

A Techno-Semiotic Approach to Cheating in Computer Games Or How I Learned to Stop Worrying and Love the Machine

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1. *Seki*

The strategic board game Go (Weiqi, Baduk) generates astounding complexity from a small number of rules. The players take turns placing black and white stones on a square grid, and if a stone or group of stones is surrounded on all four sides by the opponent's stones they are taken off the board. Interestingly, it is quite frequent in Go for situations to arise, in which it is impossible to decide whether a number of stones is surrounded by a group of stones, or whether they are surrounding the group themselves. This paradoxical form is called *seki* (see Illustration 1).

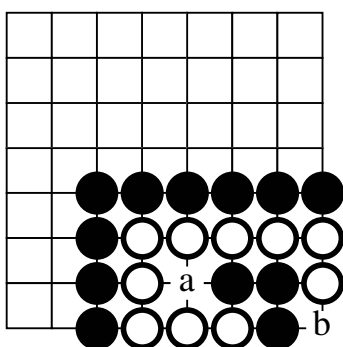


Illustration 1: A seki in Go

In Illustration 1, Black cannot place a stone in either of the positions indicated by the letters a and b, because then White will capture the stones by placing a stone on the remaining grid point. However, White cannot place a stone on a or b either, because in that case Black will capture the white stones. In other words, whoever moves first loses. In practice, neither player will put a stone on the empty grid points, albeit by accident, because it is more beneficial for both players to retain the stones, even if it means that a and b will remain neutral territory (see Smith, 1956).

Thus the figure of the *seki* can be used to understand the logic of gamespace. Gamespace can be regarded in terms of ‘ruled space’ and ‘unruled space’, and play can be seen as a movement through, as well as a configuration of, that space. Typically, the result of this configurative movement is a heterotopic space, i.e. a space “capable of juxtaposing in a single real place several spaces, several sites that are in themselves incompatible” (Foucault, 1984).

2. *Ruled Space and Unruled Space*

The aim of this paper is to understand cheating in digital games as a practice that highlights the machinic of the process of digital gameplay. This endeavour is motivated by the fact that digital gameplay is often depicted as a ‘natural’ process – by the digital games industry, by players, but also by scholars in the burgeoning field of digital game studies –, which leads to an obfuscation of the inherently cybernetic character of videogames. Cheating, and other ‘de-ludic’¹ practices can counter-act this naturalisation, and reveal the process of ‘becoming-

¹ This paper is based on the theoretical concept of *deludology*, a term whose double meaning derives from its Latin root. The verb *deludo* is the negation of *ludo* (‘to play’), and means, among other things, ‘to cheat’. Therefore, in its primary sense, deludology is the study of cheats and cheating. However, *deludo* also means ‘to

machine’ that lies at the heart of digital gameplay. In order to understand this de-naturalising tendency of cheating, it must be conceptualised as a semiotic movement through gamespace that is able to circumvent the ‘topological constraints’ of that space.

However, if we want to understand play as a semiotic movement, we must first define what it moves through. It is one of the characteristics of play that it is a peculiarly localised form of semiosis, and while there are a number of games without physical manifestations, the majority of games takes place on boards, tables and screens. This materiality of play is often downplayed by researchers such as Jesper Juul (2005), who claims that “the material support needed to play a game [...] is *immaterial*, since games are not tied to a specific set of material devices, but to the processing of rules” (52-53).

The ludological perspective thus draws attention to the fact that we can regard a game as a machine, and as such it “cannot be limited to its materiality” (Guattari, 1990: 8). According to Guattari, there are “machinic systems, which are not themselves technological” (9). Therefore, he introduces the term ‘machinic *agencements*’ (machinic assemblages, or arrangements), a category which “encompasses everything that develops as a machine in its different registers and ontological supports” (ibid.).

But before we proceed, let us return for a moment to the example of the *seki* given above. What is interesting about this play situation, apart from the seemingly paradox way in which it confuses inside and outside, is the way it creates the need for special rules, as well as the need for a commentary upon these rules to make them intelligible to players. In other words, the *seki* creates a place within gamespace in which more rules apply than in other places of that space.

I suggest the terms ‘ruled space’ and ‘unruled space’ to describe this phenomenon, although, in practice, gamespaces are almost always characterised by varying levels of ‘ruledness’, and ruled space and unruled space often overlap. Importantly, the ruledness of a gamespace is usually not static, but will change during the course of a game. Go provides a perfect example of this change in ruledness over time, as the following illustration shows:

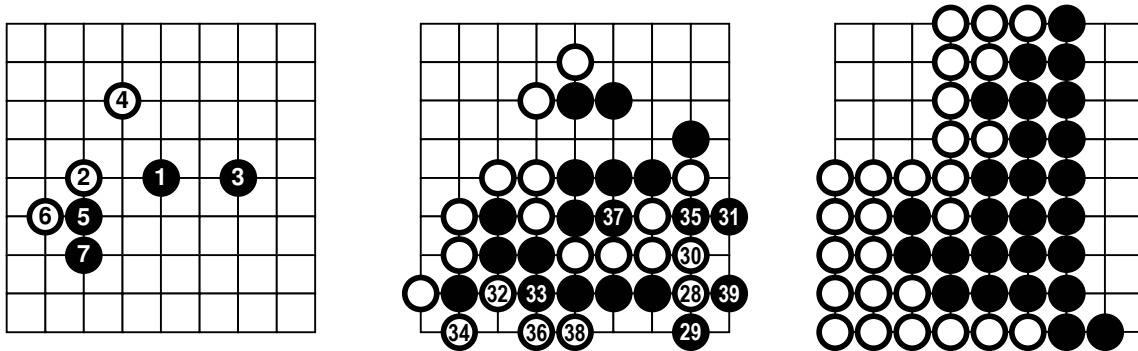


Illustration 2: The beginning, middle, and end of a game of Go.

In Illustration 2, we can see how the gamespace of Go is essentially unruled in the beginning of the game. Players put stones on the board almost at random, until patterns (such as ‘territories’ and ‘lines of flight’) begin to emerge. In the middle of the game, a highly ruled space begins to emerge in the lower right-hand corner: White’s group of six is threatened by Black, and an effective counter-threat is prevented by Go’s ‘no suicide’ rule, which states that a player cannot put a stone in a position where it would have no ‘liberties’, unless, as a result, one or more of the stones surrounding it are captured.

delude’, which is the method employed by deludology, insofar as it uses theoretical concepts developed elsewhere and uses them for its own purposes.

After the players have agreed that the game is over, ‘dead’ stones are removed from the board, and captured stones are subtracted from the opponent’s territory. The player with the larger territory is declared the winner. In the above example, Black wins by a comfortable margin of five points. The result of the game represents an instance of a gamespace which is almost entirely ruled.

It should be noted at this point that the concept of ruledness deliberately exploits the semantic richness of the word ‘rule’, by drawing attention to the fact that ruled space affords a different form of movement than unruled space, just like a ruled sheet of paper suggests a different mode of engagement than an unruled one. While there is nothing preventing us from writing on unruled paper, or drawing on ruled paper, there are clear conventions of use that make certain forms of use appear more ‘natural’ than others. In the same way, ruled and unruled spaces insinuate, rather than enforce, certain forms of movement. This also enables us to see that the question of ruledness is closely related to the question of power.

There is an undeniable correspondence between the concept of ruled and unruled space, on the one hand, and Deleuze and Guattari’s (2004) concept of smooth and striated space, on the other. Deleuze and Guattari describe striated space as a kind of hierarchical grid, “a system in which transversals are subordinated to diagonals, diagonals to horizontals and verticals, and horizontals and verticals to points,” while smooth space is circumscribed by a “mutant line [...] that is without outside or inside, form or background, beginning or end and that is as alive as a continuous variation” (549). As in the example above, Deleuze and Guattari present writing and drawing as two opposed modes of traversing space: “When writing takes charge of abstraction, as it does in empires, the line [...] necessarily tends to become concrete, even figurative. Children forget how to draw” (548).

These two modes of traversing space can also be translated into “two kinds of voyage, distinguished by the respective role of the point, the line, and space” (531). Therefore, it is possible to move smoothly through striated space, and vice versa. Translated into ludic terms, this means that one can be subject to rules even when moving through unruled space, for example if one is playing according to self-imposed rules. At the same time, it is possible to free oneself from rule-boundedness even in highly ruled spaces, and this is where we enter the realm of deludic practises such as cheating.

3. Game Machines

Espen Aarseth’s (1997) concept of cybertext provides a useful starting point for a semiotics of cheating, as it amalgamates the concept of the machine with the concept of semiotic production: “As the *cyber* prefix indicates, the text is seen as a machine – not metaphorically but as a mechanical device for the production and consumption of verbal signs” (21). He thus develops a theoretical model that allows us to regard games as machines, and that these machines form a cybernetic feedback loop with their users.

However, there are two problems with Aarseth’s concept of the cybertextual machine as a “mechanical device for the production and consumption of verbal signs.” The first has to do with the qualification of these devices as ‘mechanical’, and the second with the focus on verbal, or more generally, signifying signs. In other words, Aarseth’s model is simply not dynamic enough to account for the complex ways in which signs are processed in what Gotthard Günther calls ‘trans-classical’ machines.

According to Günther (1963), a classical, or ‘Archimedic’ machine, such as a windmill, “is nothing but a tool that has become, within certain limits, autonomous” (182).² The tangible characteristic of this type of machine is that it has “mechanical moving parts [...], and that it

² All quotes from Günther have been translated by myself.

does its work by the movement of these parts.” The trans-classical machine, on the other hand, “does not have moving parts, at least not in the usual sense of the word.” Using the example of a current transformer, Günther points out that “all work-related movement is taking place on the level of atoms, electrons and magnetic fields” (183). While the ‘prototype’ for classical machines is the human body, the model for trans-classical machines is the human brain.

Günther asserts that it is possible to build a ‘mechanical brain’ which will possess a form of consciousness, although it will never be possible “to design human self-consciousness in the form of a robot brain” (187). A mechanical brain therefore requires not only the operative unity of its functions, but also a form of transcendent control. This is achieved by constructing a feedback loop between the machine and a control mechanism, which means that the machine produces information, which is then transmitted to the control mechanism. “Because this control [mechanism] is itself a logic with new laws, it changes the information [...] and [...] returns its changed aspect to the subordinate system” (196-197).

According to Dirk Baecker (2006), the digital computer can be regarded as a trans-classical machine, insofar as it is a “machine, which does not work but directs and steers critically” (38). Nowhere is this propensity of the computer to exert influence upon its peripherals, including its user, more pronounced than in computer games. Aarseth recognises this cybernetic loop in which the user controls the machine, and the machine controls the user, but fails to draw the right conclusions from this observation.

If we take the concept of the trans-classical machine seriously, we must recognise that the structure of computer game play is such that the player lends her subjectivity to a software algorithm, which is entirely dependent on this subjectivity to actualise itself. Once the loop is closed, however, a reversal takes place, as a result of which the player becomes dependent on the algorithm to validate her input, so that ‘nontrivial effort’ needs to be expended to maintain the cybernetic loop.

This perspective allows us to recognise that far from being a ‘mechanical device’, as Aarseth assumes, the cybertextual apparatus is a psycho-machinic assemblage in the Guattarian sense, and the mode of interaction with it is what Deleuze calls ‘becoming-machine’ (*devenir-machine*). As Žižek (2004) points out, this is “not the relationship of a *metaphor* (the old boring topic of ‘machines replacing humans’) but that of *metamorphosis*, of the ‘becoming-machine’ of a man” (16, emphasis in original).

Žižek also stresses the fact that the process of becoming-machine is closely intertwined with the process of subjectification: “The more our capacities are transposed onto external machines, the more we emerge as ‘pure’ subjects, since this emptying equals the rise of substanceless subjectivity” (ibid.). This means that the cybertextual machine is not just a mechanism for the ‘production of verbal signs’, as Aarseth maintains, but rather a mechanism for the production of subjectivity.

It is hardly surprising, then, that Guattari (1990) describes the closing of the cybernetic loop between human and machine in terms highly reminiscent of the act of falling in love: “an immediate, pathic and non-discursive apprehension” (10). Accordingly, Guattari describes human emotions such as affection and fear in machinic terms: “When a love machine or a fear machine is activated this is not due to the effect of discursive, cognitive or deductive sentences. Rather, it occurs immediately. And this machine will progressively develop different means of expression” (12).

Does that mean we fall in love each time we play a video game? Hardly. It means that we fall in love with the idea of the video game, usually early on in our media socialisation, and this infatuation develops into a Deleuzian ‘desiring machine’. It is in this sense that we can

understand the term ‘technicity’, which is becoming an increasingly central concept in the study of games. As Dovey and Kennedy (2006) point out in the introduction to their book *Game Cultures*, the “connection between human subjectivity and our use of technology has come into even sharper focus as the machinery of computing has been woven ever more closely into the fabric of our everyday lives” (15-16).

This might be a less radical formulation of the Deleuzian concept of ‘becoming-machine’, but it allows us to see the crucial role computer games play in the process of the development of a machinic subjectivity. Consider the following description from a popular history of video games: Writing about the game *Little Computer People* (Activision, 1985), Mathias Mertens and Tobias Meißner (2002) describe how “we and the game characters melted into a single everyday, the basis of which was the computer. However, the computer was no longer perceptible because it was so familiar. In effect, this machine was just a conduit, and the actual computer, the great network of circuits, consisted of all of us, sitting motionless in front of our screens” (143, my translation).

4. Approaching Deludological Semiotics

The process of computer game play cannot be reduced to the signals exchanged between player and machine, or between player and player. Thus, James Newman (2002) highlights the importance of ‘non-registered input’ (NRI), such as the movements players make in order to dodge a bullet that is being fired at their virtual representation in the game-world. According to Newman, this draws attention to the complex relationship between player and game, which cannot be addressed in terms of a simple subject-object relationship. Newman claims that the pleasure of the game is not vicarious as in traditional media but participatory, and that non-registered inputs “augment, broaden and intensify an internalized language of control.” (415).

In order to come to an understanding of the semiotics of playing, both in an orthodox and a deludic fashion, we must analyse how this internalised language of control functions as an arbitration device between human and game machine, and how the possible utterances in this language are shaped by the ruledness of the gamespace. At the same time, we must consider the antagonistic relationship between user and cybertextual machine that is at the basis of both the process of becoming-machine and the process of subjectification. In order to achieve this, we will need to consider traditional semiotic approaches to computer games, identify the ways in which they fail, and reconstruct them into deludological concepts.

Beginning with David Myers’ article “Computer Game Semiotics” (1991), we can see semiotic approaches to computer games open up interesting avenues of inquiry. Myers starts out from the hypothesis that computer game play is not linear but recursive. Using the example of the world-building game *Populous* (Bullfrog, 1989), he draws attention to the fact that in most games there are different economies that interact in such a way that resources from one economy can be exchanged for resources in a different economy.

Myers employs the Greimasian concept of the semiotic square to map the relations between different game elements, which reduces the rather complex interactions of the player with the economies of *Populous* to a set of binary oppositions. For example, “In Railroad Tycoon [...] there are three opponents to the game player, and each represents a slightly different sort of opposite to the game player – and to each other” (341). The multi-valence of the interrelations between the game’s elements is only retained by introducing the concept of “recursive context shifting” (343), which means that an opponent “might be used as a helper [...] or as an extension of the player” (p. 342).

While Myers concedes that in the analysis of computer game play, “we begin to lose touch with the atemporal permanence of structuralism and slide towards an increasingly

deconstructionist interpretation of the play process” (342), his framing of computer game play as a constant shifting of oppositions fails to be entirely convincing for the simple reason that his analysis remains firmly rooted in the structuralist paradigm of deep structure and surface structure. In the final analysis, Myers suggestion to regard the process of computer game play as an actualization of the game’s code falls behind his lucid analysis of the economics of *Populous*.

This draws attention to a characteristic problem of semiotic approaches to computer games: a disregard of the context in which computer game play takes place. Even more problematic, however, is Myers’ insistence on the ‘naturalness’ of semiosis, most succinctly expressed in his assertion that “[s]emiosis is an act of cognition, and cognition is a biomechanical activity subject to natural laws” (ibid.). Therefore, one of the challenges that deludological semiotics faces is a ‘denaturalisation’ of semiosis, not just in the context of game play, but in human cognition and communication in general.

A body of work that deserves special attention here is that of Ian Bogost, because the argument he puts forth in his book *Unit Operations* (2006) is perhaps most useful for a semiotics of cheating, considering that it is his aim to “encourage the use of criticism as a tool for understanding how videogames function as cultural artifacts” (xii). To this end, he introduces the concept of ‘unit operations’, i.e. “modes of meaning-making that privilege discrete, disconnected actions over deterministic, progressive systems.” They are strongly opposed to what Bogost calls ‘system operations’, e.g. structuralism, although “neither strategy is permanently detached from the other” (3).

For any reader familiar with the work of Peirce, there is a strong Peircean subtext to the book, which is never fully acknowledged. There an obvious similarity between the concept of unit operations and the Peircean concept of abduction, the “semiotic wild-card” (Spinks, 1991: 108) that lies at the heart of guesses, hunches, hypotheses, and wild goose chases. This becomes apparent when Bogost contrasts unit operations against system operations, pointing out that the former “articulate connections between nodes in networks” while the latter “redundantly affirm the principles of an organizing system” (8).

Bogost only mentions Peirce in passing, concluding that “[s]emiotics opened a world in which analysis strove to define rigorous, all-encompassing codes that rule meaning” (24). While this echoes Deleuze and Guattari’s criticism of Peircean and Saussurean semiotics, I would maintain that Peircean semiotics supplies a perfect model for the interplay between unit operations and system operations. Indeed, as Schönrich (1990) demonstrates, it is precisely this contradiction between procedurality and systematicity that can be used to develop a theory of ‘sign-acting’ (*zeichenhandeln*) that operates in a way similar to unit-operational logic.

Another limitation of Bogost’s model is that while he recognises the logic of individual media as belonging to a logical set that encompasses all media, he does not acknowledge that the logic of the media belongs to a larger set that encompasses the social, the political and the cultural. Still, Bogost’s must be credited with pointing out that “unit operations function at a higher level than linguistic signs” (105), thus opening up the field of game studies to more recent semiotic theories, most notably Guattari’s ‘mixed’ semiotics. The most salient part of Bogost’s discussion of Deleuzo-Guattarian philosophy is his use of Brian Massumi’s concept of the open equation.

Massumi (1992) argues that “[n]omad thought replaces the closed equation of representation, $x = x = \text{not } y$ ($I = I = \text{not } \text{you}$) with an open equation: $\dots + y + z + a + \dots$ ” (6). This brings to the fore “the fundamental difference between nomadism and unit analysis [...]: nomad thought resists thinking of the world in discrete components, devouring individual decision into an amorphous whole” (Bogost, 2006: 142). It also draws attention to the fact that there

might be different forms of nomadism as well as different form of sedentarism, some of which may be peculiar to games. Nevertheless, identifying these new forms of nomad space and state space allows us to trace their connections to other spaces, and thus deterritorialise gamespace.

5. Deterritorialising Gamespace

Gamespace is shaped by antagonism. For Roger Caillois (2001), *agôn* is an indispensable element of games: “[t]here is a manifest relationship between *ludus* and *agôn*” (30). The primacy of agonistic relations is also recognised by computer game theorists, whether in the form of Aarseth’s ergodic text, or in the form of Bogost’s unit operations. Both in single-player and in multi-player games, there is always someone or something that resists the player’s effort to master the game. As I’ve pointed out elsewhere (Kücklich, 2003), this resistance can be seen to correspond to Peirce’s category of secondness, or ‘outward clash’ (see Peirce, 1992: 223).

In Peirce’s system of categories, secondness is the sensation of the world’s ‘objectness’ before it is interpreted, and thus changed to the state of thirdness. A sign in the state of secondness is incomplete and unstable, and can only be stabilised by interpretation. A game can thus be conceptualised as a system of signs that resist the player by virtue of their secondness. When they are interpreted in the process of playing, some of the ludic signs become more complex, while others remain in their incomplete state. Thus, the process of interpretation necessarily leads to the emergence of event-signs, which are then put into relation with each other by narrative-signs.

5.1. The Empty Signifier

This difference between secondness and thirdness can be translated directly into the difference between unruled and ruled space. However, in order to understand the essential antagonistic relationship that shapes these different forms of space, we must borrow the concept of the ‘empty signifier’ that plays a central role in the semio-political theory of Ernesto Laclau (2006). For Laclau, antagonisms “are not objective relations but a kind of relation in which the limits in the constitution of any objectivity are shown.” This means that “[f]rom the viewpoint of each of the two antagonistic forces, its opponent is not an objective presence, completing the fullness of one’s own identity, but represents, on the contrary, that which makes impossible reaching such a fullness” (104).

Laclau goes on to enumerate “the transcendental conditions of a terrain in which the notion of antagonism as limit of objectivity can be inscribed.” One of these conditions is that “what is actually inscribable within that terrain should not be just what is representable, but also the ultimate inner impossibility of representability as such” (105). This condition is met by introducing the concept of the empty signifier. As Laclau points out, “the antagonistic clash, which cannot be directly represented, can however be signified – positivised, if you want – through the production of an empty signifier” (108).

Translated into ludic terms, this means that the antagonism between player and game, or between player and player, is not rooted in an ideological or ontological clash, although these signifiers can easily be attached to it. The real cause of this antagonistic relationship lies in the game’s resistance against the player’s efforts to make sense of it, or the opponent player’s resistance to being defeated, which manifests itself in the impossibility of achieving a state of mutually acceptable closure, and which is communicated to the players through the production of an empty signifier. Players ‘instinctively’ know that they must win in order not to lose, even if ‘winning’ and ‘losing’ are only defined within the game itself.

However, gamespace is shaped not only by its own indigenous antagonisms, but also by the antagonisms of the social, political, and cultural contexts into which it is embedded. It is in this way that we can think of gamespace becoming deterritorialised. If we understand games as machines, which are always already connected to other machines, we cannot uphold Huizinga's notion of a 'magic circle' that separates games from 'ordinary life'. Rather, entering gamespace is a way of entering the world, a negative escapism, whose 'line of flight' leads not away from the antagonisms of 'ordinary life' but allows us to engage with them in a different and novel way (see Wark, 2007).

5.2. Movement in Gamespace

What remains to be clarified, then, are the modes of movement available to the player within a deterritorialised gamespace. In order to achieve this, we can build on two concepts borrowed from ludology. First, Aarseth's (1997) notion of the 'topological constraints' of cybertext, and second, Salen and Zimmerman's (2003) view of immersion as a fallacy. Taken together, these concepts allow us to conceptualise the movement of the player through gamespace as simultaneously constrained *and* free, a willing submission to control. This in turn enables us to conceptualise corresponding modes of cheating.

Aarseth introduces the concept of topological constraints in the context of his discussion of Barthes' (1975) notion of *tmesis*, i.e. "the reader's unconstrained skipping and skimming of passages, a fragmentation of the linear text expression that is totally beyond the author's control." He goes on to argue that "tmesis in hypertext will always be limited by the topological constraints laid down by the author" (Aarseth, 1997: 78). It is worth noting that this disregards the various possibilities of 'illegal manipulation' that hypertext, and other electronic media offer.

For example, as hypertext critic Richard E. Higgason (2002) points out, Michael Joyce's literary hypertext *Afternoon: A Story* (1990), in regard to which Aarseth develops his hypertext aesthetics, contains "a little known space entitled 'Jung.' This space has no links into or out of it. [...] Even though this space is part of the complete text, it is hidden from most readers". He suggests that it would be useful to 'hack' into the programme, "so that the critic has access to all of the lexia," thus overcoming the 'topological constraints' of the text. The question of movement within hypertext space thus becomes entangled with the question of submitting to the topology of the text, or in Deleuze and Guattari's terms, of having a sedentary or nomadic relation to textual space.

In extending this question to gamespace, Aarseth's (2003) position is clearly normative. In regard to the practice of cheating in computer games, he says that it is "with great and increasing regret that one reads papers on game analysis where the author unashamedly admits that yes, I used a cheat code, or yes, I consulted a walk-through" (4). While Aarseth cannot "imagine excellence of research arising from such practices," I would maintain that good research is not necessarily characterised by 'respect for the game', much less by keeping the 'flavour of the game' intact. After all, the exposure of hidden content is not the only reason for cheating in games research, the more important reason being that cheating is an important part of games culture.

From a deludological point of view, the immersive mode of engagement advocated by Aarseth is also a symptom of surrender to the signifying semiologies of a game, and of being attached to a romantic notion of self-contained subjectivity. Without wanting to idealise computer game play, I would maintain that technicity actually works in favour of overcoming immersion, and opens up new paths of subjectification. Salen and Zimmerman justly critique Murray's (1997) notion of immersion for its underlying "technological fetishism," based on

the assumption that, in the future, technology “will be able to create fully illusionistic experiences that are indistinguishable from the real world” (Salen & Zimmerman, 2003: 451).

The more pertinent point that they make, however, is that “play is a process of metacommunication, a double-consciousness in which the player is well aware of the artificiality of the play situation” (451). While they think this is an issue of game design and paint an image of games which “encourage players to constantly shift the frame of the game, questioning what is inside or outside the game” (455), I would argue that this kind of play is brought to the game by the player, rather than vice versa, and that technicity encourages this kind of computer game play. This is not to say that technical skills encourage critical thinking, but simply that an intimate relationship with technology makes it harder to become immersed.

As recent research (e.g. Newman, 2004; Schott & Kambouri, 2003; Taylor, 2003) shows, playing a computer game is not necessarily the completely immersive experience as which it is often depicted. Rather, players are able to weave in and out of the text of the game, engaging in other, computer related or non-computer related activities while they are playing. The player’s movement in gamespace must therefore be conceptualised as a movement in and out of the game as much as a movement through the game. This is also what enables players to engage with the game in ways not necessarily foreseen by its designers. If they were completely immersed, cheating would be out of the question.

We can understand the movement through gamespace, then, as a movement which is superficially shaped by the topological constraints of that space, resulting from the formations of ruled and unruled space within the game. It is worth emphasising that this ludic topology is very different from any kind of textual topology, because it supports different kinds of movement than textspace. Non-linearity is the default mode of movement within games, while linearity is the default mode of movement within texts. This does not mean that there are no non-linear texts, or no linear games. In fact, both seem to be flourishing in electronic media, and the boundary between them is becoming increasingly blurred.

What is important to note, however, is that players can simply follow the path of least resistance in these spaces, by moving from ruled space to unruled space, or they can try to remain on a constant level of ruledness. They might even increase the level of ruledness, or of ludic resistance, by finding new ways of playing the game. For example, Atkins (2003) notes that there are ways of transgressing “the limitations of the authored (and authorised) narrative” of a game like *Tomb Raider* (Core Design, 1996): “Such potentially subversive activity can range from the relatively minor (taking the pacifist option, for example, and refuse to draw guns on any opponent) to the extreme (the exploitation of programming errors, or ‘bugs’ [...])” (49-50).

Cheating can then be regarded as a sort of transversal movement to the one suggested by the flow from ruled to unruled space, as it refuses to take the constraints of the space for granted, and actively rearranges its topology. Insofar as this is not simply a continuation of, but an operation upon the semiotic movement through gamespace it can be regarded as a form of abductive reasoning. As C.W. Spinks (1991) points out, “[d]eductive processes are fairly obvious once one recognises semantic relationships and syntactic operations, and inductive processes are the stuff of a good part of human experience [...]. But human experience also provides a not-so-neat way of information handling: the hunch, the guess, the intuition, the insight, the eureka, the revelation, [...] and so on” (114).

As I have argued elsewhere (Kücklich, 2002), abduction occurs frequently in computer games because it is a way of overcoming the antagonism between player and game. In any case, these two forces are in a creative conflict with each other, insofar as their interplay can be said to format gamespace, and make it accessible to both game and player. Creative abduction plays such a prominent role in games because there is usually a certain element of deceit

involved (see Bowyer, 1982). Whether we are playing against a person or against the computer, our opponents are usually reluctant to disclose their strategy.

Much has been written about abduction, but the most concise definition has been supplied by Peirce himself when he called it “a *method of discovering methods*” (1931-1936: 2, 181). As Spinks (1991) points out, abduction is also connotated with the formation of new ideas, flashes of insight, and the Peircean category of thirdness “in that it suggests the ‘may be’ of possibility and law.” Finally, “abduction is the path to discovery, for a sign is not a sign unless it translates itself into another sign in which it is more fully developed (1931-1936: 5, 594). Abduction thus allows us to gain an overview of the gamespace that lays bare the arbitrariness of its topological constraints.

This opens up strategies that are not condoned by the game’s rules, whether it is a simple exploit of a loophole in gamespace, or the purposeful manipulation of the game’s code to achieve an advantage vis-à-vis one’s opponents. Cheating can thus be regarded as a semiotic operation that identifies discrepancies between rules or ambiguities in the formulation of rules, and exploits these contradictions for its own ends. However, since the abductive operation of cheating takes the difference between gamespace and ordinary life as its argument, often introducing actions from ordinary life into gamespace, this operation can no longer be described in Peircean terminology.

5.3. Signifying Nothing

What is required to describe such an operation is the Guattarian concept of a ‘mixed’ semiotics, which takes as its starting point Hjelmslev’s project of destroying “the hierarchy and directionality of signification” (Genosko, 2002: 159). Guattari’s important contribution to this project is to interrogate Hjelmslev’s mutually presupposing solidarity of expression and content so as to “search for the points of articulation, the points of micropolitical antagonism at all levels” (Guattari, 1977, Genosko’s translation). As Genosko points out, Guattari’s aim in this undertaking was to “uncover the social and political determinations of signifying phenomena” (159), which is why his mixed semiotics lends itself quite naturally to the formulation of a semiotics of cheating.

Guattari’s semiotics consists of five strata, only two of which are directly relevant in the present context. The first is the stratum of ‘signifying semiologies’, which “concern sign systems with semiotically formed substances on the expression and content planes.” The signs of signifying semiologies are dominant and referential, and therefore “cut off from the real because they must pass through the mental world of representation.” A-signifying semiotics, on the other hand, escape the dominant “overcoding function of signifying semiological systems” and their fluxes are “all unmediated by representation; they are, in other words, in constant and direct contact” (167-170).

Clearly, what Friedman (1995) calls ‘demystification’ is a prerequisite for the abductive operation of cheating, and demystification must be understood as a process that transcends representation. As Friedman points out, “Learning and winning [...] a computer game is a process of demystification: One succeeds by discovering how the software is put together” (82). From this point of view, it seems to me that Bogost’s unit operations are the perfect example of an a-signifying semiotic, insofar as they are machinic, fluctuating, and do not rely on representation in order to function.

However, there is a danger here of reinstating the structura-ludologist model of signification with its fixed planes of expression (representation) and content (code). In order to ward off this danger, we must understand unit operations in the sense that I have sketched out earlier: as infinitely transcodeable fluxes (see Manovich, 2001), which do not coalesce into units of meaning, but act as conduits into spaces beyond gamespace. The becoming-machine of

gameplay is not to be understood as a solipsistic identification with the computer, but rather as a chaotomic (Guattari, 1995) motion that draws ordinary life into gamespace, and scatters fragments of gamespace into ordinary life.

In the final analysis, then, the a-significance of unit operations lies in their abstractness, the impossibility of translating them into signifying semiologies without losing their essential quality. It is in this sense, and in this sense only, that we can think of cheating as unit operations. Deludic strategies go beyond representation, but they leave the representational ‘surface’ of games intact; they are double movements of demystification and remystification. This is what it means to be playing *with* the rules rather than *by* the rules, weaving in and out of gamespace, from the signifying semiologies of *ludus*, to the a-signifying semiotics of *paidia*.

6. Conclusion

This paper began with a summary of several theories of machinic, which provided a theoretical framework for the discussion of the interplay between machinic subjectivity, gameplay, and technicity. Understanding cheating as a practice that highlights the machinic of the process of digital gameplay required a reconceptualisation of gamespace, which assumes the inherent heterogeneity of this space, and which was expressed in the concept of ruledness. Thus, gamespace can be regarded as a heterotopic space, in which ‘ruled space’ is intermingled with ‘unruled space’, each of which allow for different modes of movement.

It is in this sense, as apparatuses which enables certain movements but prohibits others, that digital games can be regarded as machines. Guattari’s conceptualisation of the machine as an entity connected “with other machines which are themselves made up of infinite machinic elements,” is important in this context because it is intricately related to his concepts of territoriality, individuation, and a-signifying semiotics.

This enabled us to see that far from being a ‘mechanical device’, as Aarseth assumes, the cybertextual apparatus is a machinic assemblage in the Guattarian sense, and that the mode of interaction with it is what Deleuze calls ‘becoming-machine’ (*devenir-machine*). Since machinic assemblages must be understood as inherently cybernetic, it became clear that in order to come to an understanding of the semiotics of cheating, it is necessary to analyse how the internalised language of control in digital games functions as an arbitration device between human and game machine. At the same time, it is crucial to consider the antagonistic relationship between user and cybertextual machine that is at the basis of both the process of becoming-machine and the process of subjectification.

Starting from the assumption that gamespace itself is shaped by antagonism, I attempted to ground the processes of becoming-machine and subjectification in the territoriality of gamespace. In order to achieve this, it was necessary to review semiotic approaches to computer games, ranging from Myers’ Greimasian analysis of *Populous* to Bogost’s proto-semiotic theory of unit operations.

What became apparent in this engagement with computer game semiotics was a one-sided fixation on regimes of signification, and a disregard for processes that transcend the narrow confines of the relationship between signifier and signified. Only the concept of unit operations escapes this structuralist logic to some degree, and opens itself up to a re-conceptualisation along the lines of Guattari’s ‘a-signifying semiotics’.

This reconceptualisation of unit operations leads to the notion of a deterritorialised gamespace, which is simultaneously dispersed into, and saturated by, the cultural, the political, and the social. This paved the way for the realisation that the antagonisms that shape and format gamespace are not necessarily indigenous to that space but might stem from other

sources. Therefore, movement through gamespace must be seen not simply a submission to its topological constraints, but as involving movements out of gamespace as well.

In order to conceptualise this multi-directional movement, I borrowed from Laclau's theory of the empty signifier and the Peircean notion of abduction. This made it possible to regard movement through gamespace as an abductive motion, and deludic strategies as semiotic operations that transgress the border between the signifying semiologies of the game, and the a-signifying semiotics of play.

In the final analysis, then, the process of gameplay can be conceptualised as a form of abductive reasoning, and the movement through gamespace as a movement which is superficially shaped by the topological constraints of that space, resulting from the formations of ruled and unruled space within the game.

Cheating, however, is even more abductive than the regular process of playing, insofar as it involves a radical change of context; from seeing, as it were, eye to eye with the signs produced by the game, to an overview of the gamespace that lays bare the arbitrariness of its topological constraints. Thus the player is able observe herself in the process of becoming-machine, and to denaturalise the machinic assemblage of gameplay, which is so often taken for granted.

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