On transdiegetic sounds in computer games

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Originally published in *Northern Lights: Film and Media Studies Yearbook*, Volume 5, Number 1, 7 September 2007 , pp. 105-117(13). Intellect Press.

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Keywords:
Sound, computer games, transdiegetic, diegetic, extradiegetic, meta-communication

When the avatar is riding in the forest in the computer game *The Elder Scrolls IV: Oblivion* (Bethesda 2006), the player suddenly hears the background music changing into a more aggressive melody. Although the music is not connected to any sources in the game world, the player knows that a hostile creature is on its way to attack, and may either try to evade the creature or stop to kill it. In comparison, when the shark theme starts playing in the thriller film *Jaws* (Spielberg 1975), the spectator can only watch as the character is unaware of the approaching danger. Music with no source in the game world but still has the ability to inform about events in that world is an example of what I will call *transdiegetic* sounds in computer games. This is a new theoretical term that emphasises the specific functional aspects of sound in computer games while explaining how sound in computer games deviates from the common understanding in film theory of diegetic sound (sound with an origin in the film world) and extradiegetic sound (sounds that stem from an external source).

In this article I will define the term *transdiegetic space* and discuss the concept with reference to action and events in modern computer games. The point of departure is based on discussions of the diegetic space in film theory, but the argument will be supported by writings on the role of sound in web applications and software, as well as views on games as a framing of a separate field of action and how computer games interpret this field. Although sound is in focus in this article, it should be noted that the concept of transdiegesis is relevant for a greater understanding of spatial relationships in computer games in general. As we will see, sound is, perhaps the feature that best illustrates transdiegetic functions in games.

Modern computer games as well as narrative films depict fictional worlds. By this I mean that they present hypothetical spaces that are conceptually separate from our own world, and which are understood as spatially separate from real world space. When playing a game or watching a film, we must accept this fictional space as the frame of reference for what happens within the game or film. Film theory separates between two kinds of sound in film based on its origin and relation to the fictional world. This distinction is commonly known as *diegetic* and *extradiegetic*

sound (Bordwell & Thompson 1997: 330). Diegetic sound originates from a source existing within the fictional universe, while extradiegetic sound has no direct connection to an actual source within the fictional world. In the first case, we assume that the characters in the film perceive the sound as natural to their world, while in the second case, the characters do not seem to be able to hear the sound; rather it works as a mood-enhancer for the audience. Thus, dialogue between two characters in a film is diegetic, while the background theme music is extradiegetic.

However, sound in computer games often deviates from these categories. When listening to computer game audio with an analytical ear, one discovers that sound originates from several different levels related to the fictional game world. While some sounds seem to belong naturally to the game world, other sounds seem to comment on the game world from an external perspective. Other sounds seem to have no relation to the game world, but are still part of the game as product. In addition, there are sounds that seem to vacillate between different categories, making it impossible to spatially define certain sounds. In games then, not only diegetic sounds, but also sounds that have sources external to the fictional world may have a direct effect on what happens in the game. A good example is the extradiegetic background music that informs the player of upcoming dangers. However, the fact that extradiegetic sound has the power to influence diegetic action in computer games makes it impossible to directly apply film theory's division between such spaces.

The reason for this is that the spectator is exchanged for a player who not only hears the extradiegetic sound, but also uses the information carried with it to influence what happens in the game world. Although the player is a living person positioned physically outside the computer and the game world, s/he also has direct access to the fictional world through the game's user interface and the avatar. The avatar is the one fictional character that the player controls within the game world, and which cannot act independently of the player[1]. By positioning the player outside the game world but with direct access to act within the game world, computer games may utilize extradiegetic sound to give the player information relevant for the choice of actions internal to the diegesis. Since extradiegetic music in films is not part of the fictional world and is not heard by the fictional characters, it is therefore valuable only to the audience. This audience, however, has no power to influence the course of action of the film, no matter how much they protest from their

[1] This is contrary to strategy game units, which are semi-autonomous in the sense that they act independently once the player has given them a certain command. Also, in the case of units the player may control more than one at the same time.

seats in the movie theatre. However, in computer games, the player may use information available in extradiegetic sound when evaluating his or her choices of actions in the game world. This leads to the interesting situation that although the fictional character does not hear extradiegetic sounds due to its position internal to the diegesis, in effect it may react to extradiegetic sounds because of the control link between the player and the avatar. In a sense, this fictional character can evaluate and act on information that it should not be able to hear.

However, this distorted version of extradiegetic space works in different ways, and the purposes of this article are to identify and describe sounds that demonstrate how these distorted versions function. Such sounds will be defined as *transdiegetic sounds* (Jørgensen 2005: 5, Jørgensen 2006 [forthcoming]), and what is characteristic for these is that they cannot be posited as clearly diegetic or extradiegetic. Instead, they seem in some respect to place themselves somewhere between the two, either by being virtually extradiegetic sounds that communicate to entities internal to the diegesis (typically the avatar, for example extradiegetic music that alerts about upcoming dangers), or they are diegetic sounds that directly address entities external to the diegesis (typically the player, for example when a strategy game unit says "all right" when the player gives it an order). These sounds are central for the comprehension of the positioning of sound in computer game spaces, and work as a bridge between the game world and the player's world. In this respect, these sounds become part of the interface, and enable the interface to become more transparent.

Transdiegesis – a Background

Although the term *transdiegesis* is new, the background for the concept is not. The concept of the *diegesis* refers to the hypothetical world presented in a recounted series of events, such as films and literature (Bordwell 1985:16; Bordwell & Thompson 1997: 92; Branigan 1992: 35). In this sense, a film's characters can only be said to experience what is part of the diegesis. The diegesis is thus a concept that defines and separates spaces of action and information, and the information that is presented in the diegesis is of another kind and relevance than information presented extradiegetically.

As illustrated above, it is not possible to translate these concepts directly to computer game spaces. They also pose a similar conceptual problem regarding the distribution of space in films. On this basis, Edward Branigan describes what he calls the eight levels of narration based on the space from which information can be said to originate (Branigan 1992: 86-107). He understands narrative information to belong to eight different levels on a continuum, which spans from the

fictionally external category referred to as *text* to an extreme internal category consisting of a fictional character's *thought*. In between these extremes, information can be distributed to the spectator on six levels that gradually move into the fictional space and eventually into the characters' perception. However, while Branigan's overview cannot be transferred directly to games, his way of thinking is fruitful for understanding how games operate on different spatial levels, not the least in relation to the auditory dimension. The reason why sound may best illustrate how game space works is connected to the fact that human perception tends to have more confidence in its visual capabilities than its auditory. This allows sound to have less naturalistic presence than elements dependent on visual perception, which may be illustrated by the fact that human beings tend to assign sounds to visual objects (*spatial magnetization* (Chion 1994:69-71)), a feature also known as the *ventriloquism effect*. An example of this effect is how the audience assigns what an actor says with the movement of his lips even though the sound appears from speakers next to the screen. The fact that the requirements are lower for sound when it comes to naturalism are utilized by audiovisual media, and in relation to games, sound has the special feature of being able to vacillate between different spaces without this destroying the experience of the game.

I would like to elaborate on transdiegetic sound in games by explaning Branigan's account of how sound moves between different narrative levels in film. Branigan's example is the opening scene of Hitchcock's *The Wrong Man* (1956), where music can be interpreted in three different ways without creating confusion (Branigan 1992: 96-7). The film starts by giving the spectator an exterior shot of a nightclub and moves inside while the credits for the film roll over the images. The same piece of music plays during the whole sequence, but as it has no apparent relation to any events in the film it seems to work as support for the credits. Branigan notes that this situation suggests that the music is *extra-fictional.* To emphasise the extra-fictional status of the music, Branigan points out that the music may be seen as a statement emphasising the film *as* fictional (1992: 88). However, while the credits are shown, we see different situational clips from the nightclub, which suggest that we see excerpts from the whole evening at the nightclub, still while the same piece of music is playing. According to Branigan, this provides a new understanding of the music. Instead of being associated with the credit sequence, the music is interpreted as typical for a whole evening at the nightclub, and becomes therefore *extradiegetic* since only the spectators will hear the music in this exact form, while people at the club will hear specific pieces of music at specific times (1992:88). However, the music continues as the credits fade out, and the camera pans

towards a band on stage playing the same piece of music, underlining that the music we hear is *diegetic*. This is also emphasized by the fact that we hear the music cease when the band stops playing (Branigan 1992: 97).

It is the different contexts that make the "same" music function differently with respect to the spectator's experience. Branigan explains: "Our (bottom-up) perception of the musical sounds emanating from the screen has been smoothly integrated with our (top-down) hypotheses about the relationships of music to a story world" (1992: 97). Thus, the reason why the sound can so easily change spatial status is that we create hypotheses about the meaning of the sounds related to the filmic context on screen.

I would now like to discuss how audio may be meaningful in a similar way in computer games, but where the different levels on which audio operates are adjusted especially for game audio. This discussion will be the starting point for an understanding of the elements of the *transdiegetic*, and what makes this an important concept for the understanding of spatial information in computer games in general, and computer game audio in particular.

Spatial Informative Levels

While Bordwell & Thompson's separation between diegetic and extradiegetic sound puts emphasis on the extradiegetic as being everything that is part of the presentation but not part of the diegetic, or fictional world, Branigan separates Bordwell & Thompson's understanding of the extradiegetic into the *extrafictional* and the *extradiegetic*. In his view, the extradiegetic belongs in some respect to the diegesis, but its appearance in the film would not correspond to the characters' experience of it. Extrafictional sound, on the other hand, is posited to exist outside the diegesis and allows statements that could not be made from inside the diegesis about diegetic events (Branigan 1992: 88-9).

When talking about game sound, we may say that sound introduced in the start menu of a game is *extrafictional*. This means that the sound is not part of the fictional world, but instead is part of the frame that surrounds the game space and presents the game as a software product in a similar way that the credit sequence points to a film as an artefact and a narrated story. In a game, the start menu allows the user to select a new or previously saved game, and lets the player configure graphics, controller, and sound settings. This start menu features sounds that work as responses to the choices the user makes, such as the sound of a "click" when the user selects a

particular option for play. This menu will often also be accompanied by music, in a similar manner to Branigan's description of *The Wrong Man* above.

Extradiegetic sounds in computer games do not originate from diegetic space, but they do in some respect concern specific situations within the diegesis. As with film soundtracks, extradiegetic sounds in computer games are those that cannot be said to realistically be heard by any of the characters within the game world. But unlike film sound, game sound with diegetic origin may still be regarded as diegetic even though it is posited within the diegesis in an unnatural manner. This means that when a strategy game unit speaks when manipulated by the player, this sound is diegetic although it addresses the player which has no embodied being in the game and therefore works as a system feature. Extradiegetic sounds in games may be separated into different categories: As with film, games often include background music and voiceover speech. Unique to computer games, however, are the sounds connected to the graphical user interface.

An interesting feature of extradiegetic sounds is that they often tend to disturb the concept of extradiegetic space. Voiceover speech typically disturbs the notion of the extradiegetic by bringing information about dangerous situations that the player must evaluate. For example in the strategy game *Warcraft III* (Blizzard 2002), at certain points during play, a disembodied voice warns the player with a message that "our forces are under attack". Although the sound has no source in the game world – that is, no specific character can be seen making the announcement – it has a clear relation to events within the game world.

In the case of the background music, it may be clearly extradiegetic in some situations, while in other situations it seems to provide information relevant for the player's choice of actions in the diegesis. In the real-time strategy game *Warcraft III*, the background music is not influenced by events or actions in the game environment, and works instead as a background feature that stylistically fits the game and works only as a mood enhancer. However, in the action game *Hitman Contracts* (Io Interactive 2004), the music can suddenly change from subtle to dramatic and fast-paced when the player's character enters a fight, or a special jingle may be played when the character enters a room of certain importance. In this sense, the music is situated as external to the diegesis, but adapts to the specific situation and thus provides information relevant to the player's choice of actions. Although it is the player and not the avatar as fictional character who hears the music, it questions the concept of extradiegesis by affecting the behaviour of the avatar who then acts according to information it could not have gotten within the fictional world. A similar problem is found in connection to ambient music. When music merges with environmental sounds, it seems

to give the impression of being diegetic, although it technically is not. The scenario called "The Shalebridge Cradle" in *Thief III: Deadly Shadows* (Ion Storm 2004) describes a haunted and empty mansion formerly used as asylum and orphanage. The ambient music includes the sound of reverberating children's laughter played backwards, and the player is left to ask whether this can be interpreted as diegetic sound of a haunted house.

When talking about sounds coming from the user interface, we see that these can also disturb the definition of extradiegetic as that which exists outside the game world. Take the example of inventory sounds. The inventory is the part of the interface in which the avatar holds his/her her belongings. This is visually presented as a separate menu with slots for different items that the avatar is holding such as potions, weapons, and other items picked up on the way, and it may be compared to a bag that the avatar carries around. Each time an item is placed in or removed from the inventory, a sound is heard in response. The items are clearly part of the diegetic world since their origin is diegetic and they can be used in the diegetic world, but what about the inventory? And what about the sounds accompanying all actions related to it? Typically, there is a boiling sound from any potion added to or removed from the inventory, and this can hardly be viewed as a naturalistic sound for adding or removing an item from a bag. Instead the item and its sound seem to be removed from the diegesis once it gets connected with the inventory. Obviously, this problem is not only related to sound, but to the spatial positioning of the interface in general.

However, talking about *diegetic* sound in games may seem a little bit easier than talking about extradiegetic sound. After all, diegetic sound is defined as that which has a source within the game world, typically sound effects and the use of voices in the game, connected to specific sources in the game world and produced in real-time. Since characters in the game world are not expected to have any awareness of the space beyond, the only reality they know is the game world, and the only sounds that the characters would be able to hear are diegetic including sounds from the avatar and other characters, and from objects and events in the game. However, often such sounds may be placed in the diegesis in a fashion that does not resemble the natural world in any respect. An example can be found in the MMORPG[2] *World of Warcraft* (Blizzard 2004), where non-player characters always make a special sound when they start attacking. Obviously, the reason for this is that this kind of sound is a system feature that works to provide the player with

[2] The abbreviation MMORPG stands for *massively multiplayer online role-playing games*, a genre of games in which thousands of players log on to the same online servers to play their characters and work in collaboration with other players.

information about attacking enemies, but it also problematizes the strict Bordwellian definition of diegetic sounds.

The use of ambient sounds in computer games, i.e. environmental sound effects that characterize certain locations in the game, also question the concept of diegesis. Some games include environmental sounds into the game in a naturalistic fashion, as is the case in the MMORPG *Lineage II: The Chaotic Chronicle* (NC Soft 2004-2006). Here every single environmental sound is defined as a sound object, which means that every single bird and every single insect we hear in the game can be listened to individually and located to a specific tree or bush. However, when looking for the source, the player can never find a visual source. It must still be regarded as diegetic since we must assume that the fictional characters would hear the sound in this form. The far more common way of presenting ambience is to create for each setting a full soundtrack that includes a mixture of sounds that are typically heard in this specific setting. This soundtrack is then played in loop. An example of this is found in the role-playing game *Sacred* (Ascaron 2004), where a soundtrack consisting of domestic animals and children's laughter is played in the villages, while the sounds of forest animals and wind through the trees are played when the avatar is in the forest. Since these are not sounds originating from actual sources in the game space, it is hard to assume that this is exactly what the diegetic characters hear. Thus, this kind of ambience raises questions about diegetic space.

According to Branigan, *focalization* implies that we get information about the diegesis through access to a character's awareness of it (1992: 101). Focalization comes in degrees: in a film the camera may be positioned next to or over the shoulder of the actor, so we may have an eyeline match with a character. This implies that we see what the character sees when s/he sees it, though not from exactly the same position. Alternatively, the camera may give us a shot from the exact position of the actor, creating the impression that we see what the character sees through his/her eyes. Lastly, we may be allowed access to the character's inner experiences, such as thoughts, hallucinations, or dreams. It is also possible to use auditory information to create focalization effects. In computer games, giving the player auditory access to the character's inner experiences is often done to provide information about damage taken by the avatar. For instance, when the avatar is hurt the player will commonly hear moans or screams. In *Hitman Contracts*, the avatar's thoughts are also used as hints about how a certain problem can be solved. For instance, in the start of the mission named "Deadly Cargo", the player hears the avatar's voice: "Gotta find that car. Gotta keep close to it." Since the avatar has no one to speak to in this situation, and he does not seem to have

the habit of speaking to himself, we must conclude that we are inside his head at this point, hearing what he is thinking as a fictional character separate from the player. Since this use of voice also is a system hint about the objectives of the scenario masked as the character's thoughts, this also implies that the player should be thinking this – or at least act as if he were thinking this.

The Transdiegetic Function in Computer Games

From the discussion above, we understand that the difference between diegetic and extradiegetic sounds in computer games is not easy to draw. The presence of an agent that is situated partly internal to and partly external to the diegesis contributes to this distortion. As we will see, in some games it is the absence of an avatar that is the primary reason for such a distortion. Branigan's levels of narration are thus not enough to explain what is actually going on in computer games, although his analysis provides us with a fruitful starting point for the discussion. Below, the notion of transdiegesis will be divided into two functions according to whether the sound is understood to have an internal or an external source.

In the above discussion, we have encountered several examples of diegetic and extradiegetic sounds that question the received understanding of the terms. These examples are either diegetic sounds that do not seem to have a natural relationship to their diegetic sources, or extradiegetic sounds that somehow seem to be relevant for what happens within the game's diegesis. In addition, there are interface sounds that work on a level that bridges the game world with the real world space of the player. These three are versions of what I have defined as *transdiegetic sounds*. The transdiegetic should not be regarded as a clear-cut space that always is easy to identify in computer games, but rather as a property or a function of many diegetic and especially extradiegetic sounds found in computer games. *External transdiegetic sounds* are sounds that, strictly speaking, must be labelled extradiegetic, but seem to communicate to characters or address features internal to the diegesis. *Internal transdiegetic sounds* do the opposite: they have diegetic sources, but do not seem to address any other aspect of the game world. Instead, these sounds seem to communicate directly to the player who is situated in real world space. These sounds therefore seem to have some kind of self-reflexivity, where they seem to be conscious about their own fictional existence.

Adaptive background music in computer games is typically *external transdiegetic* sounds. It has no perceived source within the diegesis, but work to inform the player about certain states which s/he may react to on the basis of this sound. The music that starts playing in *Hitman*

Contracts when the avatar enters a room of certain importance is *externally transdiegetic* since it provides the player with scenario-relevant information that could not have been gained if he only had access to the diegetic space. It should be noted that what makes the music *externally transdiegetic* is the fact that the actions of the avatar are influenced by these virtually extradiegetic sounds. In the same game, different music will play according to whether the player is doing well or badly in combat, and works as an external transdiegetic response to the player's actions. Thus, it is characteristic for external transdiegetic sounds that they work either as hints or a signals about upcoming events, or as responses to already executed actions.

The ambient sounds found in the haunted house in *Thief III* may also be interpreted as external transdiegetic sound. Strictly speaking, the ambient sounds of ghosts are extradiegetic by being part of the background music soundtrack[3], but we could still imagine that these sounds have some form of diegetic connection since the world of the game does indeed include ghosts and other supernatural beings. However, the sound can be transdiegetic in two respects. The sound may be interpreted as focalization – that the sound illustrates the fictional character's emotional state and should not be interpreted as sound that any fictional character actually hears in the specific location. Alternatively and ultimately, the sound is eerie and suggests that there are ghosts or other abominations anywhere. It contributes to making the player nervous, and consequently s/he will move around the scenario in a careful manner. In this respect, this is an example of extradiegetic sound that affects the behaviour of the avatar.

Internal transdiegetic sounds are often heard in games where the player has no avatar, such as in simulation and strategy games[4]. In such games, the need for internal transdiegetic sounds that communicate directly to the player is less important for aiding comprehension of game play. In avatar-based games, game sound may be addressed to the avatar instead of directly to the player. In the real-time strategy game *Warcraft III*, the player has no avatar, but instead s/he gives commands to a number of semi-autonomous military units. Each of the different units has a range of utterances that they produce each time the player selects them or gives them a new order. These sounds work clearly as notifications and responses to the player, but what is interesting in this context is that the units are diegetic characters that communicate directly to the player who is situated in real world space external to the game world. An example from the game is a worker who responds in

[3] This is formally and technically confirmed if the player takes a look at the sound and music folders of the game. Additionally, these sounds may be removed separately by turning off the music volume in the game.

[4] Note that games with a first-person overview are considered games *with* an avatar. Although the avatar is not a visual entity, the player is in control of a character that is accepted as one by other characters in the game.

complaint "More work?" when the player selects it in order to give it a new command. Although the utterances come from characters that exist as individuals in the diegesis, the fact that they address the player when they speak distorts their existence as pure diegetic characters. A more sophisticated utterance in connection with *internal transdiegetic sounds* comes from the warlord Arthas, one of the strongest units in the game. When the player gives him a new order, he protests that "No one orders me around!" This statement puts even stronger emphasis on the self-reflexivity of internal transdiegetic sound, since the unit seems to understand that he is under the command of a greater power, at the same time that he points out that as the leader of the forces, no one else can give him orders.

I also want to point out that the use of auditory focalization may also be an instance of internal transdiegetic sound in games where the player is in control of an avatar. In general, the player is not told what (if anything) goes on in the avatar's head, so when that happens, we must assume that the information is addressed to the player. For instance, in *World of Warcraft,* the avatar will respond with the utterance "Not enough mana!" when the player tries to cast a spell of magic but the avatar does not have enough magical energy left. Although this is an online game where other players are present, they cannot hear this utterance coming from other avatars, so we must assume that this is something going on in the avatar's head and which is communicated directly to the player. This sound is also a clear example of a system feature that has been made natural to the game world and therefore becomes transdiegetic.

An illustration describing transdiegetic space in relation to extradiegetic and diegetic space is found below (Figure 1). It shows diegetic and extradiegetic space as two separate entities divided by two transdiegetic functions. The internal transdiegetic function has game world sources but moves towards extradiegetic space by addressing entities internal to the diegesis. Also, the external transdiegetic function points to extradiegetic sources but has game world relevance by providing information relevant for the action of diegetic entities. The border between diegetic and internal transdiegetic sound is marked by a dotted line to emphasise the diegetic nature of the sound, in the same way that the border between extradiegetic and external transdiegetic sound is dotted to emphasise the extradiegetic nature of these sounds. The dotted lines also suggest that transdiegetic spatiality does not have clear limits, but may work differently in different contexts.
[Insert figure 1 here]

Although extrafictional space and focalization have contributed to this discussion, they are not part of the model of one reason. From Branigan's description, extrafictional space

seems to be an extension of extradiegetic space, while focalization is an extreme version of the diegesis. In this respect, the illustration should be interpreted as already including the two missing spaces as parts of the two primary spaces known as the diegetic and extradiegetic. It should be noted that in practice, extrafictional space is a kind of extreme form of extradiegetic space with no direct relevance for diegetic action, while focalization may often be relevant for player actions and behaviour due to the fact that it results from internal processes within the avatar existing as a character within the diegetic world.

Why is there a Transdiegetic Space?

So far, I have explained how transdiegetic space works in computer games. However, I also need to explain why this function exists and why it is effective in providing information about diegetic spatiality in computer games. In the first place, it is necessary to put emphasis on the fact that computer games are user-controlled systems, just as all other computer-based tools and applications. What characterizes computer-based user systems as opposed to physical user interfaces such as televisions, video recorders and car dashboards, is that computer-based systems need to address the user's visual and auditory sensory apparatus due to the fact that the remaining perceptions are not available. This is especially important in relation to tactile perception. In connection to user systems, it is important that the user receives information about executed commands, as well as about specific events in the environment. According to Heeter & Gomes, who advocate for the use of sound in web applications, there are three different ways to provide this kind of information. The application can simply execute the command, and the fact that it is executed becomes the response. Alternatively, a visual cue may indicate that the command has been received, or this can be indicated by an auditory cue (Heeter & Gomes 1992). In the natural world, meaningful auditory information occurs naturally as causes of a range of events such as doors closing, water running and footsteps, and they work to provide information about what is going on around us. If the same kind of response to events is desired in computer-based systems, however, these sound cues must consequentially be added. Sound has the advantage that it may provide information about events that are not visually available, or that are difficult to visualize. Additionally, auditory cues allow the user to stay visually focused on the game task at hand, while helping the game play move forward.

As user-systems, computer games utilize audio as an informative system that together with the visual system must provide all information necessary for successful game play. However,

computer games are not only user systems, they are also diegetic or fictional worlds complete with settings, characters and motivations. Due to this, computer games use sounds in a manner that seems natural to the fictional world in question. In addition, game developers are often inspired by the use of sound in films, calling on the film industry's vast experience in this area. Nevertheless, the combination between fictional world and user system is one of the primary reasons why computer game sound seems to disturb the relation between diegetic and extradiegetic space in general and sound in particular.

I have stated that computer games are a mixture of user system and fiction, and this situation is what creates the need for transdiegetic spaces, but this does not explain how the player is able to comprehend the relationship between these two. How can meaning be made out of this hybrid state, if these two systems are working simultaneously? Anne Mette Thorhauge (2003) points out that Gregory Bateson's concept of *metacommunication* may provide an explanation. Bateson uses this concept in his theory of fantasy and play, where he puts emphasis on play as a frame for communication separate from the rest of the world. When playing, we establish a special frame of reference where particular actions have a certain status. When animals play, both animals and humans observing the behaviour understand that although it looks similar to fight, in the context of play, something different is occurring. Thus, although the actions denote "fight," they do not denote what fight stands for (Bateson 1972: 180). The reason we understand this complex relationship between such actions rests in our ability to engage in *metacommunication*, or in other words, communication about communication. In this process, we are able to reflect on the communication as such, which enables us to focus on the context for the action. According to Thorhauge (2003), metacommunication therefore has to do with our ability to comprehend several frames of reference at the same time, and it explains why we have no problem interpreting the relationship between diegesis, interface and extradiegesis in computer games. We understand that the interface works on another level of the diegesis, and that the diegesis and the extradiegetic realm are different frames of reference. Also, we understand that the interface works to connect the real world environment of the player to diegetic space of the game, and that in attempting to connect the three layers – diegesis, interface, extradiegesis – the transdiegetic function comes into being. Thus, in connection to sound, when extradiegetic and diegetic sounds work transdiegetically, the player is not confused, but understands that this is a situation in which the interface function of the sound precedes the fictional function. However, due to the fact that computer game players become familiar with the functionality, it is also possible to refer to different levels of the diegesis at the

same time. This is what happens in connection with adaptive music that is placed extradiegetically, but still works as a warning or response system in relation to actions and events in the diegesis.

Conclusion and Summary

In this article I have demonstrated with reference to Branigan's division of different spatial levels in film that a direct transfer of the terms traditionally referred to as diegetic and extradiegetic is problematic in relation to computer games in general, and computer game sound in particular. Although the relation between the two spaces often may be unclear in relation to films as well, computer games go even further and utilize the border between the diegetic and the extradiegtic consciously and for a functional purpose.

One of the ways in which this is most evident is through the use of sound with *transdiegetic* function. I have defined and made account for transdiegetic sound as sounds that cannot strictly be labelled diegetic or extradiegetic, but instead posit themselves somewhere in between the two. Transdiegetic sounds are either diegetic sounds that address an entity external to the diegesis, or are extradiegetic sounds that communicate to entities positioned internal to the diegesis. The first group is called *internal extradiegetic* sound, while the second is called *external extradiegetic* sound. Also, sounds connected to the graphical user interface have transdiegetic properties. What is important in relation to transdiegetic sounds is that transdiegeticity is a functional property of the diegetic and extradiegetic, more than a separate space in between the two. Another important characteristic of transdiegetic sound is that it relates to actions and events in the game diegesis, and is consequently commonly linked to player actions in either a *reactive* or a *proactive* way. In other words, transdiegetic sound works either as a response to player actions or as a signal about upcoming events that need attention.

References

Bateson, Gregory (1972). *Steps to an Ecology of Mind; Collected Essays in Anthropology, Psychiatry, Evolution, and Epistemology*. San Francisco: Chandler Pub. Co.

Bordwell, David (1986). *Narration in the Fiction Film*. London, New York: Routledge.

Bordwell, David & Kristin Thompson (1997). *Film Art. An Introduction*. New York: McGraw-Hill.

Branigan, Edward (1992). *Narrative Comprehension and Film*. London, New York: Routledge.

Chion, Michel (1994). *Audio-Vision. Sound on Screen.* New York: Columbia University Press.

Heeter, Carrie & Pericles Gomes (1992). "It's Time for Hypermedia to Move to Talking Pictures", in *Journal of Educational Multimedia and Hypermedia*, Winter 1992. Available: http://commtechlab.msu.edu/publications/files/talking.html [05.09.06]

Jørgensen, Kristine (2005). "Game Sound Functionalities". Paper presented at *17th Conference for Nordic Media Research*, Aalborg Aug 11-14 2005.

Jørgensen, Kristine (2006, forthcoming). "Lyd som grensesnitt: når dataspillets lyd blir funksjonell", in *Mediekultur 2006*. Copenhagen University.

Thorhauge, Anne Mette (2003). "Playing While Making Sense", paper presented at the *Plaything Conference*, Sydney 2003. Available: http://www.dlux.org.au/fs03/media/anne_mette_thorhauge_web.pdf [04.09.2006]

Games

Ascaron Entertainment (2004). *Sacred.* Ascaron Entertainment

Bethesda (2006). *The Elder Scrolls IV: Oblivion.* 2K Games

Blizzard Entertainment (2002). *Warcraft III: Reign of Chaos.* Blizzard Entertainment.

Blizzard Entertainment (2004). *World of Warcraft.* Blizzard Entertainment.

Io Interactive (2004). *Hitman Contracts.* Eidos Interactive.

Ion Storm (2004). *Thief III: Deadly Shadows.* Eidos Interactive.

NC Soft (2004). *Lineage II: The Chaotic Chronicle.* NC Soft.

Films

Hitchcock, Alfred (1956). *The Wrong Man.*

Spielberg, Steven (1975). *Jaws.*

Abstract

This article will identify and define the concept of *transdiegetic* sound space in computer games, and discuss the relationship of this space to action and events in the game. The point of departure for the article is based on discussions of the diegetic space in film theory, but the argument will be supported by writings on the role of sound for usability purposes in web applications and software, as well as views on games as a framing of a separate field of action and how computer games interpret this. Although sound is in focus in this article, it should be noted that transdiegeticity is relevant for a greater understanding of spatial relationships in computer games in general.