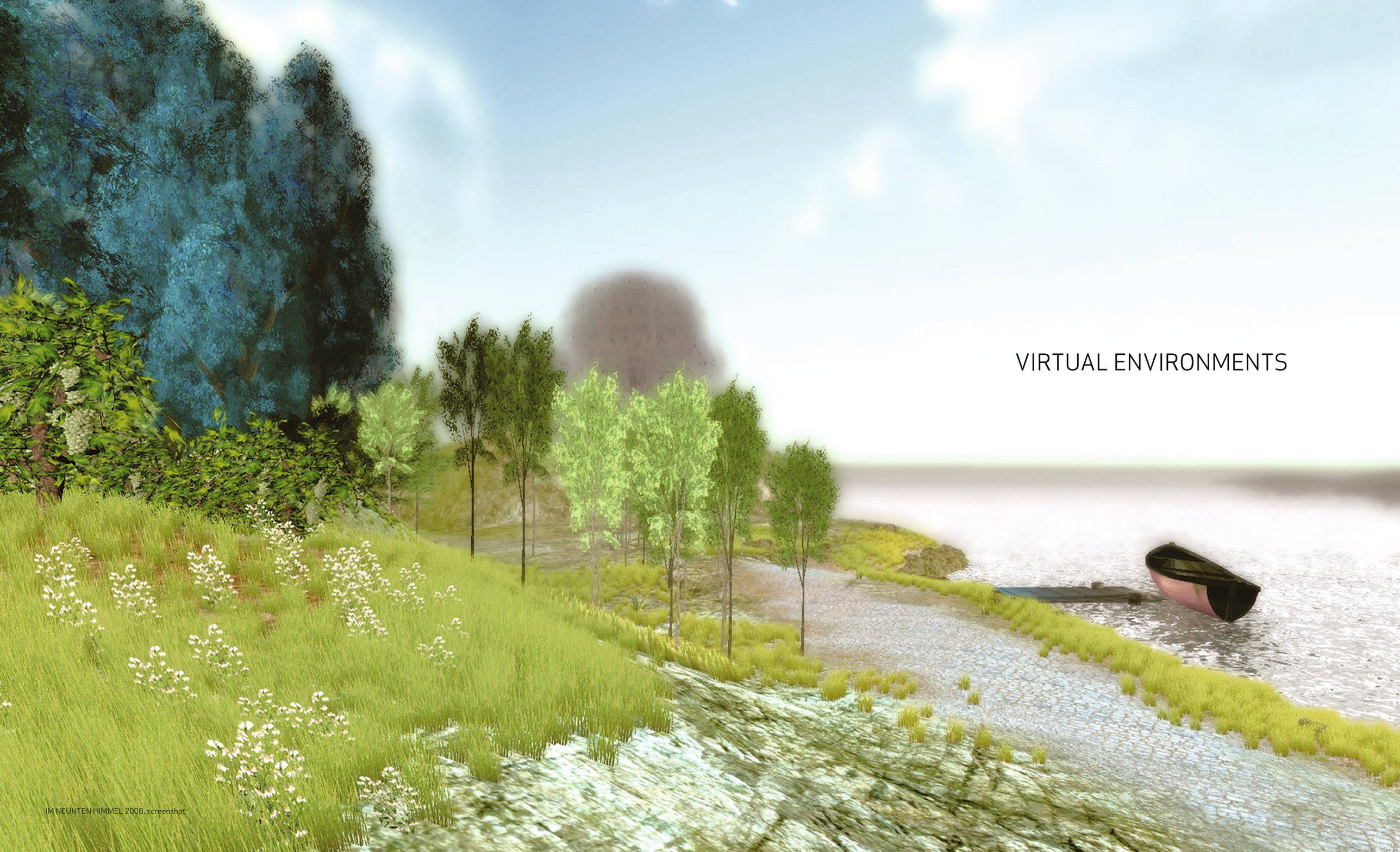


VIRTUAL ENVIRONMENTS

IM NEUNTEN HIMMEL 2008, screenshot

IM NEUNTEN HIMMEL

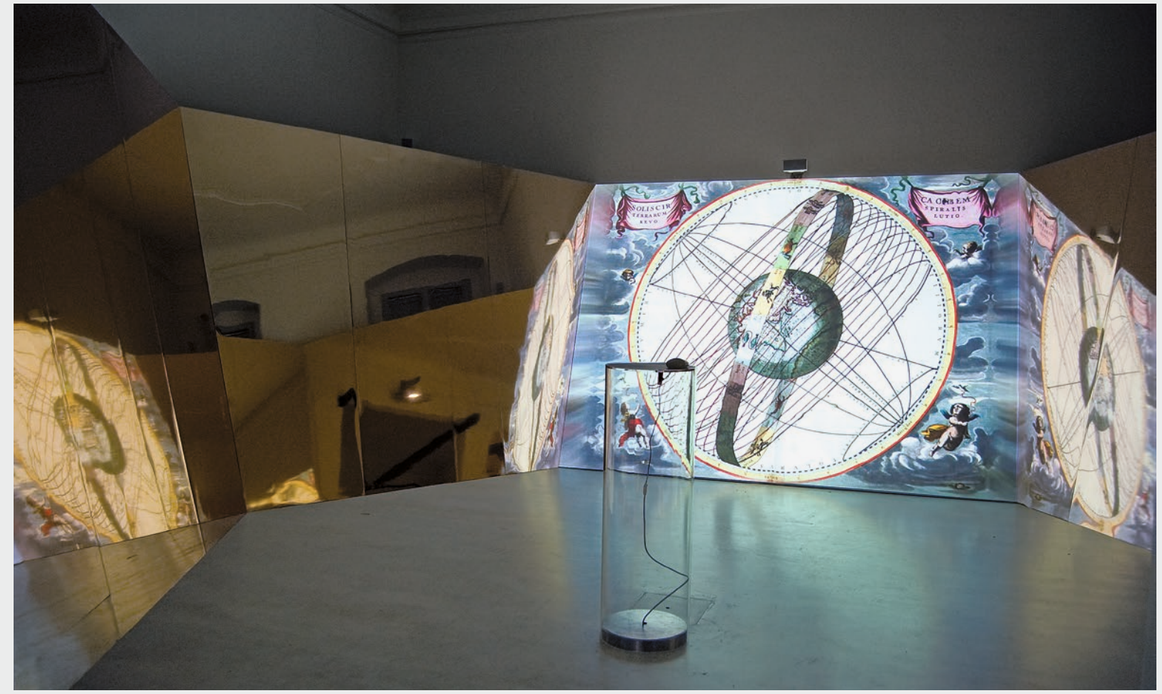
oder das andere Ende Europas

Durch eine einzigartige Entscheidung des Schicksals, wie ich glaube, ist es dazu gekommen, dass die höchste Kultur und die höchste technische Zivilisation der Menschheit heute gleichsam gesammelt sind an zwei äußersten Enden unseres Kontinents, in Europa und in China, das gleichsam wie ein Europa des Ostens das entgegengesetzte Ende der Erde ziert.

– Gottfried Wilhelm Leibniz,
Novissima Sinica. Das Neueste von China, 1697/1699

Im Neunten Himmel entführt auf eine virtuelle Reise durch das frühe europäische Barock und die späte Ming-/frühe Qing-Zeit in China. Die Besucherinnen bewegen sich durch eine hypermediale Welt, deren Architektur und Klangraum nicht statisch, sondern in Bewegung sind. Der Medienkörper umfängt die Besucher wie eine dritte Haut und lässt sie partizipativ als Performer von Bild-, Klang- und Erfahrungswelten ihren eigenen virtuellen Reflexionsraum erschaffen, der Fragen zu Zentrum und Peripherie, kultureller Einbindung bzw. Ausgrenzung und dem Menschen als Subjekt zwischen Identität, Konformität und Wandel aufwirft.

Im Mittelpunkt steht die Lebensgeschichte des aus Krems/Stein stammenden Jesuiten Andreas Koffler, der als Missionar am Hof des letzten Ming-Kaisers wirkte. Koffler gehörte zu jenen gelehrten Jesuiten, die das Europa der Gegenreformation verließen und einen vielfältigen Dialog mit China initiierten. Diese kurze Epoche ging bald nach der berühmten Schrift von Gottfried Wilhelm Leibniz zu Ende, in der er den offenen kulturellen und wissenschaftlichen Austausch zwischen beiden Welten euphorisch befürwortete. Wechselseitige Inspiration und ein Lebensgefühl im Spannungsfeld von Religion, Wissenschaft und Philosophie bereicherten Kunst, Wissen und Weltsicht beider Kulturen nachhaltig und stehen noch heute exemplarisch für einen respektvollen Dialog zwischen Kulturen.



Raumansichten und Standbilder
Im Neunten Himmel basiert auf einem 3D-Echtzeitsystem, das in eine speziell konzipierte Rauminstallation eingebunden ist. Ein von Dieter Buchhart kuratiertes Projekt für das Museum Stein, Krems/Stein AT, 2008-09.

Credits:
Gerald Nestler: Ko-Autor, Konzept, Recherche, Texte.
Szely: Klangraum.
Doron Goldfarb: Programmierung.
Josef Wienerroither: zusätzliche 3D-Objekte.
Eduard Wildner, Frederic Lion: Stimmen.

IN NINTH HEAVEN

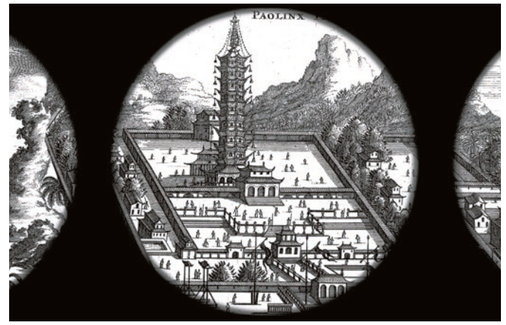
Or The Far End of Europe

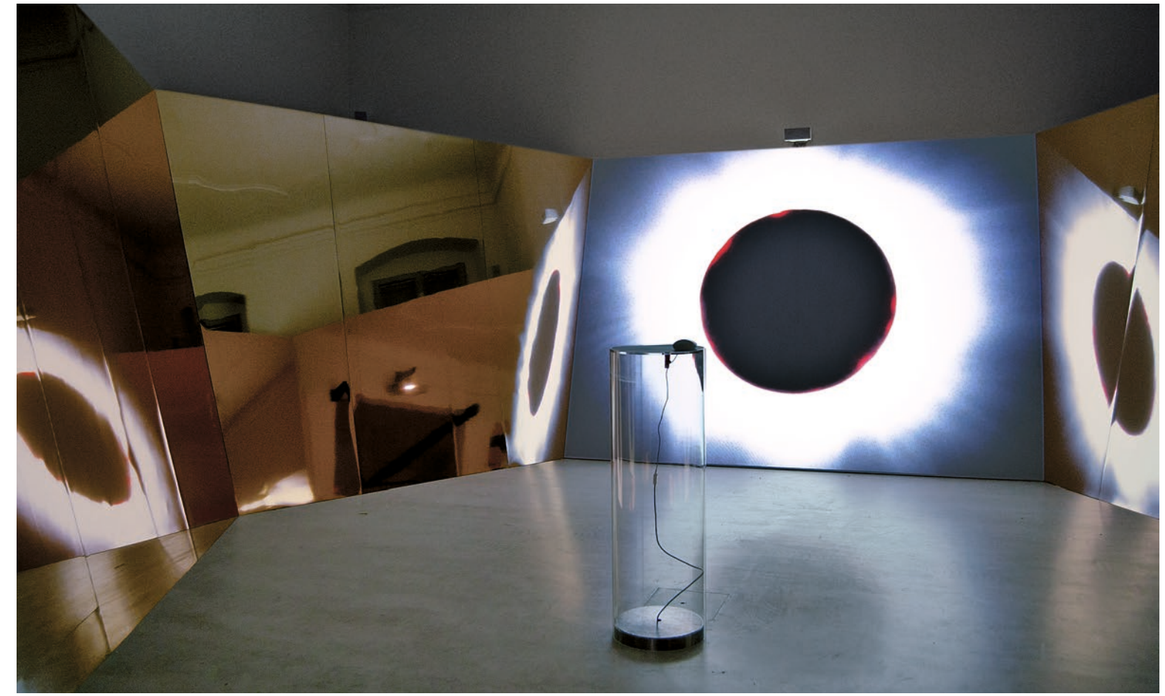
I consider it a singular plan of the fates that human cultivation and refinement should today be concentrated, as it were, in the two extremes of our continent, in Europe and in Tschina (as they call it), which adorns the Orient as Europe does the opposite edge of the earth. Perhaps Supreme Providence has ordained such an arrangement, so that as the most cultivated and distant peoples stretch out their arms to each other.

–Gottfried Wilhelm Leibniz,
Foreword to the Novissima Sinica, 1697/1699

In Ninth Heaven invites the visitors on a journey through the early European Baroque and late Chinese Ming/early Qing eras. Time, space, and gravity dissolve in an immersive experience in which vestiges of the past open onto a timeless horizon of cultural exchange. The audience experiences a virtual world that reflects (on) issues of identity, conformity, and transition, thus encouraging to question the notions of center and periphery, the familiar, and the unfamiliar, cultural exclusion and integration. Enclosed by the media body as if it were a third skin, the users/visitors explore an imaginary world based on historic facts by performatively creating their own audio-visual avenues into the narrative space.

In Ninth Heaven revolves around the life of Andreas Koffler, an early 17th-century missionary born in the Austrian dual city of Krems/Stein, who became a member of the last Ming emperor's court. Koffler was one of a small group of explorative and erudite Jesuits who left behind the European Counter Reformation and established a multi-faceted period of enlightened dialogue between China and Europe. This brief historical episode came to a sudden end shortly after Leibniz' emphatic advocacy of this mutual cultural and scientific exchange. The dialogue that unfolded between the Jesuits of the China mission and Chinese scholars and statesmen, however, inspired both civilizations and had a lasting effect on their arts, sciences and world views.





installation views and image stills
In Ninth Heaven is based on a 3D real-time display system integrated in a specially designed architecture.
Curated by Dieter Buchhart for Museum Stein, Krems/Stein, AT, 2008-09.

Credits:
Gerald Nestler: co-author, conception, artistic research, text.
Szely: spatial acoustics.
Doron Goldfarb: programming.
Josef Wienerroither: additional 3D-objects.
Eduard Wildner, Frederic Lion: voiceover.

SPIEGELZELLEN
MIRROR CELLS

Immersives Environment. Akusmatisch-visuelle 3D-Welt, ins Unendliche gespiegelt.

Accessible immersive environment.
Infinitely mirrored acousmatic-visual 3D-world.

„Acting in Utopia“, Landesgalerie Linz, 2007

A feature-project of ars electronica

Anna Karina Hofbauer

SYLVIA ECKERMANNS AUDIO-VISUELLE RAUMINSTALLATION *SPIEGELZELLEN*

Ein Erkunden und eine Zusammenarbeit der Betrachterinnen im Game Mod

Mitte der 1950er-Jahre stellte sich radikal die Frage, was der Stellenwert des Kunstwerkes sei. Die aktive Teilnahme des Publikums schien dabei die Gegenbewegung zur bisherigen Konstellation „Künstler-Werk-Betrachter" darzustellen, weshalb die historische Avantgarde im Sinne von Peter Bürger[1] als eine maßgebende Grundlage für die zunehmende aktive und ausführende Rolle der Rezipientinnen in einer haptisch erfahrbaren Installation gesehen werden kann. So kann sich die Betrachterin als Vollenderin des Kunstwerkes sehen, da ihre Handlung einen ausschlaggebenden Effekt hat, indem sie das Werk zu einer Art Vollendung, Abschluss oder Vollkommenheit (wenn man so will) bringt. Der Rezipient wurde verstärkt involviert und seine Partizipation sollte und soll heute noch dem Betrachter eine fundamentale Rolle im Kunstwerk geben.

Diese Bewegung, so man die partizipatorische Kunst oder auch die interaktive Medienkunst kategorisieren möchte, hat ihren ideologischen Anfang an jenem Punkt genommen, an dem die Künstlerin die Entscheidung trifft, sich vom modernistischen Verständnis des alleinstehenden Werkes zu verabschieden. Das Objekt funktioniert eben nur bedingt als Objekt, es braucht und fordert einen aktiven Partizipanten, um verstanden und dementsprechend verändert zu werden. Man könnte behaupten, das Werk existiert noch nicht zu hundert Prozent, denn es ist von der Betrachterin abhängig, um ganz (fertig) gestaltet zu werden. Das Werk hat sich in gewisser Weise von seinem „Egoismus" befreit, und es generiert mit seiner Verwandlung ein starkes Objekt, im Sinne der vielfältigen Bedeutungen, die zusätzlich zu den schon vorhandenen dazukommen und von den Partizipantinnen erzeugt werden.

So auch im Falle von Sylvia Eckermanns Bild-, Klang- und Rauminstallation *Spiegelzellen* von 2007, die in Zusammenarbeit mit Szely (Klang) und Doron Goldfarb (Programmierung) entstand und rein computergesteuerte Rhizom-Strukturen zeigt. Eckermann hatte sich zuvor schon jahrelang konsequent mit Multi-User-Applikationen und der Schnittstelle zwischen virtuellem und haptisch erfahrbarem Raum auseinandergesetzt. Seit 1989 beschäftigte sich Eckermann mit der elektronischen Kunst und kreierte komplexe Multimediawelten, in denen sie auf unterschiedlichste Art und Weise den Betrachter sowohl in der Realität als auch im Virtual Space agieren und experimentieren ließ. Die audio-visuellen Rauminstallationen lassen, laut Eckermann, die Betrachter zu Akteuren werden.

Eigens für die Ausstellung „Acting in Utopia", die in der Landesgalerie Linz 2007 gezeigt wurde, entwickelten Eckermann, Szely und Goldfarb eine Welt, einen architektonischen akusmatischen Raum, der die Betrachterin mittels seiner Spiegelplatten ins Ungewisse verführte. Der Raum lud die Museumsbesucherinnen zu „[…] einem Spiel der gespiegelten Unendlichkeit […]"[2] ein, in dem sie aktiv mit der Maus im Klang- und Bildenvironment durch die virtuelle Welt reisen konnten. Das Projekt basiert auf dem Phänomen der Spiegelneuronen oder Spiegelzellen, welche 1991 von Neurophysiologen um Giacomo

1 Siehe: Peter Bürger, *Theorie der Avantgarde*, Frankfurt am Main 1974.
2 Dieter Buchhart 2007, unveröffentlichtes Material.

SPIEGELZELLEN | MIRROR CELLS, 2007
installation view

Rizzolatti bei Experimenten an der Universität Parma entdeckt wurden, und setzt sich intensiv damit auseinander. Spiegelneuronen lösen im Gehirn bei der Beobachtung einer Handlung eines Gegenübers dieselben Potenziale aus, als würde man diese Handlung selbst ausführen.[3] Die Rezipientinnen des Kunstwerks haben in diesem besonderen „Organismus" eine große Herausforderung zu bewältigen. Es wird ihnen die Möglichkeit gewährt, potenziell im Environment die digitale Arbeit in Gang zu setzen, diese zu steuern und auch gegebenenfalls zu manipulieren. Die „Spiegel"-Struktur an sich fordert, um letztendlich zu funktionieren, dass die Spieler im Game Mod miteinander kommunizieren, um dabei höchst unterschiedliche Variablen des Environments in Bezug auf Form, Klang und Dynamik der klangarchitektonischen Struktur zu schaffen. Im Konzepttext beschreibt Eckermann das Spiel der Akteure in der interaktiven Medieninstallation *Spiegelzellen*: „Ich, mein in die Unendlichkeit gespiegeltes Ich, mein akusmatisches Ich, das Ich, das den elektronischen Raum erkunden kann, also mein simuliertes Ich, erzeugt Bilder, Farben und Klänge – das Wir, das Miteinander erzeugt Räume und Harmonien, architektonische Gebilde und Kompositionen. Die Zeit wird alles Geschaffene wieder auflösen, damit etwas Neues entstehen kann."[4] Die Künstlerin markiert das Temporäre der Interaktion und verbindet diese mit einem virtuell eingerichteten Wissensraum. Gleichzeitig wird auch der Prozess, der Weg zu dieser virtuellen

3 Ebd.
4 Sylvia Eckermann 2007, passim.

Welt, als ein produktiver und kreativer aufgezeigt. Die Kreativität der Betrachterinnen erscheint in „[…] der Wahrnehmung der eigenen Perzeption und der Kommunikation mit sich selbst und Dritten als Spiegelbild jener erst kürzlich entdeckten Spiegelzellen, welche vermutlich eine überzeugende Erklärung für Empathie, Lernen, der Entwicklung von Sprache und Kultur anbieten können und somit grundlegend für das menschliche Sozialverhalten verantwortlich scheinen.“[5]

Die sozialen Verknüpfungen im Werk ergeben sich zugleich durch die Offenheit der physischen Konstruktion und durch das Zusammensitzen am Boden in der Installation. Das Erfahren und das Wahrnehmen beinhalten auch einen physischen Aspekt. Die Ausführungen und die jeweiligen Handlungen in der Installation werden Maurice Merleau-Ponty zufolge wahrlich im Körper des Betrachters erfahren. So untersucht Merleau-Ponty dessen Platzierung und die Bedeutung seines Leibes im Raum. Dabei können die Bewegung und die Perzeption des Körpers im Raum in einem phänomenologischen Licht gesehen und analysiert werden.

Die Welt wird durch den Körper erlebt und erfahren, und dieser wird als „des Subjekts unmittelbares Objekt“ verstanden.[6] Die Wahrnehmung und die Anschauung von Objekten gehen zuerst durch den Körper, bevor wir sie bewusst wahrnehmen. Die Voraussetzung für dieses peripatetische Erlebnis[7], welches die Betrachterin hat, wenn sie sich in diese Räume hineinbewegt, hat naturgemäß einen körperlichen Charakter. Bevor die Betrachterin den Raum peripatetisch erfährt, wird sie den Raum mit ihren Sinnen erkunden. Merleau-Ponty zufolge verlaufen sämtliche Zugänge zur Welt durch die Sinne. Das Wahrnehmen ist dementsprechend grundlegend für unsere Eigenschaft des Bewegens und für unsere Orientierung in einer Welt, die voll von Sinneseindrücken wie Geräuschen, Gerüchen, haptischen Formen und visuellen Aspekten im Sinne von Farben ist.[8]

So gesehen, ist das Potenzial des Spielers groß, und die Aktionen, die vom Einzelnen gesetzt werden können, ermöglichen Merleau-Ponty zufolge eine Öffnung zur Welt. In *Spiegelzellen* kann diese neue Welt als der virtuelle Raum verstanden werden, der neue Möglichkeiten der Erfahrungen zulässt. Der physische Aspekt wird von einer kommunikativen und sozialen Ebene bereichert, die wiederum eine neue Perspektive für die Betrachterinnen eröffnet.

Diese Möglichkeiten werden von den anderen Mitspielerinnen verfolgt, und es ergibt sich ein Miteinander anstatt eines Gegeneinander, wie es ja so oft in der digitalen Welt angestrebt scheint. Eckermann, Szely und Goldfarb integrierten ein weiteres partizipatives Element in *Spiegelzellen* und luden die Besucherinnen ein, eine SMS an sie zu schicken, die dann in die 3D-Welt integriert wurde. Auf diese Art und Weise schufen die Künstlerin und ihre Partner ein weiteres Kommunikationstool zwischen der echten Welt und der Spiegelwelt.

Das Agieren in der virtuellen Welt und die Kommunikation können als Teil eines Prozesses, der im konstanten Fluss ist, gesehen werden. Die Kommunikation und das Kreieren an sich werden dadurch selbst zum Kunstwerk erhoben.

Das Kommunikative als (Kunst-)Objekt bezeichnet jedoch eine andere formale Ebene, da die Kommunikation physisch nicht greifbar ist. Auch in diesem Fall kann man von einer Erweiterung des Kunstwerkes sprechen, da die Partizipation und daher die Rolle des Betrachters in *Spiegelzellen* als eine zweite Ebene zu definieren ist, auf der ein neues Werk produziert wurde, das jedoch nicht als reales, greifbares Objekt fassbar ist.

Es muss betont werden, dass das traditionelle Kunstwerk und der Akt des Betrachtens – sei es auf einer physischen oder auf einer kommunikativen Ebene – zusammengehören und als Symbiose aufeinander

5 Ebd.
6 Ole Fogh Kirkeby, „Introduktion“, in: Merleau-Ponty, *Kroppens fænomenologi*, Frederiksberg 2000, S. XI.
7 Es wird von einer peripatetischen Beobachtung in Verbindung mit dem Verstehen und Registrieren der Ganzheit einer räumlichen Struktur gesprochen, wenn diese von einer Betrachterin durchschritten und erlebt wird. Vgl. Ernst-Gerhard Güse, Richard Serra, Stuttgart 1987, S. 45.
8 Vgl. Arne Grøn, „Merleau-Ponty: Sansning og verden“, in: Paul Lübcke (Red.), Vor tids filosofi. Engagement og forståelse, København 1996, S. 332.

SPIEGELZELLEN | MIRROR CELLS, 2007
installation view

angewiesen sind. Im Sinne von Eckermanns *Spiegelzellen* geschieht dies zwischen der Installation, den Akteuren, der Kommunikation und dem kreativen Agieren in der digitalen Welt. Gemeinsam kreieren sie eine neue Ebene und ein weiteres Objekt, das als transformiertes und erweitertes Objekt oder – präziser – als ein Objekt-Objekt bezeichnet werden könnte. Es ist nicht wie bei Peter Weibel ein offenes Handlungsfeld[9], sondern es ist die nächste Ebene, die ein nicht zur Gänze fassbares Objekt aufgreift.

Das Resultat des partizipatorischen Kunstwerkes könnte man somit mit dem Begriff *Kunstwerk2*[10] bezeichnen, da die Handlung der Partizipantinnen ausschlaggebend ist – sie ist eine performative und operationale Aktivität, die das Werk und dessen Resultat mitgestaltet und gleichzeitig widerspiegelt. So bleiben den aktiven Betrachterinnen sowohl die Kommunikation als auch ihre Überlegungen und Reflexionen, die sich mittels der aktiven Prozesse entwickelt haben.

9 Siehe Peter Weibel, „Kunst als offenes Handlungsfeld“, in: Peter Weibel, Offene Handlungsfelder, Köln 1999.
10 Siehe hierzu Anna Karina Hofbauer, Die Öffnung und die Erweiterung des Kunstbegriffs durch partizipative und interaktive Werke vor dem Hintergrund und der Analyse der physischen Beteiligung des Betrachters/der Betrachterin von der historischen Avantgarde bis zur zeitgenössischen Kunst, Diss. Kunstuniversität Linz 2013, S. 292–302.

Anna Karina Hofbauer

SYLVIA ECKERMANN'S AUDIO-VISUAL INSTALLATION *MIRROR CELLS*:

The Exploration and Collaboration of Viewers in a Game Mod

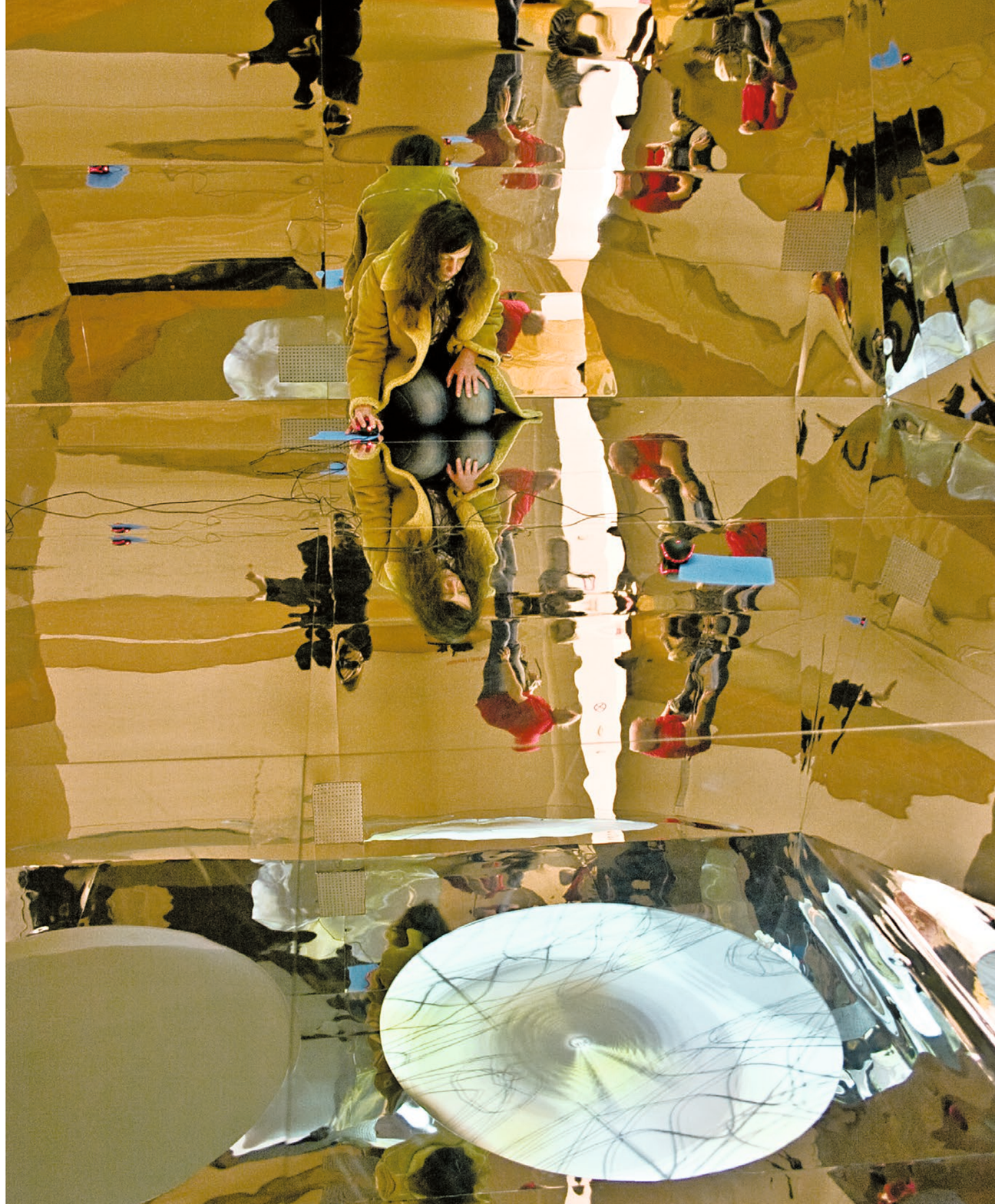
The question of an artwork's relative importance was first radically posed in the mid 1950s. And since the issue of actively involving the audience seemed to become the counter movement to the hitherto "artist-work-viewer" constellation, the historical avant-garde—in the sense of Peter Bürger[1]—can be seen as the essential starting point for the increasingly more active and performing role of the recipient in a haptically accessible installation. In it, it is the viewer who applies the finishing touches to a work of art, and by bringing it to some sort of completion, conclusion or (if you like) perfection, his or her activity has a decisive effect. The recipients' involvement was strengthened while their participation was and still is supposed to grant the viewer a fundamental role in the work of art.

Ideologically speaking, this movement, if we were to categorize participatory art or even interactive media art, begins when the artist decides to take leave of a modernistic understanding of a work's self-sufficient status. The object functions only partially as object; in order to be understood and then changed accordingly, it needs and calls for an active participant. One could say the work does not yet exist one hundred percent because it still depends on the viewer in order to be (effectively) finished. The artwork has to some extent liberated itself from its "egotism" and by being transformed it generates a strong object in terms of the various meanings generated by the participants and added to the already existing ones.

This also applies to Sylvia Eckermann's *Spiegelzellen* (*Mirror Cells*, 2007), a sound, image, and room installation of computer controlled rhizome structures she created in collaboration with Szely and Doron Goldfarb. Sylvia Eckermann's work with multi-user applications and the interface between virtual and haptically accessible space goes back to 1989 when she first started exploring electronic art and created complex multi-media worlds involving the viewers in a number of ways and enabling them to act and experiment both in reality and in virtual space. In the words of Sylvia Eckermann, the audio-visual room installations allow the viewers to become actors.

For the exhibition "Acting in Utopia" at Landesgalerie Linz in 2007, Eckermann, Szely (sound) and Goldfarb (programming) developed an architectural acousmatic space, a world of reflective mirror plates which tempted the viewers to be led into the unknown. Visitors to the museum were invited to play "a game of reflected infinity"[2] in which with the help of a mouse they could pass through the sound and image environment and thus actively travel the virtual world. The project is based on the phenomenon of mirror neurons or mirror cells discovered in 1991 by Giacomo Rizzolatti and a group of neurophysiologists at the University of Parma. In the process of observing someone else's activities, these mirror neurons trigger in the brain of the observer exactly the same potentials as if they were carrying out the activities themselves.[3] In the particular "organism" of *Spiegelzellen*, recipients of the work are faced with quite a challenge. They

1 See Peter Bürger, *Theorie der Avantgarde* (Frankfurt am Main, 1974).
2 Dieter Buchhart 2007, unpublished material.
3 Ibid.



MIRROR CELLS, 2007
installation view

are given the opportunity to potentially initiate the digital work within the environment, control it and also manipulate it where appropriate. For the "mirror" structure as such to ultimately function, the players have to communicate in the game mod in order to create the environment's highly different variables in terms of form, sound and the dynamics of the sound architectural structure. In her text about *Spiegelzellen* and the game played by the participants in the interactive media installation, Sylvia Eckermann gives the following description: "I, my ego mirrored into infinity, my acousmatic ego, the ego which can explore the electronic space, i.e., my simulated ego, creates images, colors and sounds—the we, the collective, creates rooms and harmonies, architectural shapes and compositions. Time will eventually disintegrate everything thereby making room for something new to emerge."[4] The artist points out the temporary nature of the interaction and links it to a virtual knowledge space set up by the artists. The process, i.e., the path to this virtual world, is also revealed as productive and creative one. The viewers' creativity emerges in "the perception of one's own cognition and the communication with oneself and others as a mirror image of those recently discovered mirror cells that presumably offer a convincing explanation of concepts such as empathy, learning, the development of language and culture and as such seem to be fundamentally responsible for human social behavior."[5]

The social correlations immanent in the art work result both from the openness of the physical construction and from sitting together on the floor of the installation. Thus, the experience and the perception include a physical aspect as well. According to Maurice Merleau-Ponty, the executions and respective activities carried out in an installation are effectively experienced inside the viewers' body. Hence, he looks at their positioning and the importance of their body within the room, which in turn allows for examining and analyzing the movement and the perception of the body inside the room in a phenomenological light.

The world is experienced by the body and the body is understood as the "subject's most immediate object"[6] The perception and observation of other objects first pass through the body and not our conscious awareness. The prerequisite for this peripatetic experience,[7] which the viewer will make upon entering these rooms, is naturally physical. So, prior to experiencing the space peripatetically, the viewer explores it with his or her senses. According to Merleau-Ponty, each and every access to the world takes place through the senses. Consequently the perception of things is fundamental for our sense of motion and our orientation in a world which is full of sensations such as sounds, smells, haptic forms, and visual aspects in the sense of colors.[8]

From this perspective, the player's potential is indeed great and the actions open to the individual allow, in the words of Merleau-Ponty, for an opening to the world. In *Spiegelzellen*, this new world can be understood as the virtual space that allows for new possibilities of experience. The physical aspect is enriched by a communicative and social level, which in turn opens up a new perspective for the viewer.

These possibilities are observed by the other players and the result is a collective togetherness as opposed to one against the other, as so often seems to be the aim in the digital world. In *Spiegelzellen*, Eckermann, Szely and Goldfarb integrated another participative element: By asking visitors to send them text messages which were then integrated in the 3D world the artists created yet another communication tool between the real world and the mirror world.

Acting and communicating in the virtual world can be seen as part of a process in a constant state of flux. Communicating and the creative process per se are thereby elevated to a work of art in its own right.

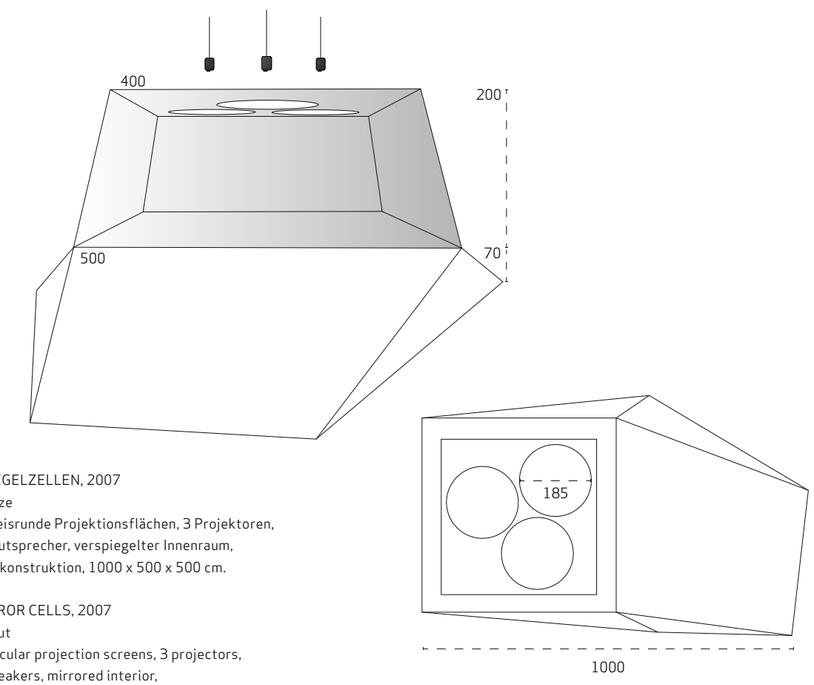
4 Sylvia Eckermann 2007.
5 Ibid.
6 Ole Fogh Kirkeby, "Introduktion," in: *Merleau-Ponty, Kroppens fænomenologi* (Frederiksberg, 2000), p. xi.
7 We speak of a peripatetic observation in connection with an understanding and registration of the entirety of a spatial structure if it is crossed and experienced by a viewer. See Ernst-Gerhard Güse, *Richard Serra* (Stuttgart, 1987), p. 45.
8 See Arne Grøn, "Merleau-Ponty: Sansning og verden," in: *Vor tids filosofi. Engagement og forståelse,* ed. Paul Lübcke (Copenhagen, 1996), p. 332.

The communicative as an (art) object refers to a different formal level since communication is not physically palpable. But here, too, it is possible to speak of an extension of the artwork since the participation and thus the role of the viewer in *Spiegelzellen* represents a second level on which a new work was produced, one which is, however, not comprehensible as a real and palpable object.

It is important to point out that the traditional work of art and the act of the viewer—be it on a physical or on a communicative level—belong together and are symbiotically dependent on each other. In Eckermann's *Spiegelzellen* this would be the relationship between the installation, the actors, the communication and the creative activity in the digital world. Together they create a new level and a second object that could be called a transformed or extended object, or more precisely an object-object. It is not, as with Peter Weibel, an open field of action[9] but the next level which addresses an object not entirely comprehensible.

The result of the participatory work of art could therefore be labeled with the term *artwork2*[10] because the active involvement of the participants has a decisive effect; it represents an executing, active intervention and is reflected precisely in the final effect of the work and its result. Thus, what remains with the active viewers is both the communication as well as their considerations and reflections which developed by means of the active process.

9 See Peter Weibel, "Kunst als offenes Handlungsfeld," in: *Offene Handlungsfelder,* ed. Peter Weibel (Cologne, 1999).
10 See Anna Karina Hofbauer, *Die Öffnung und die Erweiterung des Kunstbegriffs durch partizipative und interaktive Werke vor dem Hintergrund und der Analyse der physischen Beteiligung des Betrachters/der Betrachterin von der historischen Avantgarde bis zur zeitgenössischen Kunst,* Ph.D. thesis, Kunstuniversität Linz, 2013, pp. 292–302.



SPIEGELZELLEN, 2007
Skizze
3 kreisrunde Projektionsflächen, 3 Projektoren,
8 Lautsprecher, verspiegelter Innenraum,
Holzkonstruktion, 1000 x 500 x 500 cm.

MIRROR CELLS, 2007
layout
3 circular projection screens, 3 projectors,
8 speakers, mirrored interior,
wooden construction, 1000 x 500 x 500 cm.

Erkki Huhtamo

SPIEGELZELLEN

Eine medienarcheologische Analyse

Computerspiele sind eine immersive Erfahrung. Ein Spiel gilt als gelungen, wenn es den Spieler fesselt und er ganz auf das ihn umgebende „reale Leben“ vergisst. Die Bedienung der Steuerung mit Händen, Füßen oder dem ganzen Körper verstärkt das Gefühl „versetzt worden“ zu sein. Die Identität des Spielers überträgt sich auf einen Avatar, einen virtuellen Akteur, der zugleich ein eigenständiges Wesen und eine psychische Erweiterung des Spielers ist. Eine vollkommen immersive Umgebung wird gar nicht benötigt, weil diese Verbindung bereits eine hohe Intensität erreichen kann. Ein Panoramabildschirm oder ein Helmdisplay würden die Kosten erhöhen, aber kaum die Intensität der Erfahrung. Ein kleines tragbares Gerät ist ausreichend, um die Spielerin in einem überfüllten U-Bahnzug in den Bann zu ziehen und das Menschengewühl um sie herum verschwinden zu lassen.

Das gilt für kommerzielle Computerspiele. Künstlerinnen, die sich mit dem Medium Computerspiel beschäftigen, verfolgen andere Ziele. Gaming wird fast unweigerlich zu Meta-Gaming, denn die Freude am „game play“– der Interaktion zwischen Spiel und Spielerin – wird von anderen Anliegen begleitet und hinterfragt. Anstatt Geschichten zu erfinden, in denen Rätsel zu lösen oder Herausforderungen zu bestehen sind, konzentrieren sich Künstler eher auf die Mechanismen des Spiels und die Bedingungen der Immersion (komplexe Probleme, die ein „naiver“ Spieler als selbstverständlich voraussetzt). Ein kommerzielles Spiel zielt auf ein Ende: Die Aktionen führen in eine Richtung und unweigerlich zu dem Punkt, wo Erzählstränge und Motive eine Lösung erfahren. Game-Art-Kunstwerke haben einen offenen Ausgang; sie verbinden oft Elemente unterschiedlicher kultureller Sphären, Medien und Ausdrucksweisen. Damit erlauben sie, ja treiben die Benutzerin dazu, sich frei zu bewegen, sich Zeit zu nehmen, durchzuatmen – und nachzudenken.

Das ist eine Möglichkeit, sich Sylvia Eckermanns Medienkunst-Installation *Spiegelzellen* (2007) anzunähern, die sich uns als Spielraum, wenn auch als ungewöhnlicher, präsentiert. Ihr Environment bietet drei Spielerinnen Platz und erlaubt es auch den Zuseherinnen, sich nach Belieben im Raum aufzuhalten. Die Architektur der Spielstätte ist eine nach vorne offene „Zelle“, die ansonsten durchgehend mit prismatischen Spiegeln bedeckt ist. Die projizierten Spielszenen, Textnachrichten und die Spiegelungen der Teilnehmer schaffen einen kaleidoskopischen Raum, in dem Perspektiven und Identitäten verschmelzen und gleichzeitig zersplittern. Die Gesetze der Schwerkraft werden (virtuell) außer Kraft gesetzt, wodurch die „Bewohner“ in einer halluzinierenden Welt schweben, die sich endlos zu multiplizieren scheint. Die rauschhafte Wirkung wird durch eine interaktive, akusmatische Klanglandschaft des Komponisten Szely noch zusätzlich verstärkt.

Wie sollen wir die Erfahrung, die uns *Spiegelzellen* bietet, interpretieren? Eine eindeutige Antwort, die alles erklären könnte, gibt es nicht. Die Arbeit existiert in verschiedenen kulturellen Räumen, von denen einige jüngeren Datums sind, andere sich wiederum in Hunderten von Jahren entwickelt haben. Eckermann erwähnt die Entdeckung der Spiegelneuronen im Jahr 1991 als ihre Inspirationsquelle. „Spiegelneuronen“, sagt sie, „lösen bei der Beobachtung einer Handlung dieselben Potenziale aus wie bei der eigentlichen Handlung. Das Feuern der Neuronen dient also nicht unbedingt einer Handlung, diese bildet eine parallele Schleife, die keine Ausführung bedingt.“ Der Raum der Installation kann daher als

metaphorische Repräsentation des Gehirns gelesen werden; die Teilnehmer entsprechen Neuronen und lösen analoge Reaktionen aus, unabhängig davon, ob sie aktive Spieler oder passive Betrachter sind. Das Werk steht somit im Bezug zur sogenannten „Sci-Art", einer Kunst, die sich von wissenschaftlichen Entdeckungen und Theorien inspirieren lässt.

Ausgehend von dieser Analogie unternimmt das Werk eine Dekonstruktion der typischen Formierung und Rolle(n) des Gamers sowie der mutmaßlichen Wirkungen von Computerspielen auf die Psyche. Ist es gerechtfertigt, zwischen tätiger und untätiger Wahrnehmung zu trennen? Wären Menschen zu Beginn (bei der Geburt) wie unbeschriebene Blätter, wie würden diese durch die Formen und Farben, die Kultur konstituieren, beschrieben? Welche Rolle spielt das biologisch-genetische Erbe bei diesem Vorgang, und wie verschmilzt es mit kulturellem – willentlichem, semantischem und zielorientiertem – Verhalten? Wie trägt die Beziehung des Individuums mit Menschengruppen zu diesem Vorgang bei? Schlussendlich: Was ist Identität und was bestimmt ihre Formierung? Fragen dieser Art ergeben sich, wenn man in der Installation Zeit verbringt und über sie reflektiert.

Aber das ist nicht die einzige Möglichkeit. Wie im Titel angedeutet, ruft *Spiegelzellen* bildreiche kulturelle Vorstellungen hervor, die seit Langem mit Spiegeln assoziiert werden, wie etwa ihre Verwendung und ihre diskursiven Konsequenzen. Die Geschichte dieser Verweise ist äußerst komplex. Nur eine einfältige oder unwissende Person würde zum Schluss kommen, dass Spiegel nur das repräsentieren, was sie als Teil der täglichen Erfahrung sind: reflektierende Oberflächen, die unser Ebenbild zeigen, uns etwa helfen, unser Haar zu kämmen oder unsere Falten zu überschminken. Spiegel wurden nicht nur als Oberflächen betrachtet – man hat sie sich als Räume vorgestellt, die man betreten kann. Sie wurden auch als Kommunikationsmedium gesehen, das der Betrachterin ein „Anderswo" offenbaren kann, welches entweder in der Realzeit oder in einer anderen zeitlichen Dimension der Vergangenheit oder der Zukunft liegt. Um dorthin zu gelangen, musste der Spiegel von einer Magierin oder einer anderen geheimnisvollen Macht verzaubert werden.

Obwohl sie sich keiner neuen Technologien bedienen, sind „verzauberte" oder „magische" Spiegel auf vielfältige Weise Teil der Geschichte der Medien. Sie sind „magische Medien", die mithilfe der Imagination die Möglichkeiten der technologischen Medienkultur um hunderte, wenn nicht tausende Jahre vorweggenommen haben. Obwohl *Spiegelzellen* – ein Werk, das durch eine neue (und umstrittene) wissenschaftliche Entdeckung inspiriert worden ist – in keinem anderen Sinn „magisch" ist denn als Kunstwerk, eine Überraschungs- und Inspirationsquelle für die Besucherin, hat es an der Geschichte der Spiegel Anteil, und es evoziert deren weitläufige diskursive Dimensionen. Sich in einem Spiegel „aufzuhalten" bedeutet, sich in einer anderen Realität aufzuhalten, deren Lebensbedingungen, einschließlich Raum und Zeit, andere sind.

Diskursive Spiegel haben aber nicht nur als Eintrittspunkte in andere Wirklichkeiten gedient. Sie markieren auch die Kreuzungspunkte, an denen sich Außen- und Innenwelt treffen. Man denke nur an Lewis Carrolls oder Jean Cocteaus Meisterwerke. Filme wie *Le Sang d'un Poete, La Belle et la Bête* oder *Orphée* verbinden durch ihren unvergleichlichen Imaginationsreichtum den jahrhundertealten Raum der magischen Spiegel mit der Medienkultur des 20. Jahrhunderts und ihren Möglichkeiten multimedialer Gestaltung. Die Räume hinter/und/oder im Spiegel sind Vorstellungswelten, in welchen normative und eingeschränkte gesellschaftliche Verhältnisse aufgehoben oder zumindest verändert und gestalterisch verzerrt werden. Der Spiegelraum ist ein Raum der Freiheit, der für ein anderes Denken und Empfinden steht.

Man kann die Vorstellung eines Durchbrechens in ein Anderswo auf Gaming ausdehnen, jedoch unter dem Vorbehalt, dass viele, wenn nicht die meisten kommerziellen Spiele sonderbar(erweise) konservativ sind. Sie sperren die Spieler in die Käfige der herrschenden Ideologien, anstatt danach zu trachten, sie daraus zu befreien. Denken wir nur an die Dominanz der Shooter-Spiele. Gibt es denn keine Alternativen zu den ekelhaften Praktiken der realen Welt mit ihren fleischlichen Massakern und ihrer Übertragung in die virtuellen Welten elektronischer Spiele? Angetrieben von Profit und wenig sonst, unternimmt die

SPIEGELZELLEN, 2007
installation view

Spieleindustrie alles, um die Vorlieben ihres Publikums vorwegzunehmen, bietet aber keine alternativen Räume an, die zwangloses Handeln und unvoreingenommenes Wahrnehmen ermöglichen.

Künstlerinnen sind anders. Sie repräsentieren den einzigen – relativ – freien Denk- und Handlungsraum, der in der modernen Welt noch übrig ist. Sie werden nicht von Geistlichen, Werbern, Kapitalisten und Politikern an der Leine geführt, oder sie sollten es zumindest nicht werden. Sie vertrauen ihrer eigenen Intuition und schaffen ihre eigene kritische Analyse einer Welt, in der vieles schiefläuft. Für mich stellt dies den Kern von *Spiegelzellen* dar. Obwohl das Kunstwerk in Galerien und Museen gezeigt wird – Institutionen, die nicht frei von den unterdrückenden Kräften der herrschenden Ideologie sind – bietet es einen Raum (oder zumindest ein Modell) für freies Handeln und Wahrnehmen.

Zumindest für einen Moment, wenn man in dieser Spiegel-Zelle als Spieler oder Betrachter sitzt, gestattet einem *Spiegelzellen* die Erfahrung einer anderen Welt, einer phänomenologischen Welt mit offenem Ausgang, eines Ortes kreativer Widersprüche. Eingetaucht in diese Spiegel, zwischen ihnen hin und her springend und von ihnen zersplittert, könnte diese Erfahrung die Besucherinnen veranlassen, die inneren Räume des Denkens und die Außenwelt mit anderen Augen wahrzunehmen, zumindest für einen Augenblick.

Erkki Huhtamo

MIRROR CELLS

A Media Archaeology

Playing video games is an immersive experience. The game is considered successful if the player becomes glued to the screen and simultaneously oblivious of the surrounding "real life." Manipulating the control interfaces by using the hands, feet, or the entire body increases the sense of being "transported." The player's identity is transferred to an avatar, a virtual agent that is both a separate entity and an extension of the player's mind. The bond can be so strong that a totally immersive setting is found unnecessary. A panoramic surround screen or a head-mounted display would add to the cost, but hardly to the intensity of the experience. A tiny hand-held device, fingered in a crowded subway train, is enough to engage the player and to make the bustling crowd virtually disappear.

So it is in commercial gaming. When artists explore the game medium, the goals are set differently. Gaming becomes almost inevitably meta-gaming, that is, the pleasures of game play are paralleled and challenged by other concerns. Rather than creating stories, riddles to solve, or challenges to overcome, the artist may focus on the mechanisms of play and the conditions of immersion (complex issues a "naïve" player takes for granted). A commercial game is geared toward closure: the actions have a direction, leading inevitably toward a point where the narrative's strands and motifs are resolved. A game artwork is open-ended; it often combines elements from different cultural spheres, media, and modes of expression. In so doing, it allows, and even urges, the users to roam freely, to take time to breathe, and to think.

This is one possible way of approaching Sylvia Eckermann's media art installation *Spiegelzellen* (*Mirror Cells*, 2007), which presents itself as a gaming space, albeit an unusual one. The environment accommodates three players, while observers may come, stay, or leave at will. The venue is architectural: a "cave" open from the front, but otherwise completely covered by prismatic mirrors. A kaleidoscopic realm is created by projected game scenes, text messages, and reflections of the participants. Perspectives and identities become both merged and fragmented. The laws of gravity are (virtually) suspended, making the "inhabitants" hover within a hallucinating realm that seems to multiply itself endlessly. The delirious effect is enhanced by an interactive acousmatic soundscape composed by Szely.

How should we interpret the experience *Spiegelzellen* offers? There is no one answer. The work exists within various cultural spaces, some of which may be recent, while others may have evolved during hundreds of years. The artists themselves have mentioned the 1991 discovery of "mirror neurons" as their inspiration. Mirror neurons, as they put it, "not only fire in an action, but also when an action is observed, thus mirroring the behavior in a looped potential that does not cause an action." The space of the installation can therefore be read as a metaphoric representation of the brain; the participants correspond with neurons triggering analogous reactions, no matter if they are active gamers or passive onlookers. The reference aligns the work with "sci-art" inspired by scientific discoveries and theories.

Based on this analogy, the work begins deconstructing the normal formation and role(s) of the gamer, as well as the supposed effects of gaming on the mind. Is it justified to separate active perception from the inactive one? If human beings are blank canvases from the outset (at birth), how are these canvases filled by the shapes and colors that constitute culture? What role does the biological-genetic inheritance play in this process, and how does it merge with cultural behavior, which is deliberate, semantic, and goal-oriented? How does the individual's relationship with groups of humans contribute to this process? Ultimately, what is identity, and what determines its formation? These are the kinds of issues that emerge after spending time within the installation and reflecting on it.

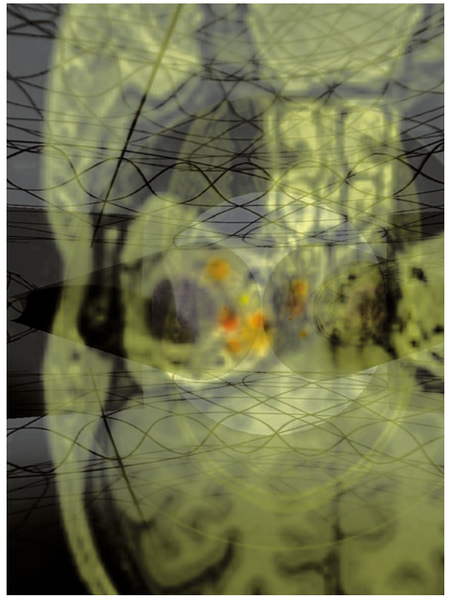
But this is not the only possibility. As the title indicates, *Spiegelzellen (Mirror Cells)* also evokes the rich cultural imaginary that has accompanied mirrors, including their uses and their discursive repercussions. This referential background is very complex. Only a simple or uninformed person would conclude that mirrors are only what they are as part of the daily experience: reflective surfaces that reveal our likeness, helping us to comb our hair or to hide our wrinkles behind maquillage. Mirrors have not only been conceived as surfaces, they have also been imagined as places one can enter. They have also been seen as communication media that can reveal the onlooker an "elsewhere," either in real-time or in some other temporal dimension, the past or the future. To achieve this, the mirror had to be enchanted by a sorcerer or some other mysterious force.

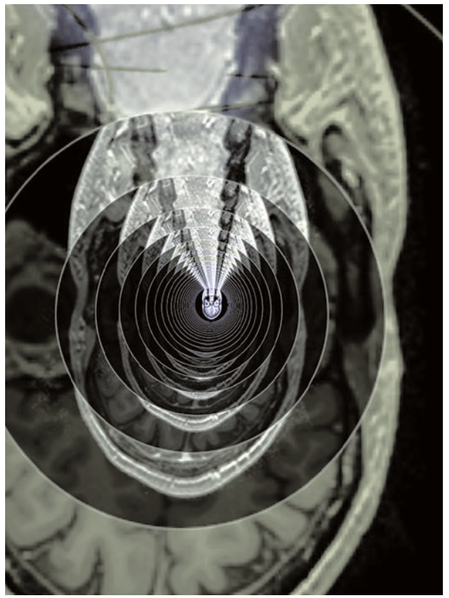
In many ways "enchanted" or "magic" mirrors belong to the history of media, even though they do not utilize new technology. They are "magic media" that anticipated the possibilities of technological media culture in the cultural imagination by hundreds and even thousands of years. Although *Spiegelzellen,* a work inspired by a recent (and still controversial) scientific discovery, is not "magic" in any other sense than as an artwork that is a source of surprise and inspiration for the visitor, it is part of the history of mirrors, evoking its extended discursive dimensions. "Inhabiting" a mirror means inhabiting an alternate reality, where the conditions of living, including space and time, are altered.

Discursive mirrors have not only served as entry points into alternate realities. They have also marked intersections where traffic between the external and the internal takes place. For a demonstration of how this happens, it is enough to think about the creations by masters like Lewis Carroll and Jean Cocteau. The latter's films from *Le sang d'un poete* to *La Belle et la Bete* and *Orphée* are perhaps the most imaginative effort to bridge the age-old realm of magic mirrors with 20th century media culture and the possibilities of multimedia creation. The spaces behind and/or inside mirrors are mindscapes, where the normative and constraining conditions of social life cease, or at least become modified and creatively distorted. The mirror space is a space for freedom—for thinking and sensing differently.

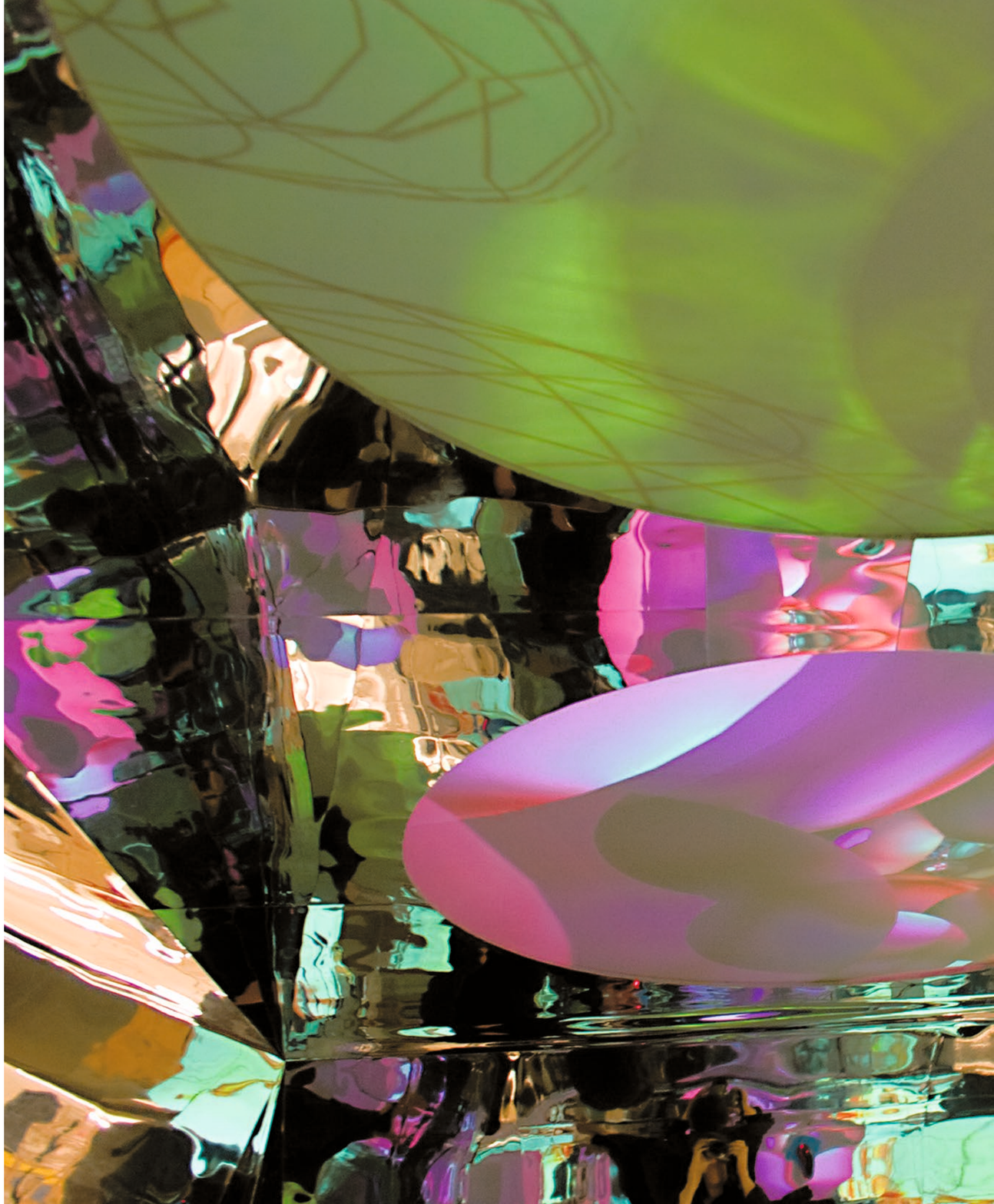
The idea of penetration into an elsewhere can be extended to gaming. However, a caveat is required: many, perhaps most, commercial games are strangely conservative, imprisoning the players into prevailing ideological cages, rather than making efforts to liberate them. Just think about the dominance of shooting games. Are there no alternatives to transferring the disgusting real-world practices of carnal massacre into the virtual realms of electronic games? The game industry, driven by profit and little else, tries its best to anticipate its audience's tastes, instead of proposing alternate spaces, where unconstrained action and open-minded cognition would be emphasized. Artists are different. They are representatives of the only (relatively) free zone of acting and thinking that is left in the modern world. They are (or should be) those who are not bound by the dictate of churchmen, advertisers, capitalists, or politicians. They trust their own intuition, and provide their own critical analyzes of the world gone awry. For me this is the core of *Spiegelzellen*. It provides a space (or at least a model) for free action and cognition, even though it is shown within galleries or museums, institutions that are not free from the suppressive forces of dominant ideology.

But at least for a moment, sitting inside its mirror cave either as a gamer or as an onlooker, *Spiegelzellen* allows one to experience an alternate world, a phenomenologically open-ended realm, a place of creative contradictions. Being immersed in, bounced between, and fragmented by its mirrors, the experience may well lead the visitor to perceive both the inner spaces of the mind and the outside world with different eyes, at least for a moment.





MIRROR CELLS, 2007
UT game mod, screenshots [details]



MIRROR CELLS, 2007
installation view

Joseph Squire, Nan Goggin[1]

n o w h e r e

n o w h e r e ist eine Modifikation des Computerspiels *Unreal Tournament 2003*. *UT* ist ein sogenannter „Mehrspieler-Ego-Shooter". Die Handlung ist eher vage und dreht sich um die Invasion der „menschlichen Welt" durch eine siegreiche Armada außerirdischer Kriegsschiffe und die Etablierung von Gladiatorenkämpfen zur Unterhaltung der unterjochten Massen. Die Spielerinnen messen sich in Teams gegen Außerirdische, genveränderte Menschen und Roboter. Es geht darum, sich eine extrem brutale Waffe wie die „Lightning Gun" zu sichern und so viel Chaos wie nur irgend möglich zu stiften.

In den Händen von Sylvia Eckermann wird *UT* jedoch zu etwas völlig anderem. Sie befreit die ursprüngliche *UT*-Welt von all ihren Details und lässt nur die groben geometrischen Formen und Ebenen des virtuellen Raums bestehen. Die Welt, die übrig bleibt, ist mit ihrem sanften Licht und ihren nahezu transparenten Oberflächen überraschend unbeschwert. Im Gegensatz zum ursprünglichen *UT* gibt es hier keine Strategie und keine klare Geschichte, der Wettkampf steigert sich nicht auf einen Höhepunkt hin, und Anfang und Ende sind nicht diskret. In dieser Welt kommt es auf nichts an, außer in aller Ruhe durch ihren minimalistischen Kosmos zu schweben.

Eckermann vollbringt eine erstaunliche Transformation, die auch noch eine ironische Seite hat. Wir hätten nie gedacht, dass sich unter der Oberfläche einer Welt, die zu nichts weiter als zum Abschlachten dient, eine parallele Welt mit völlig gegensätzlicher Seele versteckt.

Diese Yin/Yang-Polarität scheint Eckermanns erklärte Absicht gewesen zu sein. Sie vollzieht ihre sanfte Rache mittels einer Art ritueller Heilung durch Aneignung. In einem Substraktionsprozess, durch den sie alle Einzelheiten wegnimmt und die Game Engine einem Reverse-Engineering unterzieht, wird Eckermanns virtuelle Welt abstrakter und seltsamerweise auch menschlicher. *n o w h e r e* ist ein Akt pazifistischer Wiederaneignung, in dem Eckermann die Rolle des menschlichen Saboteurs übernimmt.

Inspiriert wurde *n o w h e r e* durch *Die Gläserne Kette*, einenm von modernen Architekten um 1920 in Berlin gegründeten Geheimbund. Sie teilten die utopische Vision einer Architektur als Mittel zu sozialen Veränderungen. In ihren Briefen thematisierten die Mitglieder Glas als Baumaterial, das für ihre Ideale emblematisch wurde. Obwohl die Gruppe nur kurzlebig war, übten die Teilnehmer einen bedeutenden Einfluss auf die Architektur des 20. Jahrhunderts aus. Auch ohne diesen Kontext ist die Arbeit ein sinnlicher Genuss. Das Hintergrundwissen verleiht dem Projekt aber eine zusätzliche Dimension und erhöht seinen Stellenwert. Als würde Eckermann den Versuch unternehmen, die Ideale der *Gläsernen Kette* im virtuellen Raum zu verwirklichen, schafft sie eine virtuelle Architektur, die der Verkörperung dieser Ideale wohl näher kommt, als alles, was die ursprünglichen Schöpfer in ihrer Zeit erreichen konnten.

1 Dieser Textbeitrag wurde in *Ninth Letter*, 2006 publiziert.

N O W H E R E – EIN WELT RAUM SPIEL, 2005
screenshot

Joseph Squire and Nan Goggin[1]

n o w h e r e

n o w h e r e is a Mod of the game *Unreal Tournament 2003*. *UT* is a multiplayer first-person shooter game. There's a sketchy plot about a victorious invasion of "human space" by an armada of alien warships, and the establishment of gladiatorial tournaments for the entertainment of the subjugated masses. Players compete in teams against aliens, gene-boosted humans, and robots. The goal is to get yourself a bad-ass weapon, like the Lightning Gun, and seek to achieve maximum mayhem.

In the hands of Sylvia Eckermann, however, *UT* is something entirely different. She has stripped out all of the details of the original *UT* world and left only the rough geometrical shapes and planes of the virtual space. What remains is a surprisingly serene world of soft lighting and almost transparent surfaces. And unlike the original *UT*, there is no strategy or competitive climax, no discreet beginning or end, no explicit narrative. There is no obvious point to the experience, except to calmly float through a minimalistic cosmic universe.

The transformation that Eckermann has accomplished is startling and ironic. Who would have ever thought that lurking beneath the surface of a world explicitly built for slaughter was a parallel world with an opposite soul?

This yin/yang polarity seems to be exactly Eckermann's intent; a ritual healing by appropriation, a gentle revenge. Through a process of subtraction, stripping away detail and reverse engineering the game engine, Eckermann's virtual world becomes more abstract yet oddly more human. *n o w h e r e* is an act of pacifist reappropriation, with Eckermann playing the part of humanistic saboteur.

Eckermann's inspiration for *n o w h e r e* came from a secret society of modernist architects called *The Crystal Chain* (in German: *Die Gläserne Kette*) that formed in Berlin around 1920. They shared a utopian vision that viewed architecture as a vehicle for social change. In their writings, group members talked extensively about glass as a building material and it became emblematic of many of their ideals. Although the group itself was short-lived, its members ended up having significant impact on twentieth-century architecture.

Without this context, the work is still sensual and pleasurable. But knowing the background gives extra dimension and weight to the project. It is as though Eckermann is trying to manifest the ideals of *The Crystal Chain* in virtual space, perhaps creating a virtual architectural space that is a closer embodiment of those ideals than anything the original creators were able to accomplish during their own era.

1 This text was originally published in: *Ninth Letter*, 2006

N O W H E R E - EIN WELT RAUM SPIEL, 2005
screenshots

Gerald Nestler: co-author, conception, research, texts
Oliver Irschitz: production, interface design
Christoph Cargnelli: spatial acoustics.
Commissioned by: thecrystalweb°

Karin Wenz

GAME ART: "UNREAL" EXPERIENCES

"Let's pretend there's a way of getting through into it, somehow," Alice says to her kitten. "Let's pretend…"[1] By way of this open-sesame of the "as if" of imagination and dream, she succeeds in passing through the interface of the mirror into the Looking-Glass House. The longing to change from one inside to another inside, which before seemed to be an inaccessible outside, has always inspired the imagination. This longing especially applies to the arts, which try to create a virtual world "behind" the curtain, canvas, page, or screen. The actual media art in its aesthetically advanced forms is especially concerned with the boundaries, the interfaces that separate and combine the one world from the other. Media art explores not only the boundaries of the media used but also the specific spaces and architectures those media offer. This longing also applies to digital games as they also create new fictional worlds. The screen functions as a mirror or window to another world. Game art combines these two worlds: the fictional, immersive game universe with an exploration of new aesthetic possibilities, boundaries and limitations. Artists use digital games as their medium to create art to expose underlying conventions and functions of game play but also to explore the possibilities of virtual worlds and their architecture.

As Sylvia Eckermann put it in a 2010 interview:

> In my earlier works of spatial electronic art and media architecture, I was confronted with given qualities and conditions that for me served as frameworks. By using a game engine, this framework went through a complete shift. The space was no longer the given starting point—it didn't exist—instead there was a huge 'something' from which I could carve out any kind of 'space'.[2]

Game art is a term used for computer art using digital games as material for artistic creations. This new term has quickly become fashionable in theoretical discourse to describe artworks that belong to both the art world and to the world of digital games. The concept game art points to a new field that can loosely be described as a hybrid form using commercial computer games on the one hand and digital art on the other.

This article investigates game art by Sylvia Eckermann (partly in cooperation with Mathias Fuchs) based on the *Unreal* Engine. The different art works that are presented in this article focus on different aspects that these works highlight and deconstruct. Topics include modding, virtual knowledge and narratives, identity construction, immersion, and deconstruction.

Mods

Modifications of game engines are central to developments in game art. As Tasajärvi (2004) has shown, they have their origin in the hacker and demo community, where programmers created graphical "extravaganzas." Programmers who developed highly elaborate graphical new forms either made demo versions of games or used game engines of existing games for their modification. This means that the graphics have to be created and rendered procedurally while the game is running. In the same way 3-D game engines such as *Quake* or the *Unreal* Engine are based on procedural rendering and therefore highly interesting for players or artists for modification. Modifying games is much easier than coding a demo from scratch and was (and still is) therefore an option also used by artists as well as players for their work. Instead of coding the game themselves (like the demo programmers did), players started to use and modify existing game engines. These modifications or mods "can range from changes in the physics of the virtual world to total conversions in game play that can lead to changes in story line and game type" (Postigo, 2007, p.311). The term mod is the short form for "modification" and refers to different layers of a game and even external hardware constraints that can be changed. Mods are possible by manipulating the game devices as in "case modding," the case, in which the computer hardware as hard drive, graphic and sound card are built in is modified.[3] The game engine that controls how graphics are represented can also be modified. Additionally new adventures and maps can be created that are based on the game titles. Audiovisual layouts for environments and objects can be processed. Moreover, whole levels can be modified by changing their spatial architecture. Apart from that the rules of the game can be changed as well. Even the personalization of an avatar is a modification of the game. Modifications had been used by female players of *Quake* to modify the existing male avatars and turn them into female by using skins, textures which overlay the 3-D polygon models of the avatars and thereby turn them from male into female body shapes (Kücklich 2004). Nowadays the modification and creation of an own avatar in a game is not considered a mod anymore, as this option is intentionally built into the game by the game designers. Opposite to this skinning the examples mentioned above as the change of the audiovisuals (and not just the skin of the avatar) or even the game rules is often perceived as a form of hacking. Usually modders have a background in programming, as you need a certain familiarity with programming and editing software in order to intervene in the game world and make modifications (Nitsche 2007). Modders use the game as a tool for their production but they do not necessarily rely on its rule system or functionality.

Sylvia Eckermann and Mathias Fuchs' first joint work, explicitly labeled as game art—a mod of the *Unreal* Engine—was produced for the exhibition "Synreal" in Vienna. Sylvia Eckermann reflects on her experience as follows:[4]

> For the 'Synreal' exhibition in 1998 I did my very first work with a Game Engine—I knew that there was a lot more to learn, to research and to experiment with, and that I has only gotten to know and see the tip of an iceberg. For me the possibilities seemed boundless, if you had the knowhow. At that time you had to look for the expertise in all the numerous forums in the Internet and you found yourself sharing your interests with mainly young, male kids all over the world. There was something new – something you couldn't find in books or learn in a university course – that was quite thrilling and challenging.

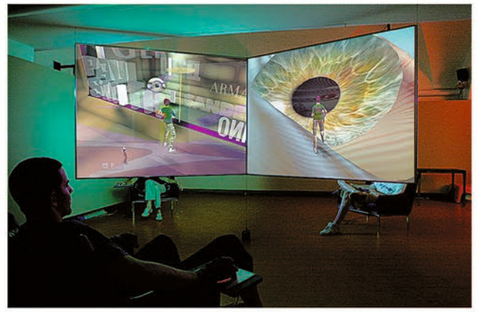
The artistic work with game engines and the creation of artistic mods has since been central to the work of Sylvia Eckermann and Mathias Fuchs. This article will present some of these mods and will reflect on different aspects central to each of these works.

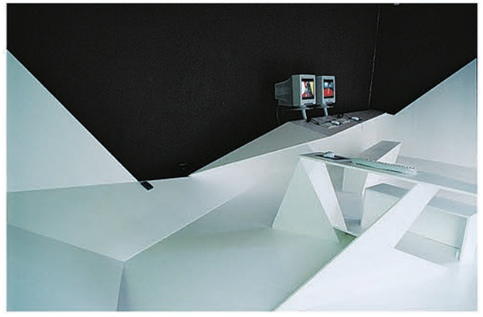
The First Mod

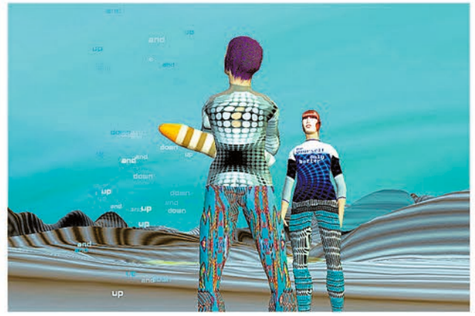
Hotel Synthifornia (1998) is the first game mod created by both artists for the "Synreal: The Unreal Modification" exhibition in Vienna in 1998. This exhibition invited modders to develop artistic mods based on the *Unreal* engine. We find names of famous artists of computer art in the list of contributors on the website from which the different art works can also be downloaded and played.[5] This was probably the first game art exhibition in Europe.[6]

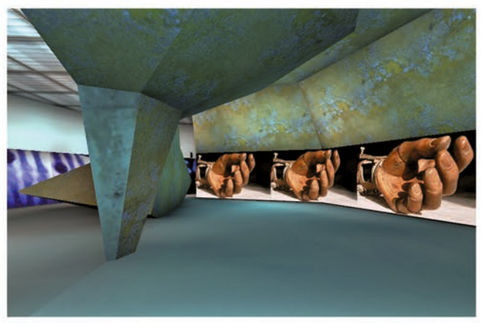
1 Lewis Caroll (1897), *Through the Looking-Glass.*
2 http://syl-eckermann.net/synthifornia/

3 For an artistic use of case modding in a very broad sense see the artwork ***Biomodd*** by Angelo Vermeulen and his team (2008 ongoing): http://www.biomodd.net/.
4 http://syl-eckermann.net/synthifornia
5 http://synreal.netbase.org/levels.htm
6 The concept game art was not used then but has become fashionable a few years later with exhibitions in Europe with titles such as *Games* and *GameScenes* (Dortmund, Germany 2003 and 2010), *Game art* (Völklingen, Germany 2004), *Art Games* (Aachen, Germany 2006), *Next Level* (Amsterdam, The Netherlands 2006), *Game Over* (Amsterdam, The Netherlands 2014).



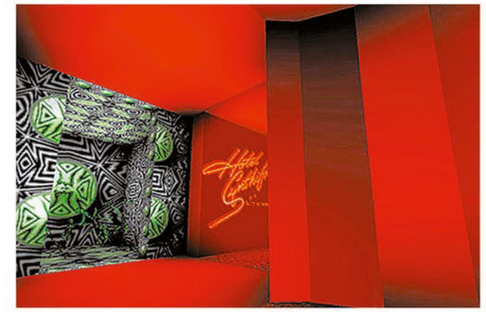


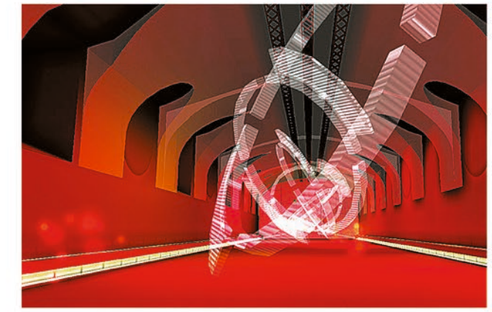


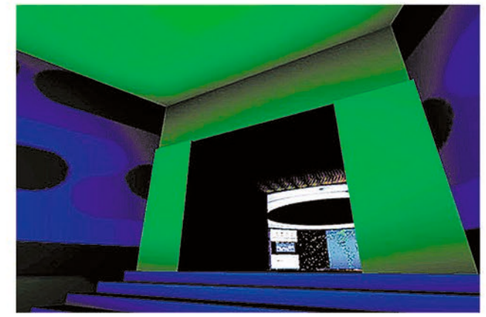


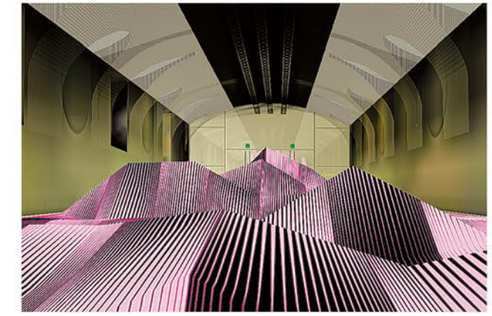
EXPOSITUR - a virtual knowledge space, 2002, UT game mod
installation view and screenshots

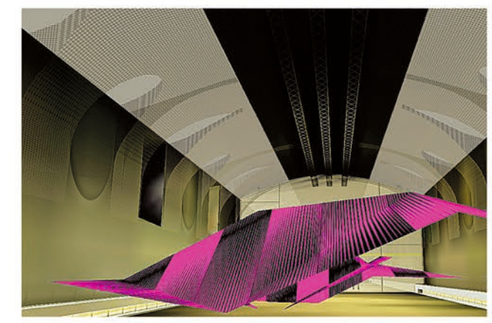
FluID - arena of identities, 2003, UT game mod
installation view and screenshots











HOTEL SYNTHIFORNIA, 1999, UT game mod
screenshots

MIRRAGE, 2005, UT game mod
screenshots

Hotel Synthifornia is inspired by Stanley Kubrick's movie *Shining* and the music of the Eagles' song *Hotel California*. The idea of a hotel with different rooms designed differently was specifically tempting to represent different maps of the game. The hotel rooms are decorated with wallpapers in the typical style of the 1970s. Each room included an old synthesizer that could be activated to play a typical song from this time. The use of synthesizers to offer not only a space to explore but also a soundtrack to play while exploring the environment led to the name of this game mod. While the game engine was used originally for an action game (a first person shooter) the game mod had been stripped of all those elements that make the game a game: game rules, competition between players, points to gain are not part of *Hotel Synthifornia*[7] but instead the player finds an interactive environment that reflects the artists interest in space, its perception and immersion into a virtual space. This interest is reflected strongly in another modification created by both artists with the title *Expositur – A Virtual Knowledge Space*.

A Virtual Knowledge Space

The art work *Expositur – A Virtual Knowledge Space* (2001) resembles a virtual museum but is at the same time a game as it does not only connect exhibits and data from 10 different museums in Vienna but it also needs an active player to discover this information. The player has to swim and dive in the virtual world to find out about an extinct fish, use machinery of the technical museum to find out how it works or has to walk down a staircase to enter Freud's concept of the subconscious. Thereby *Expositur* does not only link information available and exhibited by those 10 museums or offers a virtual museum tour but needs the exploration of a player to access this knowledge. The player has to use and explore objects and rooms, swim, dance, walk and move with her avatar throughout this game to experience the knowledge. In the words of Fuchs and Eckermann[8]:

> We are looking for something that Friedrich Nietzsche labelled "Gay Science", ["Fröhliche Wissenschaft"] a mode of experiencing knowledge in a joyful as well as thoughtful manner. Nietzsche thought that you could only come across important insights if you discover them when "dancing". And that's precisely what the users of our computer game have to do. They have to move in order to find out facts, they have to dive and swim to get deep into certain areas of knowledge and they have to dance around to discover unexpected aspects of a topic.

By moving around in the game space players do not only explore and experience the game space but they connect the information they find and build narratives about objects they find and interact with. The spectator of a museum becomes an active player. *Expositur* needs the player to actively engage with the game world and thereby construct the narrative. Playing includes the change of perspectives and the manipulation of the environment. While this manipulation is not possible in (most) museums and interaction with the exhibited objects is limited, the game space allows for a more active exploration. Furthermore, the narrative is not only given by those who made the exhibition but also based on the game decisions made by the players: "where to go next?" and "which object to use next?" are questions guiding the player's exploration. Mersch (2008: 32) describes gameplay as a dialogue with the machine and its interfaces. He states that teleology, rules and strategy are dominant in digital games. Narrative elements however, are present in the background. In *Expositur* these are historical data and objects made accessible to the player. Thereby narrative possibilities are weaved into the game design and actualized by the player who follows the different paths offered. The discovery of alternative narrative paths and hidden storylines is an important element of gameplay and makes a game as *Expositur* compelling to a player. In *Expositur*, as in digital games, the individual narratives are generated in play. Narration can be described as a playfield, which is activated / made possible through the players' performance (Mersch 2008:21). Narrative as performance implies that narration is a process and dynamic and inseparably bound to the player's performance. Only the player's performance actualizes the story, which is therefore not a pre-given as it is the case in linear narrative media or as in a visit of a museum in which text connected to the exhibits explains their function and history. In a game world narrative and interaction are interdependent, as the player's actions constitute the narrative. The connections between 10 museums and their exhibits make by *Expositur* an environment for many different storylines and surprises to be detected by its player.

Even though the virtual museum *Expositur* tells about objects and processes, even though there is a semantic framework and an underlying logic structure our knowledge space leaves ample room for alternative readings, it encourages the users to define their private paths away from the main roads. It requires the visitor to set up his personal speed, pace and rhythm for the access to information, for contemplation and sheer surprise.[9]

The knowledge the player gains from interacting with *Expositur* and the narratives she develops are closely interlinked with how the game is used, which performances in the game world take place and which objects are activated. While knowledge and playful ways to experience knowledge and construct narratives is central for the mod *Expositur*, the mod *fluID* explores identity construction and the role of the avatar in digital games.

Identity Construction and the Avatar

Digital games have their specific way of presenting players within the game world. Players are usually represented by an avatar. The term avatar refers to the game character we use as our double or representation in a computer game, the character that represents us on the computer screen. It can be described as an interface, an interface that players can manipulate and by which players can interfere with the world of the game.

There are at least two kinds of interfaces to distinguish: one between the user and the technology, and the other one between the user and the symbolic artifact. The latter is realized in the character of the avatar, which is part of the game world but governed and in most games shaped and edited by the player. Players in many computer games begin by designing their own character. Depending on the game's universe, the user can select sex, race, profession, and physical features of his or her game character. Filiciak describes this as "an idealized image of the situation of the postmodern human creature, in which a user freely can shape his [or her] own 'self'" (2002, 90).

However, this shaping and developing of an avatar is not comparable to the identification with a protagonist we all know from reading books or watching movies. Rather, Filiciak uses the term introjection when speaking of the relationship of the player to the avatar: "the subject is projected inward into an 'other'. The subject (player) and the 'other' (the onscreen avatar) do not stand at the opposite sites of the mirror anymore – they become one" (2002, 91). Filiciak expresses a unifying fantasy typical of many descriptions of cyberworlds: the fantasy of entering a space that enables us to become one with an other that represents us. In psychoanalysis, Jacques Lacan discusses this kind of fantasy as driven by a desire to become one with "the lost object". For Lacan this fantasy is supposed to heal a split between the perceiving and the perceived self. The torn subject cannot comfortably rely on an essential identity; rather, poststructuralist theories think of the subject in terms of an identity necessarily falling apart, which, in day to day performances of normality, is provisionally being put together over and over again. Seen from a poststructuralist perspective, any notion of a continuous, fixed identity is phantasmagoric.

Along with psychoanalysis, recent theories from other fields contest the notion of a static identity. The social theorist Michel Foucault, who writes about historically specific identity formations, stresses

7 For a discussion of *Synthifornia* and its engagement with player expectations see Daphne Dragona's contribution in this volume.
8 http://syl-eckermann.net/Expositur

9 http://syl-eckermann.net/Expositur

that identity is permanently under construction. In his book *The Saturated Self*, the psychologist Kenneth Gergen describes the self as a sort of hollow tube through which, under different circumstances, different parts of our personality are being expressed. For Gergen, then, the "I" is continuously being constructed and reconstructed depending on changing contexts, circumstances, and age.

These unfinished, constructive, and process-oriented aspects of identity were stressed by Jacques Lacan as early as in the 1930s when he first insisted on the importance of the so-called "mirror stage" for identity formation. According to Lacan, the infant who responds to its image in the mirror misinterprets itself to be an independent, self-sufficient being. In reality, the child's self-understanding depends from the very first instance upon another's look, upon the look of the mother who assures the infant of itself. Jacqueline Rose describes this experience: "[…] that moment only has meaning in relation to the presence and look of the mother who guarantees its reality for the child. The mother does not […] mirror the child to itself; she grants an image to the child, which her presence instantly deflects." (1986, 53) Rose points out that this lack of self-understanding leads to a dependence on the media. For the rest of its life, the self can only function as seemingly complete in relation to symbolic signs (or media) which present it both with the image of a complete self and with a controlling point of view with which the self can identify.

Accordingly, Jacques Lacan distinguishes two aspects of the mirror stage as the exemplary first reaction of the child to its own image: firstly, the mirror stage introduces the I to a matrix of symbolic signs, to the "as if" of signs; and secondly, the infant positively responds to the promise of unity which its self-reflection in the mirror makes. But far from keeping its promise, the mirror stage permanently divides us from ourselves because the sign (the image, the word) and the referent (the thing the image or word are supposed to represent) actually are divided.

The look at ourselves cannot assure us of ourselves – we never truly become one with our self-image. But with the help of our symbolic systems, we can at least pretend that we actually are one with our image before we enter the space of the symbolic. The impossibility of becoming one with ourselves, the realization of this lack of control over ourselves, leads to the fantasy of once having been in control, of once having been one with ourselves and our image. Desire enters the stage: a desire for control and agency before the entrance into the symbolic. In Lacan's words,

> the important point is that this form situates the agency of the ego, before its social determination, in a fictional direction, which will always remain irreducible for the individual alone, or rather, which will only rejoin the coming-into-being (le devenir) of the subject asymptotically, whatever the success of the dialectical syntheses by which he must resolve as I his discordance with his own reality (1977, 2).

For the rest of its life, the self desires its "original unity". According to Lacan, this desire leads to an endless seeking of the lost object by repeating the experience of the mirror stage incessantly, which results in an identity that is not so much alienated as alienating, caught in a vicious circle of ego-confirmations.

The avatar meets the criteria of Lacan's lost object (object petit a) because it fulfills both functions necessary for ego formation: it represents the self and the other, the function of symbol and index at the same time. It is connected to the player through the interface of the mouse, keyboard, or joystick and thus phantasmagorically can achieve the position of the self. At the same time, it is the other because it is not simply a double but a representation and thus essentially part of the game world. After all, the avatar follows the rules of programming, which make it at least to some extent independent of the individual player. Most obviously, the avatar differs from the player in its abilities to live, die, and start its life over again. Bob Rehak describes the avatar's function as the staging "within technology, of the player's own 'vicious circle of ego-confirmation'" (2003, 107).

The digital game, like all media, lives from and exploits the human desire for completeness. Although we appear to leave our bodies behind when we enter fictional or virtual worlds, we cannot help but take them with us; paradoxically, the symbolic order of the game is related to our symbolic order because it seems to be independent of it. In reality, the symbolic order of the game depends on and is a product of our desire, a desire that cannot be fulfilled. Incomplete as we are, we need virtual worlds which show us ourselves as powerful, independent selves and which, accordingly, seem to be independent of us. But just like we need them, fictional worlds rely on us and on our desire. Usually, the media will not reflect on their symbiotic relationship with the self, rather they will play along with the viewers, readers, and players by pretending that what we see—in the case of the computer game the independent avatar—is what there really is. But texts that are self-conscious about their own status will reflect on it and on their relationship with the human being who interacts with them.

fluID: Game/Play with Identities

A critical approach to the role of the avatar is offered by the artwork *fluID* by Sylvia Eckermann and Mathias Fuchs (2003).[10] *fluID* can be said to take a "playful" approach to identity. But by playing with the conventions of the powerful, self-sufficient self in computer games, the artists point to the medial conventions that uphold the myth of self-sufficiency. As *Hotel Synthifornia* and *Expositur*, *fluID* is technically based on the graphic engine *Unreal*. In opposition to the first person perspective of *Unreal Tournament*, the avatar in *fluID* is shown from a third-person perspective, and the avatar's body can be seen in entirety but it cannot be chosen or shaped freely. The player in *fluID* has only one option: to choose an unmarked avatar which looks like a mannequin without specific characteristics. This empty mannequin is open to change and transformation, a virtual non-identity used as a starting point for identities to come. We can speak of a liquid identity, an identity visibly determined in reference to changing others. Here the body image is turned into a new, revolutionary technology mediating the changing nature of identity rather than conventionally mediating a seemingly self-sufficient, powerful self.

fluID is an interactive installation that can be played by three players at the same time. Each player faces two huge screens that separate him or her from the other players. A further technical interface is the mouse used to move an avatar through the world of *fluID*. We play in a three-dimensional environment and have the option to change the camera perspective so that we can see our avatar from all sides.

We begin to play with an unmarked avatar[11] without a face, clothes, or even a sex, as the artists Sylvia Eckermann and Mathias Fuchs state on their website, although the body shape represents either a male or a female body throughout the game. At the start, all avatars in the game look the same; they do not possess any distinctive features, and their skin and hair color are unmarked. As the player starts to move the avatar, the surface of its body begins to reflect the environment like a mirror or, rather, like a chameleon. The avatar will take on the look of the world it traverses through playing. Usually the player of a digital game has the option of interactively editing the avatar, thereby deciding how he or she will be represented in the game. *fluID* does not give its players the deceptive freedom of choice. It leaves the transformations of the avatar to the environment, so changes obviously depend on interactions with an outside world rather than on willful decisions of the player. For example, the avatar always changes its appearance when it crosses a river or a lake.

Whenever we cross a river, not only the outside texture but also the sex—the shape—of the avatar changes, taking the idea of a willful transformation or a metamorphosis independent of the surrounding world to absurd lengths. Only serving the function of an empty surface, the body of the avatar appears like a mannequin taking on the normative aspect of the world surrounding it. The designing or editing of the avatar is not initiated by the player but its transformations evidently follow an algorithm of the game's code. Whereas the shaping process of the avatar in many computer games reinforces the convention of

10 All screenshots of *fluID* used in this article can be found on this website: http://syl-eckermann.net/fluID

11 Daphne Dragona describes this experience in *fluID* as uncanny in her contribution to this volume.

self-empowerment by staging a powerful self, *fluID* reduces the options of the player to those of a mere spectator and observer of multiple metamorphoses induced by the environment.
At another place in the game, the "Lake of Narcissus", our avatar is altered so it appears in multiple forms on the screen. At the same time, the other players' avatars disappear from our screen. Throughout the game, *fluID*s or liquids cause a transformation of the avatar, alluding to one of the central terms discussed in the field of computer games: immersion. Etymologically speaking, immersion means diving into and submerging in a *fluID*, in our case in the game world. Not just the contact with *fluID*s incites processes of transformation in Sylvia Eckermann and Mathias Fuchs, but also the use of weapons—traditionally a means of gaining or retaining power in action games.

Whereas the weapons we usually see in great detail in computer games stand for a highly developed weapon industry and for a highly developed graphic accuracy as well, this weapon looks like an accessory of fashion. Accordingly, it isn't simply used for killing the other avatars. Rather, the use of this weapon transforms one's own avatar whenever one meets and shoots at another player character: Every hit leads to a loss of the other's identity, and we find that a part of the other's outer appearance suddenly has become part of our own. When the identity of the other is deleted, it is copied onto the self.

The last example of the self-reflexivity of *fluID* is the use of mirrors. Like the water, the mirror is used as an interface to reflect on processes of transformation. If the function of the mirror as described by Lacan is the creating of an illusionary unified self, the Lake of Narcissus and the mirror in *fluID* make evident this very fragmentation, which, according to Lacan, is always inherent in processes of identity construction. If the loss of the object causes the fragmentation of the self, our desire is directed towards healing this fragmentation, and media traditionally promise to fill the gap created by fragmentation. That the media – and even the digital media – cannot heal the gap that forever exists between self and object is made evident by a work like *fluID*. *fluID* stages the avatar as an echo image, not of the self, but of the other—an echo image of the work game designers put into a game when they set the frame within which the player can act and establish himself or herself. Rimbaud's popular dictum, "Je est un autre," quoted in *fluID*, highlights the influence of the other in the construction of the self. I am never just myself, but I always rely on others as well.

The player traditionally expects that the computer game supply him or her with a wide range of interactive options within a coherent virtual world. In *fluID*, the player's options are clearly limited and the player is forced to act within an obviously rule-governed system.

Usually, games are open to changes and cheating by players –we all have changed the rules of a board game as we played it. It is not so simple to change the rules of digital games, because in a digital game a change of the rules means a change of the code, and that often demands programming skills of the player. Modifications of course do already change the rules of a game as they change the underlying code. *fluID* makes the breaking of the rules its structuring principle. *fluID* offers a comment on traditional tales of identity construction and thereby creates a new interactive principle in digital gaming: the avatar interacts with the gaming environment not monolinearly, by simply leaving its imprints on it, but rather reciprocally, by changing along with that which it is not, the other. This piece of art deconstructs the principles of traditional identity formation and in doing so, points to the performative quality of both identity formation and computer games.

nowhere (2005) – The player as cosmonaut

Performance plays a central role in *nowhere* as well. Not the performance of an avatar the user/player can observe but a direct reaction of the environment to the user's movements and activities. With *nowhere* an installation has been created through which a user moves freely. This mod consists of a montage of images of crystals floating like planets in outer space. Quotes based on writings of different artists and authors can be heard (by voice-over) as well as a musical, spherical soundtrack supporting the impression of the user being in outer space. The quotes refer to utopian ideas but also refer to the term "crystal". The visuals iconically relate to the text. Works and images of artists from the group *Crystal Chain* have been used to create a dense and dynamic game environment. For example Wenzel Hablik's outer-space painting *Sternenhimmel* (*Starry Sky*, 1909) has been chosen as one of the artworks to create the visuals. The crystals move and through their facets different perspectives on the environment are offered. They are teleporters, transporting the user into different parts of the artwork.

The crystal as universal metaphor and basic element of nature at the same time was a crucial metaphor for our protagonists: for them, it was pervaded by light, unifying outside and inside, simultaneously form and spirit, an inorganic material growing similarly to a biological organism, a reflection of man to come. In *nowhere*, the visitor penetrates the crystal, forming a relationship of reciprocal transferences and penetrations of form as well as of meaning. And—as if one was inside a multi-faceted microcosm—the polygons delineating the crystal's inside become an immersive kaleidoscope.[12]

In her description of *nowhere*, Sylvia Eckermann points out that as in Hablik's art and especially his etchings from 1912, *Schöpferische Kräfte* (*Creative Powers*), the cosmos and central concepts as birth and death are central. The user is flying through a space of crystals, colors, voices and music with no inhabitants can observe and be part of the birth and death of crystals and is immersed into the crystal cosmos of the mod. As no avatar and mouse is used as interface, but rather the installation reacts to the bodily movements of the user, a more natural interface is offered that increases the experience of immersion. Immersion refers to the user experience of being absorbed by a virtual or fictional environment while playing a game, watching a movie or reading a book. They are different techniques to immerse the user. One is by way of the narrative; another one is by giving agency to the user. Natural interfaces as the one offered by *nowhere* support immersion, as the user is not struggling with a mouse or keyboard and can interact directly with the game space. This gives not only easy access to the game space but also simulates an agency the user has in real space. The effect body movements of the user have on the environment simulate tangibility of space. At the same time it is not a touch of real objects that takes place but the touch is targeted towards a simulated environment at present, i.e. "now here," and thereby targeted towards "*nowhere*." As in fictional space the "touch" is felt as an imagination but at the same time it is visualized by the reaction of the objects touched in virtual space. The user has choices where to go and how to interact with objects on screen. While *fluID* needs the figure of the avatar, which means that the screen is a window for the user onto the game world, *nowhere* simulates a door the user can go through. In *fluID* the other and the self are both represented by the avatar and therefore the fantasy to become one is highlighted, as described by Lacan in his mirror stage. In *nowhere* the other is not present visually. The body of the user is the avatar. The intermediary step to identify with the body of an avatar is not necessary and thereby immersion is increased immensely.

Spiegelzellen (2007): Deconstructing the Game

While immersion—being one with the environment—is an important experience offered by *nowhere*, the latest mod by Sylvia Eckermann, *Spiegelzellen* (*Mirror Cells*, 2007), intentionally interrupts and distorts this experience.[13] The entirely mirrored architecture of *Spiegelzellen* makes it difficult for the user/player to move through this environment. The artwork can be entered by multiple players at the same time who can interact with each other and with the environment. The many cells mirroring the game space give the impression as if the user is caught inside a hall of mirrors or a funhouse in which orientation is difficult. The title of this art work not only refers to a hall of mirrors, but to neurons called mirror cells or mirror neurons that fire not just when we are engaged in an activity but also when we imagine this same activity.

12 http://www.syl-eckermann.net/nowhere/
13 See also Daphne Dragona in this volume who points out that the deconstruction of immersion leads to new play experiences.

Identifying with an avatar and observing its bodily actions therefore activates the mirror neurons involved when we engage bodily with an environment directly. Neuroscientists have argued that mirror neurons are the neural basis for emotions such as empathy (Iacoboni 2005) and therefore might also be related to experiences as immersion when playing with an avatar. Becoming one with an avatar is represented in the language used by gamers when they refer to the avatar they play with (e.g. Ducheneaut 2009, Wolfendale 2007). Sylvia Eckermann asks:

> What is it like to be immersed into a virtual world, to perceive yourself inside it or to describe ones representation with the term "I" respectively? How do gamers react to game situations that do not allow annihilation but allow mutual appreciation, that do not allow combat but allow common experience, that do not allow maneuvers but allow strolling around? Do the invented fantasies of a game enable potentials for the users to realize real forms of acting together or forms of realizing the acting of others respectively?[14]

Users move through a continuous stream of mirrored spaces that visualize topics as memory and neurons, body and adaptation. The artwork thus maps and visualizes the functioning of neurons and the brain.

All visitors in the room are mirrored within the installation. The installation "is" the eye observing the environment, but also the brain processing and mapping it. Three players can enter the "brain" and interact with each other simultaneously. Each player is represented within the game space by a specific sound, which means spatial orientation and interacting with the other players is strongly based on listening to the game environment because vision is distorted by mirrors and thereby multiple visual representations. The players can cultivate the sounds related to their presence in the game environment and thereby achieve agency and the possibility to make their presence audible but also to customize their presence within the game world. Coming back to the discussion of modding in the beginning: players are able to modify the sound based on their actions within the game environment. Instead of modding skins/appearances the players modify sound within a game mod offered by the artist. Modding of the *Unreal* Engine was not only used to create the artwork but still takes place during every interaction. The visitors of the installation who are not playing are integrated by their mirror images but furthermore they can send text messages. These messages are then integrated into the game environment and are floating in the game world. This allows for communication between visitors but also between visitors and the game. The game world offers "a sensual connection to the outside." Sylvia Eckermann claims: "The project *Spiegelzellen* is not conceived as an artwork alone; it is a temporary lab, an experiment that opens a field for the mirror neurons themselves and their potentials."

Unreal Closed

"I'll put you through into Looking-Glass House. How would you like that?"[15]

Sylvia Eckermann decided to close this chapter of her work and after *Spiegelzellen* stopped working in modding.[16] While in the beginning modding was innovative, highly interesting for artists as a medium for expression and experimentation, games now very often offer editors and tools to players that have led to a huge increase of mods. Most of them are streamlined and follow the game aesthetics pre-defined by its designers. With a mod as *Spiegelzellen*, which opens the game and turns it into a laboratory, Eckermann came to a point of closure in her engagement with mods and her experimentation with the materiality of digital games. Her game art is clearly deludic in Kücklich's sense (2007a), as she deconstructs the source used and re-constructs it in a way that can be understood as a critique on commercial computer games.

14 http://syl-eckermann.net/mirrorcells
15 Lewis Caroll (1897), *Through the Looking-Glass.*
16 See the comments by Daphne Dragona in this volume.

Deludic— from the Latin *deludere*—means to cheat but also to delude and lead astray. Sylvia Eckermann "cheats" as she plays with the expectations of a gamer when entering an *Unreal* mod. A first person shooter suddenly does not ask its player to kill other players and engage in competitive game play but to explore the game space, enjoy its aesthetics, to create new connections between data, to experiment with identity in new ways and to struggle in a distorted environment.

From the perspective of the artist the principle of artful free play and that of the rule-governed game are merged. The artist plays with the traditional rules of digital game play and with the gamers' expectations. Seen from the perspective of the player, we find ourselves caught in a game within a game. As the players of an *Unreal* Mod, we play by the rules of *Unreal Tournament* in order to be able to play at all but even more importantly, we are forced to do so in a new environment created by an artist. We interact with a new, modified environment that leaves its traces on the avatar and its player and results in a different playing position.

Art games position themselves between art and game. Even more, they can be perceived as meta-games. They create new contexts that make us look at old rules in a new way and thereby open onto new constructions of selfhood.

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Daphne Dragona

WENN DER MOD ZUR KUNST ERHOBEN WIRD

Bespielbare Architektur ist transformierbar … Gamemods verändern, was virtuell vorgegeben ist. In den Worten der Situationisten wird die Architektur von morgen ein Mittel zur Modifizierung gegenwärtiger Auffassungen zu Zeit und Raum sein.

– Anne-Marie Schleiner (2010: 70)

In ihrem 2010 erschienenen Textbeitrag beruft sich Anne-Marie Schleiner auf Gilles Ivains Formel für einen neuen Urbanismus (1953), um das große Potenzial anzusprechen, das die Welt der Computerspiele einer Gruppe von Künstlerinnen bot, die in der Mitte der 1990er-Jahre in Erscheinung trat. Mit der Freigabe der Quellcodes von populären Game Engines wie Doom, Quake und Unreal wurde schlagartig klar, dass man in diesen Spieleumgebungen nicht nur spielen und interagieren konnte. Vielmehr eröffnete sich damit die Möglichkeit, direkt in die Architektur einzugreifen und diese zu modifizieren. Die in der Folge entstandenen künstlerischen Mods [kurz für Modifikationen von Computerspielen] waren, wie die Netzkunst und der Hacktivismus, subversiv und innovativ und somit charakteristisch für ihre Zeit. Kunst, die auf Computerspielen beruhte, basierte zwar auf dem Medium, lotete es jedoch bis an seine Grenzen aus. Alex Galloway bemerkte dazu, „wenn der Mod zur Kunst erhoben wird … büßt das Spiel in den meisten Fällen sein gesamtes Regelwerk ein und hört schließlich auf Spiel zu sein" (2006: 107). Aus diesem relevanten Widerspruch ging ein neues Handlungs- und Kreativitätsfeld hervor.

Als eine der allerersten Künstler engagierte sich Sylvia Eckermann in diesem Bereich und entwickelte da ihre künstlerische Praxis. Ihr starkes Interesse, mit Räumlichkeit zu experimentieren, führte zu einer Reihe von Arbeiten, welche sie mittels der für unterschiedlichste Zielgruppen konzipierten *Unreal* Game Engine realisierte. Es war Eckermann wohl sofort klar, dass die Auseinandersetzung mit diesem Medium nicht allein auf die reine Modifizierung von Computerspielen hinauslief. Sie sah die Mitwirkungsmöglichkeiten voraus, die dem Medium inhärent sind – und somit auch die Rolle, die es bald darauf in unterschiedlichen Aspekten des täglichen Lebens spielte – und untersuchte beziehungsweise verwendete es, um mit neuen Formen der Umgestaltung und Wahrnehmung der Spieleumgebungen zu experimentieren.

Ihr erstes Game-Art-Projekt, *Hotel Synthifornia*, realisierte Eckermann gemeinsam mit Mathias Fuchs 1999. Es wurde im selben Jahr bei „Synworld", der weltweit ersten Game-Art-Ausstellung und -Konferenz, gezeigt, die von Konrad Becker in Wien initiiert worden war. Damals zeichnete sich der Umbruch bereits ab, mit dem sich die Grenzen zwischen Produzent und Konsument, Künstler und Betrachter, Programmierer und Hacker zunehmend auflösten. Pioniere der Game Art wie Eckermann waren fasziniert von den Möglichkeiten, die ihnen das Medium bot. Wie sie selbst bemerkte, benötigte man „keine SGI-Maschinen, keine teuren Computer, um eine virtuelle 3D-Welt zu schaffen, die sich in Echtzeit mit einem mitbewegte … Der Raum war als Ausgangspunkt nicht mehr vorgegeben – er existierte nicht – es gab stattdessen ein riesiges ‚Etwas', aus dem ich jede Art von ‚Raum' herausschälen konnte" (Jansson, 2010).

Hotel Synthifornia ist ein großartiges Beispiel für einen Kunst-Mod dieser Zeit. Auf ironische und humorvolle Weise paraphrasiert der Titel das bekannte Lied der Eagles, *Hotel California*, das die Geschichte eines schönen Ortes erzählt, dem man nicht entrinnen kann. Eckermann und Fuchs schufen einen von Stanley

RESERVOIR_BOTS, 2004
screenshot [detail]

Kubricks *Shining* inspirierten Raum, ein Hotel, in dem sich die Spielerinnen unaufhörlich durch Räume und Korridore, Lifte und Stiegenhäuser bewegten, mitgerissen von einem Sog, der keine Möglichkeit des Ausstiegs bot. In einer radikalen Umwandlung der ursprünglichen *Unreal*-Spielerfahrung spiegelten die Texturen die Ästhetik der 1970er-Jahre wider, während die Avatare, ebenfalls ganz im Gegensatz zum originalen Ego-Shooter, jeder Möglichkeit zu schießen beraubt waren. Es konnte nur ein Synthesizer pro Raum in Gang gesetzt werden, um Musik zu spielen. War es das, was sich Gamer erwarteten? Der Raum, den die Künstler schufen und die Interaktion, die sie den Spielern zustanden, können als beispielhaft für künstlerische Mods gelten, die gezielt „heftige Kontroversen mit den Erwartungen der Mainstream-Spieleindustrie an die Gestaltung von Computerspielen ausfochten" (Galloway, 2006: 108). Gleichzeitig war der Mod ein Beispiel für die sich damals gerade entwickelnde Kultur der Teilhabe. Wie alle Mods und Patches dieser Zeit konnte *Hotel Synthifornia* vom Internet heruntergeladen werden.

Eckermanns Arbeiten erreichten bald ein größeres Publikum. Gemeinsam mit Mathias Fuchs schuf sie 2001 den virtuellen Wissensraum *Expositur*, der neben der medialen auch die museale Landschaft kritisch beleuchtete. Dieses virtuelle Museum, für das the next ENTERprise-architects die reale Hülle entwickelten, wurde bei „Unternehmen Capricorn" gezeigt, einem Ausstellungsprojekt von Christoph Steinbrener, das auf der Mitwirkung von zehn Wiener Museen beruhte. Eckermann und Fuchs schufen einen überraschend heiteren und explorativen Raum. Einer Wunderkammer der Vergangenheit gleich, bauten sie einen Mikrokosmos, wie er sich zuvor kaum hätte erträumen lassen können, und in dem Sammlungsexponate in ganz neue Zusammenhänge gesetzt wurden. Die Spieler/Benutzer/Besucher des Raums waren zu einer Entdeckungsreise eingeladen, auf der sie in eine Welt eingetaucht sind, durch deren Räume sie navigierten. Es war eine Welt, in der man nichts vorhersagen oder vorhersehen konnte, in der die Besucherinnen jedoch ihre eigenen Geschichten erfinden konnten. Durch die Form der De-Kategorisierung, die *Expositur* vorschlägt, lässt sich das Kunstwerk der institutionellen Kritik der 1960er-, 70er- und 90er-Jahre zuschreiben – das heißt, es ist ein Beispiele eines Kunstschaffens, das Institutionen herausfordert, indem es deren Funktionen, Wertsysteme und Klassifizierungsweisen einer Kritik unterzieht. *Expositur* zeigte, dass Computerspiele Raum für neue subjektive Interpretationen bieten können, die auf ihre eigenen Strukturen aufbauen, ihren eigenen magischen Zirkel schaffen und Raum für ein neues *Museum der Imagination* ermöglichen – um an dieser Stelle an André Malraux zu erinnern.

Im Zentrum der Arbeit von Eckermann und Fuchs stand die Produktion unerwarteter Erfahrungen. Sie entwickelten unterschiedlichste Konzepte, um die Aufmerksamkeit der Spielerinnen jedes Mal auf andere Weise zu entfachen. *fluID-arena of identities* (2003) etwa lässt sich als ungewöhnliches, ja unheimliches Spielerlebnis beschreiben. Wenn man sich in *fluID* befindet, spürt man eine gewisse Beunruhigung. Wessen Avatar sieht man wirklich? Die erste, zweite und dritte Perspektive verschwimmen in einem Raum, in dem Avatare Teile ihres Erscheinungsbildes untereinander ausleihen beziehungsweise einander stehlen können. Wie kann man sich in so einem Raum von den anderen unterscheiden? Wie entwickelt man eine eigene Identität? Welche Wirkung hat man auf die anderen, oder anders gesagt, welche Wirkung haben sie auf einen selbst? Wie kann man sein Erscheinungsbild vor den anderen kontrollieren (wovon bekanntermaßen bereits Goffman sprach)? *fluID* ist ein Spiel mit Identitäten, das sich auf spannende Weise mit den Bedingungen auseinandersetzt, die wir heute, im Zeitalter überbevölkerter sozialer Netzwerke, vorfinden. Online-Identität kann nur in der Beziehung zu anderen verstanden werden.

Die Vorstellung, dass man die eigene Performance vor den Augen der anderen definiert und kontrolliert, hat die Künstlerin in einem ihrer späteren Werke weiter erforscht und entwickelt. *Spiegelzellen* (2007), nach einer speziellen Art von Neuronen benannt, geht auf eine neurophysiologische Entdeckung im Jahre 1991 zurück. Diese Neuronen feuern nicht nur, wenn man selbst handelt, sondern auch, wenn man eine Handlung beobachtet, die von jemandem anderen ausgeführt wird. Davon ausgehend schuf Eckermann in Zusammenarbeit mit Szely und Doron Goldfarb eine reale Spiegelinstallation, deren virtueller Raum auf der *Unreal Game Engine* aufsetzt. Die Spieler/Besucher waren eingeladen, die Veränderung ihrer Wahrnehmung von Raum und Zeit in einer Umgebung zu erforschen, in der Klang und Bild in ständiger Bewegung sind. Die Kontrolle des eigenen Bildes wurde durch Reflektionen, Projektionen und Klänge erschwert, wenn nicht unmöglich gemacht. Kommunikation und Interaktion stellten eine besondere Herausforderung dar, machten aber gleichzeitig den Weg frei für eine andere Erfahrung, die durch alle geformt und von allen geteilt wurde.

Ein weiteres außergewöhnliches Werk der Game Art – insbesondere des Modding – ist *n o w h e r e* (2005/6). Die Möglichkeiten der Veränderung der Spielererfahrung und -wahrnehmung wurden hier für die „Simulation einer historischen Welt utopischer Ideen" erforscht, die von den Arbeiten und Ideen der sogenannten *Gläsernen Kette*, einer in den 1920er-Jahre aktiven Bewegung, inspiriert war. Zusammen mit Gerald Nestler, Christof Cargnelli und Oliver Irschitz schuf Eckermann eine ausgefallene Spielwelt, die mithilfe unterschiedlicher Raumkonstrukte verschiedene Vorstellungen und Ideen reflektierte. Texte und Architekturabbildungen, Bilder, Zeichnungen und Klänge wurden zusammengeführt, um einen Kosmos zu erzeugen, den die Spielerinnen erforschen, mit dem sie aber auch interagieren konnten. Interessanterweise ermöglicht ein Kristall diese Entdeckungsreise, in der wir uns durch eine Welt der Architektur und Philosophie bewegen – einem endlosen Prozess innerhalb eines Mikrokosmos der Ideen. *n o w h e r e* spiegelt Derridas Vorstellung von Gaming als einem Struktur- und Bedeutungsspiel, einem Anwesenheits- und Abwesenheitsspiel wider (1978). Es knüpft aber auch an Axelos Schriften über das Spielen an, das heißt an das Weltspiel, einem System der Systeme, das den Raum und die Zeit aller Gedanken und Erfahrungen formt (1979).

„Eine einzige Game Engine ermöglicht ein weites Spektrum verschiedenster Spiele", sagt Galloway (2006: 112), und Sylvia Eckermanns Game-Art-Werke belegen dies auf beeindruckende Weise. Sie changieren zwischen spielerischen und fröhlichen, unheimlichen und utopischen Räumen, zwischen Problemstellungen, die sich mit unserer Identität beschäftigen und Vorstellungen, die abstrakt und philosophisch sind. Sie ist damit eine jener Künstlerinnen, die zeigen, wie ein Computerspiel „eine enorme Ansammlung von Variablen" repräsentiert, „die jederzeit geändert und modifiziert werden können" (ebenda), um neue Ideenwelten zu erschaffen.

Die Entstehung dieser Werke liegt bereits einige Jahre zurück, und so scheint die erste künstlerische Modding-Szene der Vergangenheit anzugehören. Eckermann sagt selbst, dass ihr nach zehn Jahren intensiver Auseinandersetzung mit Game Engines die ausschließliche Beschäftigung mit der virtuellen Welt keine Befriedigung mehr bot. (Jannson, 2010). Neben künstlerischen Gründen lag dies auch daran, dass eine ins Gigantische wachsende kommerzielle Computerspieleindustrie experimentelle Formen der Game Art zunehmend marginalisierte. Ihr fortdauerndes Interesse an Raum und Wahrnehmung führte Eckermann zur Schaffung immersiver Environments jenseits der Welt des Gaming, in denen das Virtuelle und Reale, das Ephemere und Materielle zueinanderfinden. Es ist jedoch von großer Bedeutung, dass wir uns an die Rolle erinnern, die künstlerisches Modding in den Arbeiten von Sylvia Eckermann und in denen anderer Künstler spielte. Deren unkonventionelle und unerwartete Eingriffe in die Welt des Gaming markieren das Verlangen nach dem, was als „gaming the game" bezeichnet wird, nach dem Spiel mit dem Spiel selbst und damit zu Systembrüchen – was auch heute für die User/Gamer von höchster Relevanz ist. Da das Leben zunehmend wie ein Spiel wirkt, steigt auch die Notwendigkeit, es zu hacken, zu transformieren und die Kontrolle wiederzuerlangen. Und daher kommen wir immer wieder auf das intensive, störende und subversive Verhalten dieser ersten Game Artists zurück, wenn sich Barrieren zwischen den unterschiedlichen Wirklichkeiten zeigen, denen wir entgegentreten müssen.

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Daphne Dragona

WHEN MODDING BECOMES ART

"Playable architecture is transformable . . . Mods of games alter the virtual given. Invoking the situationists, the architecture of tomorrow will be a means of modifying present conceptions of time and space."

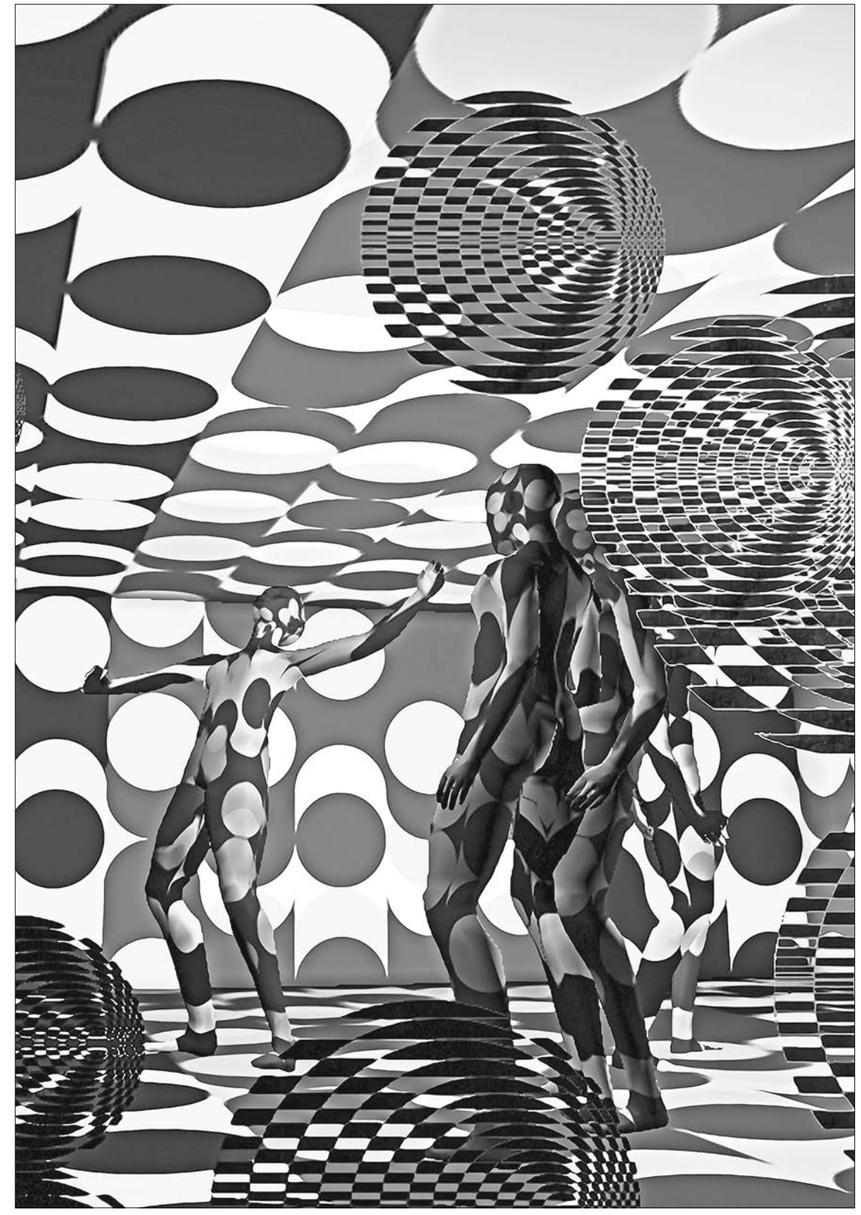
– Anne-Marie Schleiner (2010: 70)

Quoting from Gilles Ivain's *Formulary for a New Urbanism* (1953), in her text contribution to *Artists Re:Thinking Games* (2010) Anne-Marie Schleiner refers to the great possibilities the world of games opened for a group of artists that first emerged back in the mid nineties. With the release of code of popular game engines such the ones of *Doom*, *Quake*, and *Unreal*, it suddenly became clear that it was possible not only to play and interact within a game environment but also to decisively intervene in its architecture and to alter it. The art mods that appeared had features that were distinctive for their era. Just like net art and hacktivism, they were subversive and innovative. Game-based art was dependent on a medium while pushing that medium to its extremes. As Galloway put it "when the mod rises to the level of art . . . then, more often than not, the game loses its rule set completely and ceases to be a game after all" (2006: 107). And this interesting contradiction gave birth to a new ground for action and creativity.

Sylvia Eckermann was one of the very first artists to become involved in the field, allowing her artistic practice to develop within it. Her strong interest in experimenting with spatiality led her to the creation of a number of works based on the unreal game engine designed for different audiences. For Eckermann it seems that it was clear that this involvement with the medium was not just about modifying games. Foreseeing the empowerment of the medium and the role that it was about to play in different aspects of everyday life, she studied it and used it in order to offer new ways of perceiving and transforming game environments.

Eckermann's first project was *Hotel Synthifornia* (1999), realized in collaboration with Mathias Fuchs and presented as part of "Synworld," the first game art exhibition and symposium initiated by Konrad Becker in 1999 in Vienna. At this time, a particular change was already becoming clear; that the boundaries between producer and consumer, artist and viewer, programmer and hacker were more and more fading away. Pioneer game artists like Eckermann were amazed by the possibilities of the medium. As she herself mentions, "No SGI-machines, no expensive computers where needed to create a 3D-virtual world that moves with you in real-time . . . The space was no longer the given starting point—it didn't exist—instead there was a huge 'something' from which I could carve out any kind of 'space'" (Jansson 2010).

Hotel Synthifornia is a great example of an art mod of its time. The title of the project ironically and humorously paraphrases the Eagles' well-known song *Hotel California* and the story of a lovely place that you can never leave. The space Eckermann and Fuchs created was a hotel inspired by Kubrick's *Shining*, which led the player endlessly from rooms to corridors, to elevators and staircases, carrying him away in a continuous flow with no possibility for an exit. Totally altering the experience of the original *Unreal* game, the aesthetics were textures that evoked the 1970s and the avatar no longer had the possibility to shoot as would happen in the original shoot up game. Only one synthesizer placed in each room could be triggered



RESERVOIR_BOTS, 2004
screenshot [detail]

to play music. Was this what gamers expected? The space the artists created and the interaction they allowed is an example of how artistic mods could purposefully "conflict violently with the mainstream gaming industry's expectations for how games should be designed" (Galloway 2006: 108). But at the same time the mod was a sample of a sharing culture that was then at its very beginning. *Hotel Synthifornia* was available to download from the Internet just like all mods and patches of the time were.

Eckermann's work soon reached a wider audience. In 2001 she created *Expositur* with Mathias Fuchs, a virtual knowledge space challenging not only the medium but also a museum environment. This virtual museum inside a real space designed by the next ENTERprise-architects was shown at "Unternehmen Capricorn," an exhibition project by Christoph Steinbrener based on the collaboration of ten Austrian museums. This time, Eckermann and Fuchs created an unexpectedly joyful and exploratory space. Reflecting the *Wunderkammer* of the past, an undreamed microcosm was built where items of the collections found new connections. The player/user/visitor of the space was invited to discover them while navigating within the rooms and diving into the space. Nothing could be predicted or expected in a space where visitors could build their own stories. Suggesting a form of de-categorization, *Expositur* as a work could be affiliated to examples of institutional critique of the 1960s, the 1980s and 1990s; that is, to artistic work that challenges the institutions, criticizing their functioning, their value system, and mode of classification. *Expositur* showed that games can offer room for new subjective interpretations based on their own structures, creating their own magic circle and allowing space for a new *Imaginary Museum*, to recall Andre Malraux.

Building unexpected experiences was central to Eckermann and Fuchs' work, developing various concepts and triggering players' attention differently every time. *fluID-arena of identities* (2003), for example, could be described as rather unusual and uncanny for the player experience. When being in the game one is troubled. Whose avatar does one really see? The first, second, and third perspective blur in a space where avatars can borrow or steal elements of each other's appearance. How can one differ in such a space? How does one build her/his identity? To what extent does one affect the others and is respectively affected by them? How can one control her/his appearance in front of others, what Goffman once famously spoke of? *fluID* is a game of identities that interestingly tackles the condition that we now find ourselves in, in the era of the overpopulated social networking sites; online identity can only be understood in relation to the others.

The idea of defining and controlling one's performance in front of others is further developed and explored in one of the artist's later works. *Spiegelzellen* (*Mirror Cells,* 2007) is a work named after a neurophysiological discovery about neurons from 1991; it refers to a neuron that fires both when one acts and when one observes the same action performed by another. Starting off from this point, Eckermann in collaboration with Szely and Doron Golfarb created a mirror installation while using the Unreal game engine. Players/visitors this time were invited to explore how their perception of place and time changes in an environment where sound and image are in a continuous flow. Reflections, projections, and sounds rendered difficult if not impossible the control over one's image. Communication and interaction became especially challenging and opened the way for a different experience that was formed and shared by all.

A different and very special case for game art and especially of modding is the work *n o w h e r e* (2005/6). The possibilities of transforming players' perception and experience were in this case studied in order to build a "simulation of a historic world of utopian ideas" inspired by the works and ideas of the *Crystal Chain* Movement of 1920. In collaboration with Gerald Nestler, Christof Cargnelli, and Oliver Irschitz, Sylvia Eckermann created an unusual gamespace hosting different areas that reflected different notions and ideas. Texts and architectural images, pictures, drawings, and sounds were brought together to form an unusual cosmos that a player could explore and interact with. A crystal interestingly facilitates the exploration, and one's movement within a world of architecture and philosophy becomes an endless process within a microcosm of ideas. *n o w h e r e* responds to Derrida's notion of gaming as a play of structure and signification, a play of presence and absence (1978), while it can also be linked to Axelos' writing on play, that is, to the world's play, a system of systems that forms the space and time of all thoughts and all experiences (1979).

"A single game engine may facilitate a wide variety of individual games," Galloway writes (2006: 112) and Sylvia Eckermann's game art is a great example of this. Moving from playful and joyful spaces to uncanny and utopian ones and from issues that connect to one's identity to notions that are abstract and philosophical, Eckermann is one of the artists that showed how a game can be "a vast clustering of variables, ready to be altered and modified" in order to create new worlds based on ideas.

Several years after these works were created, the beginnings of modding seem to belong to the past. Eckermann herself says that after ten years of using game engines it became unsatisfactory to be engaged solely with the virtual world (Jannson 2010). Besides shifts in artistic interests, this was primarily due to the commercialization of games, which led to a gigantic gaming industry on the one hand and marginalized conditions for artistic experimentation on the other. Her continuous interest in space and perception led Eckermann to the creation of different immersive environments beyond the sphere of gaming in which the virtual and the real, the ephemeral and the material converge. However, to remember the role of art modding in her artistic work as well as in the work of other artists is of great importance. The artists' unconventional and unexpected interventions in the gaming worlds highlighted the urge of gaming the game, of breaking the system, what users/players are still very much in need of. As life looks more and more like a game, the need to hack it, to transform and gain control over it becomes very intense. And this vivid, disruptive and subversive behavior of the first game artists is what we keep coming back to when different realities present barriers that need to be opposed.

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