

PUPPETS, PETS OR DEPUTIES. ON THE RELATIONSHIP BETWEEN ACTORS AND AVATARS

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INTRODUCTION

The practical part of the research “Actor and Avatar” explored the shifting relationship between actors and avatars, between self and other, that comes into focus when avatars enter the scene. One approach to this wide field we chose was from the perspective of acting, assuming that the expertise of stage and camera actors would help to describe new phenomena of identification or alienation with avatars. In this article, we sketch out the theoretical framework exploring the similarities and differences between acting in a traditional sense versus acting through an avatar and describe our experimental design of face-to-face encounter with an avatar.

The core questions remained: Can we consider “avatarization” as a different, possibly new kind of acting? Possibly one which could be described as digital puppeteering? Or as a different kind of mask work? Is it a distinguishable character or role-play, for which theatrical concepts help us to understand an uncommon form of “embodiment without a body”? Can we understand the avatar as an extension of the body, something like a prosthesis? Or should we consider this form and appearance as something completely new, not comparable to anything we are familiar with as actors and performers?

Avatars are a new phenomenon in theatre in two ways. The first concerns the appearance of avatars on the *digital stage*. While the internet has been referred to as a “virtual stage” for quite some time, new technologies make this metaphor more striking than before, allowing players and users to enter the virtual stage in real-time with a virtual body that reacts to the body of the player/user—much like an actor enters the theatre stage. The second concerns the appearance of avatars on the *theatre stage*, including real-time interaction with other characters and the audience. This is a new technical possibility, which creates a considerable change from the common use of video and projection on stages. Meanwhile it is possible to give the avatar the appearance of liveness and presence. An avatar can react to both fellow actors and the audience. In “The Tempest” by the Royal Shakespeare Company,

the character of Ariel appeared as a real-time avatar since 2016.¹ Although the aesthetic possibilities of its use might be limited,² the proof of the possibility of an “acting” avatar has certainly been made.

WHAT IS AN AVATAR? THE TWO-WORD CONCEPT

There is still no phenomenology of the avatar and no theory of perception of avatars, between image and affectation, motion and emotion. Our project entered a new field, where the avatar is seen primarily as a virtual surrogate of persons (Pennig et al. 2012: 59), or where the scientific discussion revolves around criteria of difference between agent and avatar (Bailenson et al. 2005), mimesis (Lanier 2001), or questions of interactivity and acting in virtual worlds (Bente et al. 2001, Slater et al. 2000, Günzel 2012). Further, comparisons were drawn between avatars and tokens, puppets, cartoons or robots, as especially in Klevjer (2006). It is not questioned, however, if a personal or person-like relation *with* or perception *of* avatars is possible at all, how far it reaches, what experiences of alterity anticipate in this relation, or if a basic separation persists between humans and avatars.

We can differentiate between the traditional, hinduistic concept and the modern concept connected to the digital world. Both establish an idea that we refer to as the “Two-World Concept”, which means that there are two separate worlds with a boundary that can be transgressed only through transformation of the phenomenal body.

More specifically this sets up a concept of a “higher” and a “lower” world, thus describing the transgression into the lower world as a “descent,” while crossing the border in the other direction would be an “ascent.” This hierarchy is the only specification of the relationship of the two worlds and has important implications, since the lower world is somehow dependent on the higher world and, when in conflict, the higher world will be given priority. For example, when a computer gamer feels hungry, the immersion into the world of the game will decline, he or she will shift attention to the real³ body and consult the refrigerator in order to eat something.

This leads to a basic analogy to theatre. Just as the player in a computer game is entering the digital world of the game through the avatar, the actor is entering the fictional world of a theatrical play through his or her character. The hierarchy of the worlds might be comparable, both virtual world and fictional world being *created worlds* that depend on the real world.

It is also worth noting that the modern concept of the avatar puts the human being in the place of a deity, creating some confusion of who is in control, as we will elaborate below.

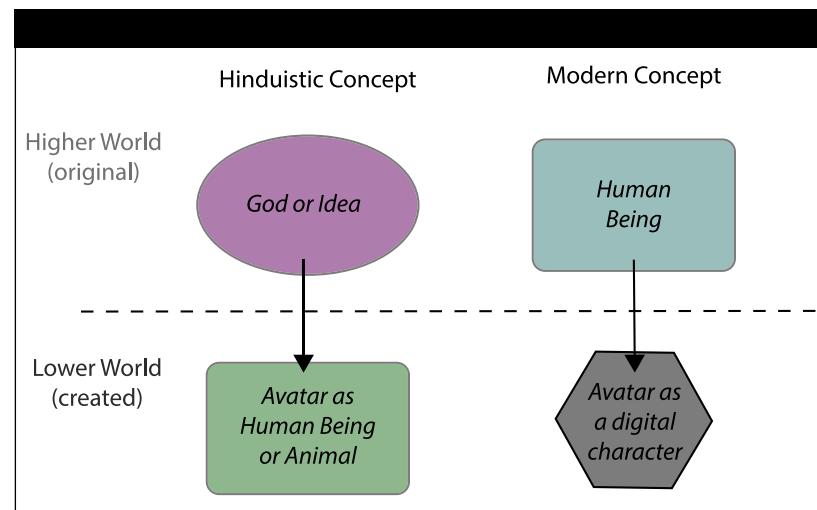


FIG. 1

THE TWO-WORLDS CONCEPT OF AVATARS

¹ <https://www.youtube.com/watch?v=MMLOEXW6s38> (10.12.2016)

² <http://arstechnica.com/the-multiverse/2016/11/tempest-review-real-time-digital-avatar-performance-capture/> (09.12.16)

³ We will be using the word “real” quite a lot in this essay, though being aware that it is dependent on philosophical assumptions that cannot be discussed in this context. In opposition to “virtual” or “fictional”, the term here refers to a world that can be perceived through a multitude of senses, can be supported by intersubjective exchange, is permanent and independent of mental states. As Phillip K. Dick put it: “Reality is that which, when you stop believing in it, doesn’t go away”. https://en.wikiquote.org/wiki/Philip_K._Dick (04.03.2017)

ENVIRONMENTAL VIEW ON THE AVATAR

The two-worlds concept leads to the conclusion that the relationship between player/user and avatar also includes a relationship with the *world* of the avatar. The avatar is not only a puppet sitting on a shelf looking pretty or scary! It is always part of a fictional or virtual environment, and conceptualizing the avatar without this relationship provides only a

limited view. The aim of an avatar is to enable participation in a world that would otherwise not be accessible to the player/user. So the avatar must be seen in the context of the world to which it grants access and the operations that can be performed through the avatar in this world.

As the illustration shows, the relationship gets quite complex when we consider the environmental aspect of the avatar. The way in which an avatar can operate in its virtual world is very important, as the “cursor theory” highlights below. It seems reasonable to distinguish between two processes: (1) a process of

identification with the avatar as a digital object and; (2) the *immersion* into the avatar’s world, story, fiction or game. Though interdependent, these might be seen as two analytically separate processes of avatarization. What we have called “relationship” is, therefore, a varying mixture of identification and immersion.

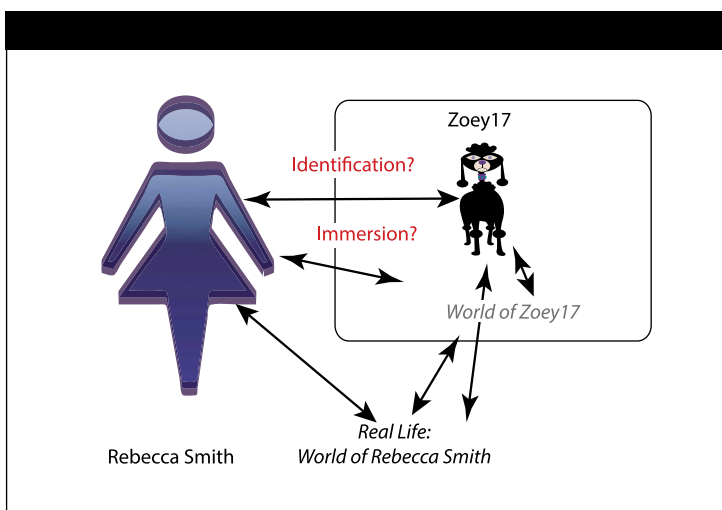


FIG. 2
ENVIRONMENTAL VIEW OF THE AVATAR

In accordance with this idea, the theatre-researcher Ulf Otto speaks of two different functions of the avatar; an operative function and a symbolic function:

An avatar therefore is not a scheme or picture, that overlays the appearance of reality, but it is a deputy in two senses: On the one hand the avatar is an operative deputy, providing impact within the model as a functional element. It gains its appearance while being performed as a figurative practice, that can be described as analogous to the embodiment of a character through an actor—even when the avatar is not so much emerging in the differentiation of actor and audience but in the differentiation between human and machine. On the other hand the avatar appears as a symbolic deputy of this figurative practice through which it is generated.

(Otto 2013, 109. Translation G. Lösel)

So, the processes of identification and immersion rely on the way the player or user bands together with the operative and the symbolic function of the avatar. Otto parallels this process with acting, placing his main focus on the operative aspect. One can conclude that *in virtual and fictional worlds it is not so much what we are, but what we do, that connects us with the avatar*. This establishes the emphasis on the *performative* side of the process: To inhabit an avatar, the player has to *act*. Identification (or whatever one might call it) will arise from these actions, and the operations that a player performs when first controlling the avatar will be crucial for the subsequent relationship. The focus will therefore lie on the first few minutes of the encounter with the avatar, when the player/user discovers how to perform the avatar by trying out all possible operations.

THE STAGE-CHARACTER AS AN AVATAR

In theatre, this process would be called “identification with the character,” where the actor not only reconstructs and re-enacts the actions of the character within the play, but also builds up a spectrum of possible actions and emotions that seem apt for the character, though they are not part of the play. Often this is done through in-character improvisations, confronting the character/actor with unforeseen situations and finding out how he or she would behave in these situations. The actor accesses a state of mind and body that is different from his or her everyday self. This duplication of the actor into a phenomenal body, which is his or her own body, and a fictional body, which is the body of the character, has been at the very heart of acting theories since Denis Diderot’s “On the Paradox of Acting” (1770–73). Some of the intense experiences of theatre and acting can be retraced to this paradox of being “two in one.”

Using this model, one might conceive the character embodied by an actor as an avatar that allows him or her to enter the fictional world of a play (fig. 3):

The actor will transform into the character by *embodying* it and—depending on the acting school he or she comes from—by *identifying* with the character.⁴ In the fictional world he or she will be able to *interact* with other characters, in similar ways to how they would interact in the real world, using voice and body to convey meaning. At the same time, the actor stays in *co-presence* with the other actors and the audience in the real world. Transferring the visualization to the avatar, the relationship looks similar (fig. 4).

The principal difference is that there is *no co-presence in the real world*. The players (or users) will not share the same time, space or focus of attention. Even if they are in the same room at the same time, there will be no real-time interaction between them. When it comes to interaction in cyberspace, the main feature is not co-presence but *participation*, because, as Otto (2013: 99) points out, presence in the computer world is not “just there”, it has to be actively generated by participation. A reader of a chat who does not add a comment, is not present for the other participants, while an audience member in theatre is present even when he or she is similarly passive. This main difference, then, is that interaction in the virtual world is dominated by the *choice* to be present by participating or not to be. This choice leads to another aspect of interacting avatars, the *preference* of interactional partners, which means that we are free to choose.

In the virtual world there is *no embodiment* in the conventional sense because there is no body. Instead, the player/user can choose an appearance that is far beyond biological and

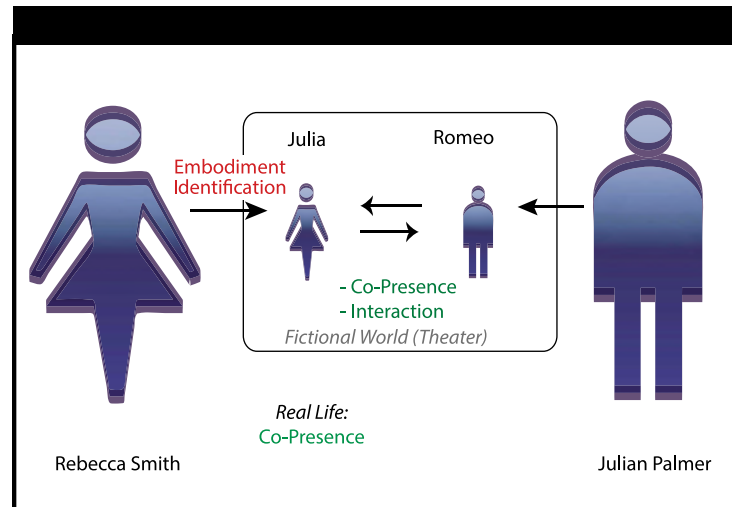


FIG. 3
ROLE PLAYING IN THEATRE
(SOURCE: LÖSEL ON THE BASE OF HORBELT 2001)

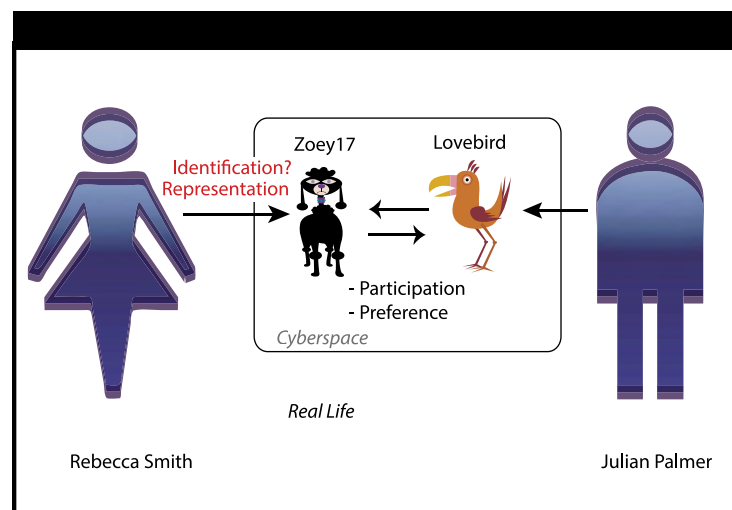


FIG. 4
ROLE PLAYING IN CYBERSPACE

⁴ Of course, postdramatic and modern forms of theater have questioned the concept of identification and character altogether, but these forms are neglected here, because they have no connection to the idea of an avatar.

physical restrictions, which leads to infinite options that are independent of the real body. The relationship between the real body and avatar is very loose. Still there are limits as to what appearances we can relate, as Pindar Saygin points out (Saygin 2012). How human-like does an avatar have to look? How human-like should its behavior be? In any case, there is an aspect of *representation* that defines the relationship between player/user and avatar; *representation* does not necessarily mean *identification*. In most cases—e.g. dating platforms—there is probably no identification. Until now, research has focused on the theme of choice: Which avatar would people choose to have them represented accordingly? Future research should take into account the process of identification. Computer players recount a state of identification with their avatar only after hours of playing, so one can assume that identification comes with operating the avatar.

All in all, encounters through avatars have some similarities to theatre, but the degrees of freedom are much bigger, both in choosing one's own appearance/role and in choosing the interaction. The avatar—like the stage-character—is a form of duplication, but in an externalized form, transgressing the border into another world much more radically than the character stepping into the fictional reality of the play. The avatar is an out-of-body duplication, leaving the body of the player or user behind when entering the other world.

SYMBOLIC VERSUS OPERATIVE DEPUTY

(1) SYMBOLIC FUNCTION

Until recently, most research has focused on the symbolic function of the avatar and the question: Which avatar will best represent me and which one would I choose in order to be recognized by friends? Under this premise, individuals will choose an avatar that is similar to their own appearance but has a degree—20–30%—of “avatarization” towards an average face. People seem to find themselves best represented when the avatar is similar, but not identical. Instead they appreciate their avatar to be around 20% morphed in the direction of an average face, a representation that they evaluate as being objectively very similar to their own face (Blom et al. 2014) (Epley and Whitchurch 2008). Of course, the avatar is quite often not used in order to be recognized, but rather in order to hide in anonymity. This is not a representation of the self in the digital world, but rather a disguise, yet still it can be summarized under a symbolic function.

(2) OPERATIVE FUNCTION

Umberto Eco uses the example of a broomstick that becomes a horse in the frame of play (Eco 1977: 209). Obviously, there must be some physical features that make the broomstick apt for the symbolic function. It has to have something like a “head”, be long, and somehow “hairy” in order to represent a horse. But more importantly, the player must be able to handle the prop in certain “horse like” ways, e.g. sitting on it, moving it around in the room, jumping and so on. The symbolic function has to match the operative function. Similarly one could describe the symbolic function in the terms of J.J. Gibson's “Affordance Theory”: an affordance is the possibility of an action on an object or environment (Gibson 1979).

The operative function thus does not rely solely on the symbolic function but can be independent. A consequent expression of this thought is the “Cursor Theory” that was introduced by James Newman in order to describe the player-character relationship in video games (Newman 2002). He rejects a character-based understanding of the avatar. Identification with the avatar, in Newman's view, has little to do with identifying with the visual features of an avatar, but with the operational function; agency and control are the main

qualities of this relationship. It is not what the avatar looks like that makes it possible for the player to “inhabit” it, but what the player is able to do through the avatar. In theatrical terms, one might speak of a performative relationship. It is only there when acted out; it has no ontological status beyond this. In acting there is no parallel to this kind of relationship because the stage relies on phenomenal bodies. Drawing on the—quite radical—cursor theory, the relationship between player and avatar would not need embodiment at all.

QUESTION AND METHOD

In order to find out more about the operational aspect of the process of inhabiting an avatar, we set up an artistic experiment. The artistic and experimental partial project relates to the concrete picturing model of the comparative situation outlined above. The framing of the relation between actor and avatar, which is still very general, was then further reduced to perception of facial expression. In this way, voice, physical movement, behavior and other bodily actions were excluded from our focus, which therefore relied solely on facial mirroring. The experiment concentrated on “significant” expressions, such as “terror” or “joy”, thus reducing the focus further.

As a result, the specific aesthetic arrangement rested in comparing three groups of experimentees—professional actors, acting students and amateurs—and their mirrored expressions recorded in real time. To do this, we used real-time face tracking software. In the general sense of an “open circuit” of a self-reflexive arrangement, the recorded “avatarised” facial features were technically “alienated” (see pictures). Simultaneously, the “acted” mimic in the performers’ mirroring was recorded in two lines of facial expressions: joy as expressed by a human and expressed by the same person as an avatar. The experiment resembles Nam June

Paiks’ *TV-Buddha* (1974), although now translated into the realm of computer animation and held open by an immediate responsive structure; the actor becomes his own spectator and has to learn how to deal with his alienation. The question within the artistic experimental structure, therefore, lead specifically towards the respective actors/performers, their reactions, possible learning, self-training and conditioning.

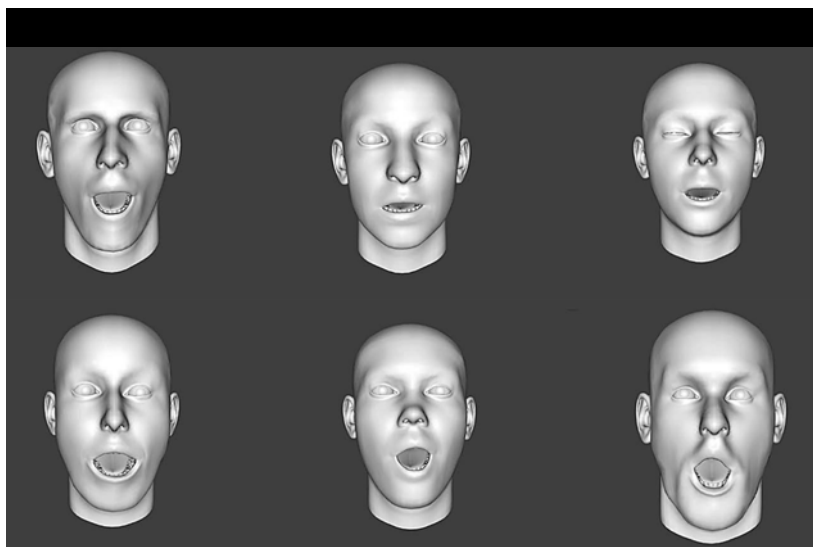


FIG. 5
AVATARIZED FACES OF ACTORS

RESULTS: METAPHORS FOR A NEW RELATIONSHIP

Metaphors are common in the literature on avatars and several of them derive from the field of theatre. The emergence of metaphors can be understood as an attempt to embed a new phenomenon into concepts already known, trying to find images that fit the subjective experience. In what follows we sketch out these metaphors and discuss their connection to acting.

PUPPET

As Otto points out, one of the earliest metaphors in the history of digital agents is the puppet. It is mentioned in 1984 in the context of the computer game “Habitat”:

You were reaching out into this game quite literally through a silver strand. The avatar was the incarnation of a deity, the player, in the online world. We liked the idea of the puppet master controlling his puppet, but instead of using strings, he was using a telephone line. (Otto 2013, 108)

Referring to marionettes, this metaphor has strong resonance in acting theories, where the marionette has been considered as an ideal actor, as in Heinrich von Kleist’s “Über das Marionettentheater” (Kleist 1978, orig. 1810) and Edward Gordon Craig’s concept of the “Übermarionette” (Craig 1911). The main argument for the puppet on stage has been the absence of emotion and egoism, which, in the eyes of Kleist or Craig, ruin human actors’ performances. The avatar might possess the same advantages, conveying more neutrality, innocence and less effort than the original actor. If the puppet can be seen as an adequate metaphor for the avatar, the limitations of expression must be considered an advantage rather than a disadvantage, which means that the more technical progress overcomes these restrictions, the less powerful the avatar will be as an actor. So, as an operational function, the puppet/avatar lives through its deadness, which evokes projections; the puppet has to be clumsy. Otto states that the metaphor of the puppet embraces the idea that the puppet is completely under the control of the player, while the avatar seems to somehow possess the player or user. Hence the avatar is much more powerful than the puppet.

MASK

Another basic theatrical concept that has been applied to avatars is the concept of the mask. Ever since, masks “can both conceal and reveal. They are agents of disguise and of disclosure” (Pitches 2003: 58). This brings up contexts of ritual, trance, and possession as well as concepts of theatre like the Commedia dell’Arte.

Through the mask, a new entity, often thought of as a God, will make its appearance and it can be much more powerful than the wearer of the mask. In acting theory, the mask has also been a metaphor for the process of being inhabited by the character the actor plays. The player gives up his or her personality in order to give control to the mask (Johnstone 1987). So, in this metaphor, the avatar can be thought of as an entity of its own, independent of the player or user. It has its own needs, thoughts and intentions, so it can be encountered like another person. It is an encounter through transformation. Mask and player don’t appear at the same time, but in sequence; when the actor is there, the mask is not and when the mask is there, the actor is not. So, the metaphor also implies a complete identification with the avatar, but one that is limited by time.

PROSTHESIS

Rune Klevjer writes about the avatar in computer games and supports the metaphor of a prosthesis of a prosthesis:

The relationship between the player and the avatar is a prosthetic relationship; through a process of learning and habituation, the avatar becomes an extension of the player’s own body. Via the interface of screen, speakers and controllers, the player incorporates the computer game avatar as second nature, and the avatar disciplines the player’s body. (Klevjer 2006, 10)

The avatar is thus considered an extension of the body, inhabited by the self in similar ways as the rubber hand is inhabited by the self in the famous experiment (Botvinick and Cohen 1998). This experiment also demonstrates that the integration of the rubber hand into the body-scheme is dependent on sensual stimulation—it is not just a cognitive process but can be actively evoked through clever manipulations of the perceptual input. The avatar could thus be conceptualized as a full-body prosthesis. There has been some experimentation, if the results of the rubber hand illusion can be transferred to full-body experiences (Metzinger 2015). This seems possible in principle, but the identification appears less intense. It is not so easy to trick the self into inhabiting a virtual body, so the metaphor of the avatar as prosthesis is not as strong as it seems at first glance. The avatar is able to operate in a fictional or virtual world and is separated from the physical body. Klevjer sees this contradiction within the metaphor:

Which brings us to the final function of the avatar that needs to be pointed out: unlike an instrumental extension (a tool), the avatar does not expose our actual bodies to the environment; it only exposes itself, as a vicarious body.
(Klevjer 2006: 96)

This brings him to the conclusion, that the avatar has a double-nature: An avatar is an extension that is also a model (Klevjer 2006: 94).

MODEL

A model here is understood as a prop that can operate in another world like a fictional or virtual world, for example a toy car, a radio-controlled airplane or a drone. It does not matter if they are manipulated by hand or if they move by electrical engines, the main quality is that they “... are external in relation to us as participants and can be interacted with as autonomous objects. Their fictional significance emerges from this interaction.” (Klevjer 2006: 77). Drawing on Kendall Walton’s theory, Klevjer characterizes the model in fictional worlds as a “dynamic, reflexive prop”. It is independent from the body of the player or user but allows him or her to enter the other world and to operate in this world, while staying safely in his or her own world. The control is usually total; the model has no autonomous life of its own. The typical model in this respect would be a radio-controlled model plane, which enables us to take to the sky even if we are firmly grounded on the earth. (Ibid: 88)

GAME CHARACTER, TOKEN, CURSOR

Game characters can be very abstract, like they are in board games; wooden cubes, beans, or coins will do. Their function is almost not representational at all, but mainly operative; they allow the player to locate him or herself in the world of the game and perform certain operations, but they have no, or almost no, phenomenal body. They can take the form of tokens or, in the digital world, the form of a cursor. The cursor theory stands for the most abstract concept of an avatar. In the experience of the player/user, one would expect no representation at all, only operations.

ROLE/CHARACTER

The avatar might also be conceptualized as a kind of role-play, with the representational aspect being the costume and make-up while the operational aspect would be the ways a character moves and acts within the fictional world. There have definitely been cross-overs between acting and digital characters, as Otto points out: There is a growing community of cosplayers, who strive to embody fictional or virtual heroes like Lara Croft (Otto 2013). Lara Croft also gives an example for a digital character that is later embodied by a real actor

(Angelina Jolie), while the voice always had been of real actresses such as Shelley Blond, Judith Gibbins, Jonell Elliot, Keeley Hawes and Camilla Luddington. There are also a multitude of examples of actors being digitalized through movement-capture and face-capture, giving life to animated characters on the screen.

The main difference is the fact that the body of the avatar is not subject to the laws of physics and biology; it can take shapes that are biologically impossible, it can fly, it can bend, it can transform, it can overcome time and space. Comparable experiments have been conducted by the dancer and choreographer Matt Romein, exploring limits of real-time avatarization when physical laws are no longer valid (Romein 2016).

If the metaphor of role and character does apply to the relationship towards the avatar, further questions arise: How far can one go beyond anthropological constants? When will the identification break? How far can we stretch the laws of physics and biology in order to allow some kind of “mental embodiment” or inhabiting the avatar?

Klevjer refers to a 3-level-model of the avatar by Linderöth (2005). According to this model the avatar manifests itself on three independent levels:

1. A fictive character that you can pretend to be, a role.
2. A piece of equipment, a tool which extends the player's agency in the game activity.
3. A part of the players setting, props which can be used as a part of the players presentation of self.

A similar 3-level-model has been suggested for actors (Schwind 1997), but while in the avatar, the levels can take distinct phenomenal forms; the actor has only one body that will act on all three levels simultaneously.

CUDDLY TOY, SECURITY BLANKET, THUMB

Finally, the avatar can be characterized as a transitional object in the way Donald Winnicott introduced it seventy years ago (Winnicott 1953). This concept is somewhere in the middle between prosthesis and model. The transitional object can be part of the own body (like the thumb) but the same relationship can be transferred to an outside object (like the cuddly toy or the famous security blanket of Linus in the Peanuts Cartoon). The self is projected into an object due to a psychological process in the child's development:

There is a wide variation to be found in a sequence of events which starts with the newborn infant's fist-in-mouth activities, and that leads eventually on to an attachment to a teddy, a doll or soft toy, or to a hard toy. (Winnicott 1953, 91)

Winnicott gives a very precise description of this kind of relationship — and he also suggests that it is only valid in a certain period of human development:

1. *The infant assumes rights over the object, and we agree to this assumption. Nevertheless some abrogation of omnipotence is a feature from the start.*
2. *The object is affectionately cuddled as well as excitedly loved and mutilated.*
3. *It must never change, unless changed by the infant.*
4. *It must survive instinctual loving and also hating, and, if it be a feature, pure aggression.*
5. *Yet it must seem to the infant to give warmth, or to move, or to have texture, or to do something that seems to show it has vitality or reality of its own.*
6. *It comes from without our point of view, but not so from the point of view of the baby. Neither does it come from within; it is not an [sic] hallucination.*

7. *Its fate is to be gradually allowed to be de-cathected, so that in the course of years it becomes not so much forgotten as relegated to limbo.*
(Winnicott 1953: 94)

This also opens up a new aspect of the relationship towards an avatar, highlighting its psychic function. The avatar in this view serves a specific psychological need; it is a prosthesis of the self *for a certain time*, buffering the heavy emotions that occur in the separation from an important person (the mother). This emotional aspect might explain some of the aggression that is conveyed through avatars. It can also explain why teenagers identify with avatars so much, as well as why avatars somehow “wear out” and get boring when they have fulfilled their purpose.

PETS, COCKERELS AND TOTEM ANIMALS

The last metaphor for the relationship towards an avatar puts much more emphasis on the autonomous life of the avatar. When conceived as a pet, the avatar has an intense emotional connection to the original, it is almost a part of the self, but has its own needs, rights and intentions. It may be tamed, but only to a certain extent. Some avatars simulate this kind of relationship, like the Tamagotchi-toy that was introduced in 1996, the characters of SIMS, that can express recurring needs and intentions, or digital dating simulations like “Date Ariane” (Barnes), that demand attention and courtesy from the player/user/dater. The avatar as a half-autonomous being is captured by the metaphor of animals.

Otto references Clifford Geertz’s description of the Balinese cockfight as a form of play, in which the men can take part through their cockerels (Geertz 2005). A very special relationship evolves, the men carry their personal bird around, cuddle it, feed it, boast about it and talk about it a great deal. The cockerel becomes a half-autonomous external deputy of the (male) self. In another context, the metaphor of the avatar as a personal animal also might include the idea of a totem animal, which is a personal agent in another world—popularized again in the idea of a “patronus” in the fictional world of Harry Potter.

The metaphor of the pet would indicate some autonomy in the avatar—but not really enough to consider it an encounter with the “other”. Does a pet-keeper encounter an outer entity when relating to his or her pet? Or is he or she just projecting emotions, needs and intentions into a living object? The pet can be thought of as externalized part of the self that is kept in some kind of dependency and leading a sheltered life within the wider life of the keeper. The metaphor, as with other metaphors above, hints that the avatar is both inside and outside of the self. It is this double nature which makes it so hard to grasp. In our experiment, we provided metaphors for the participants, discussed them and added new ones to get an expert insight into this new relationship.

Which of the listed metaphors now characterize the new relationship between actors and avatars best? Our preliminary results are based on the observation of actors in interaction with their avatars and our own experiences while acting through an avatar.

1. OPERATIVE DEPUTIES:

The outer appearance of the avatar seems less important than the operations we can perform with it. No matter which avatar the actors chose and even how similar the avatar was to their everyday self, the main relationship developed through performing certain operations. This accounts to movements of the head, turning the head, nodding and opening the mouth, but even more to performing emotional expressions. Actors were very precise in noting the

avatars expressional possibilities and limitations, unsurprisingly, and the buildup of a relationship evolved through testing out these possibilities and the restrictions. Indeed, none of the used avatars could really satisfy the needs for subtle expression of our test-actors. So, while expressive operations seemed to be crucial for the actor-avatar relationship, it was also extremely sensitive to disturbances. Even small restrictions in emotional expression led to a rather big disappointment and disconnectedness. On the other hand, new emotional qualities were discovered through avatars, especially when they had an appearance as animals. This seemed to be highly inspirational for the actors and they immediately started to play and discover new means of expression. This led to an extension of interaction-time between actor and avatar. The simple measurement of time spent in play with a certain avatar probably could serve as a valid measure for the quality of the relationship between actor and avatar. It seems to correspond with the emotional operations that can be performed through the avatar, which supports the hypothesis of the avatar being an operational deputy more than a symbolic deputy.

2. CONTINUOUS FEEDBACK:

The actor-avatar relationship is based on a continuous stream of operations performed by the actor and it ceases to exist as soon as the actor has no sensual feedback of the operations. The avatar is not a stable representation of the actor or a role the actor might play, as would be a puppet or a mask, instead it relies on permanent feedback-loops. In our setting the actors needed a real-time visual feedback of the avatar, provided by a monitor where they could see not only the avatar but every operation of the avatar. The relationship, we conclude, is fragile and depends on sensual feedback-loops. A third person view of the avatar—similar to looking into a mirror—seems to be a good setting for this, a first-person view is less effective. The identification with the avatar immediately fades, when this feedback is not provided. This result again supports the operational function of the deputy.

3. PROSTHESIS:

The avatar is a way to operate and gain impact, just like a prosthesis and it becomes part of an enhanced self of the actor, which makes the metaphor of the prosthesis most apt for this relationship. Still the metaphor of the prosthesis is too weak as the avatar is not only performing operations that are in the scope of the actor's bodily self (like a leg or an arm), it does not replace a function that already exists, but opens up new possibilities that are beyond human expressions. The actor-avatar relationship is most attractive in operations which the actor could not perform in their natural human body. Seen in this light the avatar becomes an extension of the self like a prosthesis but detached from the physical body while still connected to the body self.

This kind of relationship is new, so words are difficult to find. The term we are looking for will be somewhere between prosthesis and game character/token/cursor, leaving the signified object very free in its appearance but instead describing its operational possibilities. Accordingly on a practical and artistic level, processes of operating the avatar and thus possessing it or being possessed by it get into the focus. They can create an experience beyond biological limitations of our species and beyond the laws of physics.

POSTSCRIPTUM: POSSESSING AN AVATAR. OR BEING POSSESSED?

While the representational function of an avatar seems to indicate that we can possess the avatar in the way we possess a car or a dog, the operative—or performative—function implies bilateral influences. The operations we perform as an avatar—as operations we do in play—can affect the self; they reveal hidden parts of the self, disinhibit unconscious aspects and let them take control for a while. It is this revealing aspect of the avatar that makes it conceivable that the avatar can lead to *new* experiences, where the real self does not have access to, and thus change the player/user. So, the avatar is not only an instrument to mask ourselves but also to show ourselves in a way that we would not dare to “publish” ourselves and create experiences that are beyond our usual scope of experiences. In some respects, one can say that the avatar takes control of the player/user, possessing them as something that is much bigger than the individual’s conscious mind.

As the operative function relies on the operations of the avatar within its world, story, fiction or game, in a computer game these options are highly determined:

Because the rules need to be implemented by a computer, they need to be expressed in terms of an abstract, formal system. The central difference between games and computer games is that in the case of computer games, instructions are not instructions to the player directly but instructions to the computer. Consequently, the player cannot break the rules unless the computer can be manipulated or otherwise made to cooperate. This also means that the player cannot relate directly to the instructions without somehow sharing the point of view of the computer. (Klevjer 2006: 56)

Hence, the operative function of an avatar is different from an actor handling a prop because it is always predetermined by the omnipotent machine, leading to an identification with the machine as much as with the avatar. In the encounter of a player/user/actor with the avatar, *control* seems to be the prime parameter. The first gestures an individual undertakes when confronted with an avatar are usually gestures that show that the player has control and allow him/her to find out the degree of this control—shaking the head, moving the lips, grimacing, etc.—one might call them *gestures of possession*. Next the original usually builds up a relationship by showing emotions—smiling. Or even kissing the avatar—just as they would in a real encounter. Many of these gestures could also happen while looking into a mirror; in order to build up a relationship with the avatar.

Otto indicates that the control a player appears to have over an avatar might be illusory, because the possession might very well work in both directions. While the avatar makes the player feel potent, like a God, “... and makes him believe to control the machine, we might also ask, if in reality it is the machine that takes possession of the player.” (Otto 2013: 115-116). In other words, the player/user will be changed by relating to the avatar; the relationship is not one-way. Otto stresses this backlash on the player/user and also suggests the idea of possession as a metaphor for the influence of the avatar on the player/user, drawing on anthropological research:

In the same way as a mask-dancer the player is also a tool for the avatar and will be rewarded by a temporary sublimeness. So if the relationship between player and avatar can be understood through ritual contexts like the cock-fight, then maybe the practice of this play could be understood as a process of possession. (Otto 2013: 182)

This leads to acting theories of ritual, liminal experiences and possession, often associated with mask theatre. Looking at the avatar as something the player seems to possess, while he or she really is possessed by the avatar, is a strange way of thinking, but it accords with experiences and theories of acting. The role—even when spelled out in detail as in scripted theatre—seems to enable the actor to create experiences beyond their personal scope through inhabiting a character in a fictional world. The new relationship to the avatar is mediated by the machine/the computer and the discussion above shows that one of the main features to be explored is the feature of control: Who is in control and who is possessed?

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