in this: long before word processors and other fancy applications entered our homes, simple console games were widely demonstrating what it means to manipulate electronic information, what it is like to actively interface with a medium, what it feels like to become part of a virtual servomechanical loop. As for teaching us to handle everyday computer applications, the claim is not as far-fetched as it might first seem: after all, one must *learn* how to play a game as well – master its interface, comprehend the logic by which it operates, understand its goal, as well as detect the scope of permissible actions in its universe (there go those conversations with dragons again). Every time you begin playing a new game, you encounter an unfamiliar system which you must first learn to handle; the more often you do this, the easier it becomes – until dealing with unfamiliar applications becomes something like second nature. Of course, with early arcade games, the learning process will take only a minute, or less, and is therefore not much in way of gaining experience, but with more intricate examples of today – flight simulators, role-playing games, strategies – the learning curve might well extend over several hours, if not days (flight simulators require you to understand at least basic avionics, as well as to memorize a specific function for pretty much every key on your keyboard;

some role-playing games demand that you master not only their interface, but the complex rules of pen-and-paper *Advanced Dungeons & Dragons* as well).

Thus: computer games as a contribution to our overall techno-literacy – well, why not? Naturally, this is not to say that my proficiency in *Unreal Tournament* will be of any use to me if I attempt to master PhotoShop – it won't. What will be of use is the ability and the *readiness* to deal with unfamiliar systems, the inclination to see PhotoShop, or Windows, or any other software, as a (dreary) game with a specific set of rules, not an employee-torture device devised by Computer Programmers From Hell. The advantage might ultimately be merely a psychological one – readiness to fool around with something until you make it work – but given how many people still suffer from arresting phobia of computers, it is not an advantage to be neglected.

Regarding our narrative issue here, if early arcade games deserve credit for helping people deal with the notion of manipulating electronic information, perhaps we can posit that latter-day narrative games help us accept the notion of *manipulating narratives*; they might yet turn out to be a perfect training for a potential future in which interactive narratives will come in all shapes and sizes. However, I do not wish to imply that the popularity of interactive audiovisual narratives will eliminate the written novel, or any such thing: old-school narrative fiction seems to be doing quite well in spite of its advanced age and electronic/multimedia assaults from all sides – and even if paper should finally be abolished, the written text shows no signs of coming to an untimely end (there's always the E-Book screen, for example). It is imaginable, though, that computer games and other interactive texts might one day eliminate something else: lowest-grade passive narratives affectionately called 'Z-movies'. For the one thing that computer games certainly do is raise our

expectations – change what we expect, or demand, from a narrative. First of all, even though the average narrative quality of games is still relatively low, I still haven't seen a game with a *horrible* story become a bestseller (either there is no story, or it is at least a passable one); regarding this situation in other media, I need to say only one word: Hollywood. And second, even if game stories as such are entirely irrelevant, prolonged exposure to narrative games conditions us to accept interaction as the normal state of affairs: in other words, to try and find a better solution, a better choice of conversation, a better outcome of the story. In addition, in every game *we* are the heroes, we're the center of the whole thing – so why should we consume a frustrating, artistically dissatisfying passive product, if we can take part in an interactive one (which is perhaps a tad more artistically satisfying too)? Of course, we can always change the channel, or read a novel instead, but that's not really the same. Let me phrase it this way: why should I endure that disastrously cheap late-night sci-fi movie, with lame effects, stupid story, and horrendous acting, if I can simply load my favorite space simulation which has *better effects*, a more complex and intelligent story, and far better voice-acting – and where I even get to fly the spaceship myself? Needless to say, I refuse to endure those late-night flicks anymore.

Finally, we might conjecture that prolonged exposure to computer games creates another interesting situation: transforming the player into an active reader. Games rely not only on our active input, but also on our active interpretation of the cognitively-estranged universe they present – they demand to be figured out and understood first. In this way they aid us in becoming active readers: they make us internalize the concept of reading a text actively – *anytext*. I am of course aware that this runs contrary to the conventional argument that games, as Herz ironically puts it, mutate their players into "attention-deficient,

morally stunted, illiterate little zombies who massacre people en masse after playing too much *Mortal Kombat*" (2), as I indeed believe that playing *Mortal Kombat* will not do much for your literacy and interpretative abilities – but the idea itself is worth considering. In a sense, we're back to figuring out unfamiliar computer applications – it's a lesson in hermeneutics, if you will. If you play complex, intellectually demanding games, you learn to look for clues, hunt for covert information, try out different approaches in order to make some sense of the thing; if you play games with complex stories (*Deus Ex, Blade Runner*), you need to be aware of the connotations if you care to make an informed decision about your actions, and so you gradually build your own interpretation of the story: who's good? who's bad? who's human, and who is not? – but also why? and what? – what is good? what is human? With every step, you're learning to read a text closely and construct your own interpretation of it, so that you can act accordingly.

All right, so it does sound far-fetched, and I may be treading water here; computer games might be too simple in narrative terms (blunt, obvious, shallow...) to teach us anything, much less satisfy our finely-honed sense of the artistic; in this case, perhaps they can at least be compared to children's literature – hardly an artistic achievement either, but rather a genre meant to stimulate reading habits and develop interpretative abilities. Or perhaps we could just agree that – contrary to popular belief – computer games at least do not actively turn their players into 'illiterate little zombies', even if they do not actively advance their literacy either. Yet regardless of whether we can agree on that or not, the fact remains that the future will most probably call for both active readers and literate players – in other words, for 'players' of digital text who are able to actively read and interpret any other text, as well as for 'readers' of analog text who are equally com-

petent in reading digital and interactive texts – including the 'text' of technology itself, perhaps the most important contemporary text of all. For this is what the rapidly evolving 'text' of information technology demands: players who can read, and readers who can shoot – who can play *with* the development of technology, and if the need should arise, who can play (a deathmatch) *against* it as well, who stand a chance at eliminating its potential threats.

Thus: computer games as a contribution to our technological competence? Well, yes. Computer games as a contribution to our literacy? To be perfectly honest, I do not know. But if they merely manage to finally eliminate those unendurably lame late-night flicks – *hey, I can play better things than that!* – I'll be very grateful.

Literature

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