

# Storyworld, Gesamtkunstwerk, Art Ecology: Creating Narrative Geographies in the Metaverse

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## Abstract

*This paper will bring together two terms originating from disciplines that at first glance may seem to be unrelated to artistic activity in Virtual Environments or Virtual Worlds: 'Storyworld' which is largely grounded in the field of Narratology, and Gesamtkunstwerk' from the field of Aesthetics. These terms will be used as the theoretical framework that explicates on the creation of virtual, three dimensional 'art ecologies' for narrative purposes in virtual worlds. One such art ecology, created by the author, will be used as an example as to how such a narrative space has been built.*

## Introduction: Storytelling in Gaming Worlds and the Metaverse

The fact that three dimensionally embodied, online virtual worlds offer plenty of scope for narratives, including fully-fledged practices of storytelling, has been demonstrated over the past years by a significant amount of research conducted in gaming worlds under the heading of Interactive Digital Storytelling (IDS). Topics such as Agency, Player Freedom, Make-belief and Identity in online gaming world based storytelling practices have been examined under diverse parameters such as Aristotelian dramatic theory and Roland Barthes's codes of narrative by authors such as Elizabeth Anstey, [1] Clive Fencott, [2] and Fox Harrell and Jichen Zhu. [3]

The present text wishes to examine three dimensionally embodied, online, storytelling outside of gaming worlds, as the practice unfolds in the metaverse. This distinction is important since the metaverse, as a builder's world, has a *raison d'être* that is almost diametrically opposed to its counterpart, the gaming worlds:

The metaverse consists of a number of persistent, collectively shared online worlds that use the metaphor of the real world, however without its physical limitations. Beyond these attributes that the metaverse also shares with gaming worlds, the metaverse is also by Richard Bartle's definition a 'Wendy World' a sobriquet which originates from the tale of Peter Pan, in which Wendy was a creator who crafted stories of Peter and Neverland for her younger brothers, thus creating content for others. Wendy-style games are explicitly about user-created content in which everything originates from the input of the user and almost nothing, outside of the bare basics upon which such content can be placed, is provided by the developers of the environment. [4]

It would thus appear that a very good reason to stay in the metaverse is to become creatively active in it, to

participate in the building activity that one is surrounded by at all turns, indeed to turn building into a *raison d'être* for a 'second life.' In this sense the metaverse can, and should be understood first and foremost as a fascinating experiment in collaborative as well as individual creativity. Attractive as this proposition may initially sound, it may also be appropriate to heed Michael Cervieri who was one of the first to proclaim that the metaverse is "*a wildly provocative experiment in user generated content,*" but in the same breath also cautioned that "*unlike most 'upload your content and we'll share it in some sort of social media web-2-point-oh way,' content creation in Second Life is really, really, difficult.*" [5] These difficulties relate to content creation as the core of defining a purpose and an identity within a novel experience for humanity – extending one's existence through pixelated, three dimensionally embodied personas.

The model that brings this to the fore more so than any other is Second Life<sup>®</sup>, the well known builder's world that made its debut in 2003. Second Life allows its users to retain the intellectual property rights of the virtual objects that they create within the structure of an online economy which is complete with all instruments such as a competitive marketplace, a currency and an exchange system with which virtual funds can be transferred into Real Life currencies. Everything created in Second Life, from the formation of its very terrain to the architectural constructs placed thereupon, and down to the vast array of objects and wearables on sale and in usage is user-generated.

Gaming worlds differentiate themselves from the metaverse in that these are worlds in which the purposes of sojourn are about achievements that are predominantly gaming skills oriented. Consequently, gaming worlds have clear directions which rely almost exclusively on pre-created content. From this it may well follow that storytelling in gaming worlds revolves around pre-determined plots whereby the player is expected to follow a designated path (albeit, in some instances with a certain amount of player freedom that allows for the investigation of alternate venues in pursuit of a final reward); whereas storytelling practices in the metaverse will be likely to manifest in a different manner given that the usage/participation definitions are so very different from those of gaming worlds: Metaverse residents, whose very reason of residency revolves around content creation, will be far more likely to expect a story to whose unfolding they will be able to contribute creatively, rather than pursuing a fixed goal which is solely achievement/reward oriented.

True, there are many cases of ‘storyscapes’ in the metaverse where a pre-determined tale has been visually rendered onto a landscape in which visitors are expected to navigate from point to point in order to follow a pre-set narrative trajectory. The rendition of such a pre-set tale, in the building of which this author was also involved, has been reported upon in a previous publication. [6]

What is, however, more common in the metaverse – indeed what can be said to be almost a norm for artistic building in these worlds – are all-inclusive art ecologies in which an un-told, un-specified story/narrative is implicitly present through the very ambience, the building, the flora, the fauna, and the geography and climate upon which all of these are placed. In other words, these are locations that have been built with the aim to be fascinating enough for their visitors to draw their own conclusions, to create their own tales from what is manifested around them.

For the metaverse builder/artist it is therefore all important to bring into being a ‘storyworld’ that is compelling enough and cohesive enough to draw the visitor into it, and to propel him or her into generating a unique, personal tale that takes its impetus from the visual and auditory cues that he/she is surrounded by.

It is at this juncture that a theoretical framework, which may prove helpful in explaining some of the building strategies of metaverse artists, can be broached upon. In this text, two terms – David Herman’s notion of the ‘Storyworld’ and the notion of the ‘Gesamtkunstwerk’ – will be employed to structure such a framework.

### ‘Storyworlds’ and Virtual World Narratives

The term ‘storyworld’ denotes “*the surrounding context or environment*” which embeds “*existents, their attributes, and the actions and events in which they are involved.*” [7] Storyworlds thus closely correlate with the convergence of temporal and spatial parameters, both of which, according to Herman, hold equal value in the construction of an integrated narrative. While it is true that “*narratives display a double temporality as sequentially organized accounts of events; stories can also be thought of as spatializing storyworlds into evolving configurations of agents, objects, and places.*” [8]

The key characteristic of three dimensional, participatory, online virtual worlds is that these are dynamic spaces within which participants can interact with objects and others that surround them. Thus, unlike written narratives that inevitably have less precise spatial information, online virtual worlds (be they gaming worlds or builder's worlds) provide expansive visual spaces for players to explore through visual, auditory and haptic cues. Given how important, indeed fundamental, the visualization of space to virtual world narrative is, the equal role that Herman attributes to space in storytelling is crucial to an understanding as to why tales can be told/rendered in virtual worlds with considerable success. [9]



Figure 1-4. “Fool’s Gold,” Elif Ayiter, Second Life, 2015

It has to be noted here that, self-evident as Herman's findings (which place the importance of spatial attributes on an equal footing to temporal ones in narratives) may appear to be to us today; the tendency to make temporality the hallmark of narrative, and space a more or less optional

accompaniment, is much evident in previous narratological theory – to the extent that if space was discussed at all it was done so negatively, with emphasis placed solely on the temporal aspects of a tale.

Herman was inspired by Mikhail Bakhtin who changed the bias towards the temporal element in narratology by coining the concept of the ‘chronotope’ – a combination of the words *chronos* (time) and *topos* (space) in Greek. Bakhtin brought forth a discussion on the space/time continuum in storytelling by saying “*we will give the name chronotope (literally, "time space") to the intrinsic connectedness of temporal and spatial relationships that are artistically expressed in literature.*” [10]

Granted, Bakhtin’s concerns regarding the spatial attributes of narratives resided in the realm of language. However, a clue on how tales may unfold visually in virtual worlds (as successfully as they do through the spoken or written word in literature) can be obtained by a look at the research of a contemporary of Bakhtin’s, namely Gabriel Zoran: In order to discover how spatial structure affects storyworlds, Zoran studied the inherent structure of space and developed a model that distinguished three levels of spatial structuring: These are the topographical level (space as a static entity), the chronotopic level (space imposed with events and movements), and the textual level (space imposed with verbal signs). [11]

Zoran’s three levels of space in narrative fit very well into storytelling in the metaverse through visual elements: The topographical level corresponds to the basal building work, as well as the creation of an ecosystem comprised of flora/fauna, geography and climate that bring about the immersive ambience of the environment. The chronotopic level corresponds to the interactive nature of these worlds, where avatars attain presence through the manipulation of objects and by communicating with others – which directly leads into Zoran’s third level, the textual one, since the primary mode of exchange between agents in virtual worlds is through a textual chat medium. To these three levels a fourth one will also need to be added, namely the level of sound, since sound is an integral part of the immersive experience, as will be discussed further on. Together, these four levels may be considered to constitute the basal ‘storyworld’ upon which the building blocks of a ‘Gesamtkunstwerk’ specific to the metaverse can be placed.

### **Virtual Reality and the ‘Gesamtkunstwerk’**

The term ‘Gesamtkunstwerk’ denotes an idealized union of all arts – from music, dance, and poetry, to visual arts and stagecraft. The concept came was formulated during the Romantic period as a reaction against the Neoclassicists’ attempts to establish media-specific aesthetics and to create pure forms of expression that were derived from the material characteristics of the media employed.

In the late 18<sup>th</sup> century several artists in France and Germany proposed the idea of a synaesthetic work of art, an

idea which was indeed influential in bringing forth the Romantic movement, for whose followers the fusion of the arts became a favorite dream. Most notable amongst the practitioners of the Romantic movement’s advocacy of a totality of the arts was Richard Wagner, whose operas were conceived of as ‘Gesamtkunstwerke’ that attempted a syncretism based on a continuum between the arts.

Artists of the modernist period however subjected Wagner’s conception to a fundamental critique and developed new foundations for a new ‘Gesamtkunstwerk’ aesthetics that influenced a whole generation of artists, writers, and intellectuals in the new century. Notable amongst them was Wassily Kandinsky who searched for a new language to express the spiritual concerns of his epoch made him develop the concept of a synaesthetic, abstract ‘Total Work of Art.’

Many modernist artists seized upon Kandinsky’s theories, which were widely circulating in Europe before the First World War. This was also the case in Italy, where they fell on fertile ground in the circle of Futurist artists. The group of painters Marinetti had assembled around himself propagated in numerous manifestos a new art based on the principles of universal dynamism, multiple viewpoints, simultaneity, interpenetration and synthesis. [12] The concern was to harmonize sound, color, form and space for varying reasons, though always with the intention of creating a singular, unified experience.

Although the ‘Gesamtkunstwerk’ was formalized as an artistic strategy starting from the 18<sup>th</sup> century, the practice of it goes back to earlier ages where it is evidenced within a religious context. David Morgan [13] gives an overview of early artistic practices that are akin to the much later formulation of a ‘Total Work of Art’ by looking at religious architecture from medieval times onwards, and especially as it is evinced during the Baroque period.

According to Morgan, the four essential aspects of a ‘Gesamtkunstwerk’ are:

1. Variety of media
2. Unity of effect
3. Physical environment
4. Participation of the viewer

However, after giving this succinct list, Morgan broadens his discourse by asking how such general criteria may differentiate meaningfully between a genuine Gesamtkunstwerk and any multi-media work of art. His answer is that only those works of art which set out to orchestrate formal elements in such a way as to achieve a unity of effect that aims to generate a sense of ambience and viewer participation can be considered Gesamtkunstwerke.

The ultimate effect of the Gesamtkunstwerk, according to Morgan, is a sense of emotional presence or mood intended to elicit a dimension of human experience that would have been referred to as ‘religious’ for a long period of human history during which the aim of the artists and architects striving for such a union of arts would have been precisely the evocation of such a religious response.

Yet another author who traces the presence of the ‘Gesamtkunstwerk’ to eras during which such works were not yet labeled with such a term but were nevertheless put into practice is New Media scholar Oliver Grau. Unlike Morgan, Grau does not correlate the ‘Gesamtkunstwerk’ with religious art alone, but gives many examples from secular works, including 360 degree architectures such as the Sala delle Prospettive, built as a showpiece for a nouveau riche of the age called Agostino Chigi in 1518. This architecture is, of course, one of the forerunners of the many panorama displays that were vastly popular during the 19<sup>th</sup> century throughout Europe. Not surprisingly, Grau uses these panoramas as further examples of immersive, ambient, participatory architectures/artworks that seem to present attributes which provide convincing answers to Morgan’s question as to what constitutes a ‘Gesamtkunstwerk.’

What is of particular relevance to the argument of this paper, however, is that Grau also sees a precedent to Virtual Reality projects in these historic architecture/artworks, saying that the idea of transposing the audience into an enclosed, illusionary visual space was not born with the invention of the computer. Instead it is grounded in a solid art historical tradition whose core idea reaches back to antiquity. It is this tradition that has been revived and expanded in the virtual reality art of the current age, that *“this kind of virtual reality excludes the sensation of being alienated by the image and surrounds the observer in an illusory setting where time and space are one,”* [14] thereby also taking us back once again to Herman’s ‘storyworld’ and Bakhtin’s ‘chronotope,’ as concepts that can be seen to be as closely related to virtual reality as they are to the telling of tales.

### **Metaverse Geography as ‘Gesamtkunstwerk’**

When it comes to translating the ‘Gesamtkunstwerk’ into virtual worlds we arrive at a phenomenon that may, at this moment in time, only be in existence the metaverse – although some resemblances to physical land-art projects may well be found in its workings:

These are all-inclusive art-habitats that come into being through a custom created geography and climate, usually stretching themselves out over an entire metaverse simulator which is used to create a continuously engaging experience, comprised of many interrelated artifacts that cannot be easily separated from one another and that provide a complex visual/sonic system to be perceived in its entirety. What is displayed grows out of its own artificial ecology, meant to be visited and experienced through the agency of avatars which are beings that are just as artificial as the ecology that surrounds them.

While many of the building strategies of physical land-artists and metaverse art-ecology builders are in fact quite similar, it has to be acknowledged that metaverse artists have one distinct advantage over their physical colleagues. This relates to the creation of site-specific climate: At its onset the metaverse did not have a proper atmosphere or a

climate to speak of – a sad circumstance which accounts for the many screenshots from those years that show a cardboard-like world, devoid of all allure, mystery and harmony, displayed under a stark, unforgiving midday sun. However, these conditions took a decided turn for the better when a noteworthy change was introduced in late 2007: When Second Life started to provide tools for the creation of custom skies, cloud covers, as well as ambient and atmospheric lighting; metaverse builders were very quick to place these new affordances at the very center of their building strategies.

Thus, in the metaverse, climate and atmosphere constitute an all important framework against which all art and architecture is placed; rounding off the components of a creative endeavor which is in accordance with David Morgan’s previous definition of the ‘Gesamtkunstwerk.’ In other words, a variety of media, creating a unity of effect within an (albeit virtually) physical environment that invites the participation of the viewer as a consolidated whole.

### **‘Fool’s Gold’ – Generating Narrative through an Art Ecology**

The project came into being in May 2015, when I decided to rebuild my Second Life island, an activity that most virtual landowners engage in from time to time in order to create fresh, stimulating experiences for their visitors. The island had therefore been rebuilt many times before and my observation was that some of these builds were considerably more successful than others when it came to visitor responses.



*Figure 5. “Fool’s Gold,” Kimika Ying, Second Life, 2015. Photograph Courtesy of the Artist.*

A good way to assess such success is through a scrutiny of blogging activity around the work, and even more importantly through the amount of photographs and videos that have been shot on the land and that have been shared on social media. While, in earlier builds, such as my erstwhile island ‘Syncretia,’ such activity had been prolific, in more recent builds there was a marked decrease.

Although I had not conceived of it as such while I was building it, I came to realize that Syncretia had been a ‘storyworld,’ whereas the later builds were simply architecture that lacked the aspects of intrigue, of stories waiting to be told, that the land and what was placed upon it held in its very being, which were the very attributes that had made Syncretia into the success that it had been.

The differences were there in the very geography itself: While Syncretia had been mountainous, holding lots of secret valleys that were not immediately visible, the later builds were flat. While Syncretia was built not only at sea level, but stretched underwater as well as into the sky, the later builds confined themselves to an existence only at sea level. In other worlds, what was there to be seen had to be sought out in Syncretia, whereas it was directly accessible in the later builds.

Since I obviously desired to go back to my previous success as a metaverse builder, the first task at hand, after realizing the error of my ways, was to terraform the land into a geography that had to be explored in order to be experienced.

However, the differences between Syncretia and the later builds were not only in the geography. Syncretia had held many interconnected (and somewhat surreal) story spaces, such as a tribal tent, an underwater bathroom, a gym for aquatic creatures. And, to judge by how often these spots had been photographed and those photographs had been shared, it had been these spaces that had drawn huge numbers of avatars to the island.

Visiting a number of highly successful locations in Second Life, I found that in these spaces an emphasis on storytelling, instigated through hidden spots was much in evidence also. While, some of the locations that I visited held immediately recognizable content such as medieval castles, post-apocalyptic cities, or tribal villages, others held references that were more whimsically obscure – Bryn Oh’s Immersiva island constituting a very good example to the latter category.

‘Fool’s Gold’ island also falls into this second classification: The ‘storyworld’ consists of numerous locations that have common visual characteristics that veer towards the fantastical whilst yet holding firm clues as to what they are, what their purpose might be in the telling of the tale: While the architectural work on the island can be immediately identified for what it is – a medieval ruin, an old house, an Orientalist pavilion, a wharf, two geodesic domes, and the like – nevertheless all of these structures possess an element of the unexpected through their covering materials which are not at all what one would associate with what they are traditionally held to be. A second element of the unexpected also comes about through their locations: Thus, the wharf, where a golden ship is in the process of being built, is placed at 100 virtual meters above sea level; while an antique underwater ruin is clothed with a semi-transparent grid texture that turns the edifice into a

wireframe object whilst yet remaining clearly identifiable as a ruin.

Since ambient sound is considered to be an essential component for ‘presence’ in virtual environments [15] the ‘storyworld’ has been furnished with ambient sound throughout, turning into deep underwater gurgles whenever one ventures underwater, or increased wind when one goes to higher altitudes. In addition to this ambient sound however, locations also have music embedded into them, such as the Sufi music that surrounds the visitor upon entry into the Orientalist pavilion.

Finally, while the emphasis is on visual/sonic clues that will enable the story that is yet to be told, visitors are also presented with a text upon entry to the island which gives them several keywords that may help them on their way: These are phrases such as ‘Ship of Fools’ which evokes departure, seafaring, far off lands, never to be attained goals, loss of direction, oblivion; or indeed the very title of the project itself, ‘Fool’s Gold’ which evokes greed, betrayal, illusion and deception.

And sure enough, there they are – the seafaring and airborne vessels and the pavilions, ruins and domes, nestled amidst steep hills and underwater canyons that are covered in an improbable vegetation of gold which reaches out to a quiet ending of the day.

## **Outcome**

As a conclusion to this text, a report on the outcome of the project ‘Fool’s Gold’ appears to be in order: The island has been visited by thousands of avatars since its completion in Spring 2015, and the author is gratified to observe that its visitors have in fact used the art ecology for the purpose that it was intended for – as an open ended platform which is meant to be utilized for the generation of personal narratives and tales. These tales manifest as photo series and as machinimas which are shared on social media, as is the case with most second-order metaverse creative activity that revolves around virtual photography, video and image creation.

What is notable with this photography/video based second-order activity is that in many cases the aims of the artist avatar engaged in it seems to go considerably beyond a pure documentation, or a mere taking of snapshots as a souvenir from a virtual visit, or a plain fashion shoot displaying an outfit that has been purchased.

Instead, the metaverse boasts an elite cadre of artists who choose to express themselves solely through the medium of virtual photography and machinima that very often uses the artifacts of others for props, scenery and costumes – hence the term ‘second-order creativity’ used above.

These photographs/videos are sometimes left in their raw states, showing exactly what was seen in the virtual world itself. In many cases, however, the raw photographs or videos taken in-world are taken into external editors where they are further worked upon – their lightings

adjusted, filters applied, or interesting crops, mosaics and combinations are undertaken.

The results are manifold, ranging from the humorous to the grotesque and the tragic; and from the surreal to the starkly minimal. Where photographs are concerned, quite often the output is displayed as not only one single image but a series of images that are in sequence or otherwise connected through content.

What is also often evident in these images is a search for narrative contained in a single frame that reminds one of Mannerist paintings of the Baroque period. Indeed the quest of some of these metaverse photographic artists may well be the production of what Sjoerd van Tuinen, quoting Deleuze, calls 'time-images' that "*render visible the temporal relations which cannot be reduced to the present,*" [16] which were also a central concern of the Baroque, one of the cornerstones of which was "*the 'crystal-image' wherein a myriad of coexisting virtual temporalities – recollections, dreams, worlds – are fused with the flowing present, as so many heterogeneous durations that constantly feed on each other, thus fixating the fact of movement in an instantaneous becoming.*" [17]

Many of the photographic artworks that visiting metaverse artists have generated through the project 'Fool's Gold' demonstrate this condensation of temporalities, and appended narrative: Through a dramatically styled posing of the avatar (or of groups of avatars) within the landscape; as well through lighting and composition that direct flow and provide multiple focal points within a single frame, a visuality that is strongly reminiscent of the dramatic opulence of Baroque painting is achieved.

The outcomes are visualizations of what the visiting artist appears to have had no hesitation in beholding as a 'storyworld,' since a personal tale, which takes its trajectory from the 'Gesamtkunstwerk' that brings together the elements of this 'storyworld,' seems to have been generated from a journey to 'Fool's Gold' island. The resultant image is a frozen moment in time, at a specific point in space, of this personal tale.

## References

- [1] J. Anstey, "Agency and the 'emotion machine'," in *Virtual Storytelling. Using Virtual Reality Technologies for Storytelling*, Springer Berlin Heidelberg, pp. 125-128, 2005.
- [2] C. Fencott, "Agencies of interactive digital storytelling," in *Technologies for Interactive Digital Storytelling and Entertainment Conference* (pp. 152-163), 2003.
- [3] D. F. Harrell and J. Zhu, "Agency Play: Dimensions of Agency for Interactive Narrative Design," in *AAAI Spring Symposium: Intelligent Narrative Technologies II*, pp. 44-52, 2009.
- [4] R. A. Bartle, "Alice and Dorothy Play Together," in *Third Person*, Harrigan, P., Wardrip-Fruin, N., (eds), MIT Press, Boston, pp: 105-117, 2009.
- [5] M. Cervieri, "User Generated Content in Second Life with Cory Ondrejka," scribemedia.org, <http://www.scribemedia.org/2007/03/20/2nd-life/> Read on 14/01/2015, 2007.
- [6] E. Ayiter and H. Dahlsveen, "LRRH: The Other Side of the Story," in *Metaverse Creativity*, vol. 4, no 2, pp: 139-151, 2014.
- [7] D. Herman, "Storyworld," in *The Routledge Encyclopedia of Narrative Theory*, David Herman, Manfred Jahn, and Marie-Laure Ryan (eds), London: Routledge, pp: 569-70, 2005
- [8] D. Herman, Spatial cognition in natural-language narratives, in *Proceedings of the AAAI fall symposium on narrative intelligence*, pp. 21-25, 1999.
- [9] D. Herman, *Story Logic: Problems and Possibilities of Narrative*, University of Nebraska Press, Lincoln, Neb, USA, 2002.
- [10] M. Bakhtin, "Forms of Time and of the Chronotope in the Novel: Notes towards a Historical Poetics," in *The Dialogic Imagination*, Michael Holquist (ed), Austin: University of Texas Press, pp: 84-258, 1981.
- [11] G. Zoran, *The Construction of Reality in Fiction*, *Poetics Today*, vol. 5, no 2, pp. 309-335, 1984.
- [12] G. Berghaus, *The Futurist Conception of Gesamtkunstwerk and Marinetti's Total Theatre*, *Italogramma*, vol. 4, pp: 283-302, 2012.
- [13] D. Morgan, *The Cosmology of Philipp Otto Runge and its Influence on his Interest in the Gesamtkunstwerk*, Master's Thesis, University of Arizona, pp: 20-30, 1984.
- [14] O. Grau, "Into the Belly of the Image: Historical Aspects of Virtual Reality," *Leonardo*, vol. 32, no 5, pp: 365-371, 1999.
- [15] C. Hendrix, and W. Barfield, "The sense of presence within auditory virtual environments. Presence," vol. 5, pp: 290-301, 1996..
- [16] G. Deleuze, "Two Regimes of Madness. Texts and Interviews 1975-1995," translated by A. Hodges and M. Taormina, *Semiotext(e)*, New York, p: 290, 2006.
- [17] S. v. Tuinen, *Cinematic Neo-Mannerism or Neo-Baroque? Deleuze and Daney*, *Image & Narrative*, vol. 13, no 2, pp: 53-75, 2012..

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