

Transmogrification

transmogrify (tràns-mòg´re-fî´, trànz-) verb, transitive, To change into a different shape or form, especially one that is fantastic or bizarre. (The American Heritage Dictionary of the English Language, Third Edition)

Introduction

During the past three hundred years, the dominant carrier of truth has been the written word. A printed infrastructure has supported the Western world since Gutenberg whose printing press facilitated the literate foundation of culture. Even television and radio rely on promptings from linear scripts and printed programming. The recent advent of the Internet's World-Wide Web has begun to re-configure the print infrastructure by wedding text more intimately with images. Web technology blends pictures with typography in a more facile way than was ever possible before. Even the hand-illuminated manuscripts of the medieval period could not interweave so diverse a mosaic of images and words. The word now shares Web space with the image, and text appears inextricably tied to pictures. The pictures are dynamic, animated, and continually updated. The unprecedented speed and ease of digital production mounts photographs, movies, and video on the Web. Cyberspace becomes visualized data, and meaning arrives in spatial as well as in verbal expressions.

The historian can view this merger of text and image as a partial throwback to the pre-literate reliance on iconography. The new merger reminds historians of Christian culture and the theological debates that for centuries surrounded the transmission of the religious word. While the sacred Word lives primarily in the hearts and mouths of believers, the transmission of the Word over generations

takes place through the rituals and the artistic images adopted by the community of the faithful. Since the medieval period, for example, the Catholic Church surrounds its word-based rituals with music, paintings, architecture, gesture, and incense. Such communal art is deemed essential to the transmission of the Word as conceived primarily through spoken and written scriptures. The word on the page is passed along in a vessel of images, fragrances, songs, and kinesthetic pressed flesh. Elements like water, salt, and wine contribute to the communication. Truth is transmitted not only through spoken and written words but also through a participatory community that re-enacts its truths through ritual.

Reflecting on ritual practices, early theologians debated ways of understanding how truth is made present in and through rituals. The theological debates often revolved around the precise type of presence brought about by ritual. How does incarnate truth become present through the rituals of the community? Was the presence granted to the community real, or should it be understood as symbolic, or perhaps in some sense as a virtual presence? How does the reenactment of the sacred word function to make the past really present? Does reenactment imply representation (repetition), symbolic dramatization, or perhaps some other more subtle transformation of ritual materials? These questions arise again as a new digital media replaces older forms of the typed and printed word. If truth becomes finite and accessible to humans primarily through the word, what implications do the new media hold for the living word as it shifts into spatial imagery?

We cannot attempt to answer all these questions in this brief paper, but we can focus here on the implications of one branch of digital media. The implications of virtual reality offer a key to understanding interactive media in general.

Avatar Worlds

The branch of the new media that produces multi-sensory immersion in a multi-user 3-D Environment is called "virtual reality" (VR). Types of VR range from the fully

immersive head-mounted displays and room-size wall projections like the CAVE™ to multi-user PC systems on distributed networks like the Internet. One prominent example of a 3-D multi-user distributed network is the five hundred or more avatar worlds that run in the ActiveWorlds Universe™ 3-D browser available on the Internet (www.activeworlds.com). Avatar worlds are perhaps the most interesting VR at the dawn of the millennium because they are accessible to millions of users, and hundreds of builders are experimenting with these shared worlds to express their vision of virtual reality. Using low-end personal computers, hundreds of people log on each day to don an avatar (graphic self-representation) and enter these worlds. They chat with one another, express themselves through movement and gesture, and -- what is unique to ActiveWorlds -- they build and design their own 3-D environments. This creative virtual architecture can display the fantasy and imagination of interactive media.

Even though PC-based 3-D worlds appear on a 2-D monitor and therefore lack the full-surround of high-end VR, these worlds present a wonderful opportunity to experiment with the next stage of the Internet. At this early stage of VR development (ActiveWorlds first opened in the mid 1990s), we can already see emerging some of the aesthetic representational issues that are likely to arise in the new mode of truth as it makes its appearance in the coming century.

Avatars are animated graphics by which humans "incarnate" themselves in real-time 3D computer worlds on the Internet. When people enter these worlds, they choose their avatar, determining how they will appear to themselves and to others in the world. Even in worlds where avatar parts can be assembled piecemeal into customized identities, the initial design of the parts still strongly affects the final look and feel of the avatar. Avatar design not only affects the perception of the self but it also affects possible ways of navigating through the world and the kind of dwellings that are appropriate for the avatar.

Avatar Design

Avatar design relates not only to the virtual world and to those present in the virtual world. It also relates to the self of the user. Here is where we can speak about the transformation and/or transmogrification of the self through the avatar. As the self expands to incorporate the avatar identity, the avatar identity penetrates the user identity. This process of transformation into online avatar is fairly novel, and it is too early at this point to draw definitive conclusions about its implications for self-identity. But we can already see some general features of avatar identity that may guide speculation.

Avatar identities present both a positive transfiguration (Verklärung) as well as a less wholesome transmogrification (Verkehrung) of the human being. Both aspects belong to a larger picture in which virtual humans inhabit computer-simulated worlds. These virtual worlds show the first stages of an evolving transubstantiation of life, what has been called an ontological shift in the tectonic plates of culture. The virtual world is only now beginning to absorb the other media, and so we cannot know yet how far culture will go into the virtual dimension.

The design issue for avatars goes beyond the "merely aesthetic" issues in the modern sense. If modern aesthetics locates design in the play of the senses, then virtual aesthetics reaches deeper than the sensory level to an ontological dimension because to conceive in the virtual is already to design something virtual and to fashion an identity is already to establish what and how something or someone is to exist in the virtual dimension. In the virtual, to create is to exist, and to conceive is already to design. Creation in the virtual is dynamic and never-ending. On the other hand, what is created is far more fluid and more fungible than anything physical.

Because avatar conception is nearly indistinguishable from avatar design, we must look carefully at the initial assumptions behind the design concept. In the broadest

terms, the current avatar design falls into three general categories: humanoid, non-humanoid, and humanoid transforms.

Avatar design belongs neither to technology nor to art. It belongs to both. As Heidegger has taught us in his writings on technology, we are at the point in history when we must revive art as the very essence of technology. *Techné* itself contains the earliest meaning of art or skill, and to shape technology today is the noblest challenge of art. We are at a point far-removed from a self-absorbed aestheticism as well as from the haughty humanism that rejects everything technological as machine-like, banal, and beneath serious consideration.

The three general classes of avatar design -- humanoid, non-humanoid, and humanoid transforms -- fit into a broader design issue. The broader issue is one that harks back to the question of representation in art. Representation is often contrasted with "abstract" or "expressionist" art. The two types suggest either formal patterns abstracted from matter or transmogrified colors and lines that reveal the artist's individual feelings. Against these twentieth-century styles stands a tradition of representation where the artwork embodies a resemblance or isomorphic reference to something already given in the physical world. The representation sometimes achieves the ritual presence of transcendent beings, as in the iconostasis of the Greek Orthodox Church where the community's hours of singing, incense, and prayer reveals the wooden icons of saints to be the heavenly presence of those immortal saints.

Realism and Irrealism

If we look at the current building trends in ActiveWorlds, we can see the split between world designs that either lean toward directly representing the physical or designs that transmogrify representations of the physical. The latter non-representational designs remain under the sway of real-world reference, no doubt because many new visitors still feel a need for familiar navigation and because

current software places certain limits on imagination, such as, for example, the lack of roll and yaw controls in the ActiveWorlds software.

The examples I will show here of non-representational world design come from work developed by students at the Art Center College of Design in Pasadena, California, where for the past two years, young designers have been experimenting in the classes Virtual Worlds Theory and Virtual Worlds Design. Much of the work done by the students came as a reaction to the majority of worlds in the ActiveWorlds Universe that are largely representational. (As of July, 1999, the ActiveWorlds Universe contains a little over 500 individual worlds. When the students began building two years ago, there were about 70 worlds.) The first worlds tended toward realistic representation of the given physical world. They presented their avatars as biped creatures walking over a flat earth and limited by the laws of gravity -- even though the software actually allows avatars to rise easily from the ground and "fly." When asked about these assumptions, the world designers typically stated their belief that gravity and flat earth would afford a more natural basis for navigation and would allow users to understand the world more quickly because of the familiar Analogy to the natural world -- even though the phenomenal world's flatness does not match the physics of the real world as known to science.

One example of a realistically built world is the first virtual school built inside the ActiveWorlds Universe. The "AW School" takes literally the redbrick schoolhouse of conventional architecture. The outside look of the redbrick textured building conveys immediately what the virtual structure purports to represent ([Figure 1](#)). Everything here depends on the first glance. The outside of the building bespeaks what it pretends to be inside. It is, however, no more than an immediate apparition. Once inside, the visiting avatar encounters the consist results of the representational style. School corridors lead through classrooms and administrative areas -- even though virtual world navigation in fact allows users to pass through walls by simply holding down the Shift key, and even though users can teleport their avatar instantly through space if a teleport point is provided by the world

architecture. Proceeding further down the corridors and into one of the classrooms, the visiting avatar confronts the dreary abomination of naive realism ([Figure 2](#)). The schoolroom contains wooden chairs and desks typical of the banal furniture of many conventional classrooms ("genuine simulated walnut"). A large blackboard dominates the front and center of the room. Both of these accouterments serve no functional purpose in the virtual world as the avatar cannot -- and need not -- assume a seated position. Nor can avatars use chalk to write on a virtual blackboard. The furnishings are empty signals displaying what the building purports to be according to the desire of its creator -- not according to the pragmatic use of its users. (The futility of this type of design was the topic of a talk the author gave at the 1998 virtual convention "Avatars '98" under the title "Do Avatars Really Need Chalk?" See: <http://www.mheim.com/av98>)

Another educational structure in ActiveWorlds shows a similar pitfall of realism in virtual worlds design. "AW University" seeks to go beyond the one schoolhouse model and instead aims at the supposed collegiums of the contemporary university. The entrance to AWU provides cues for recognizing what AWU would like to become -- or at least hopes to signal as invitation. ([Figure 3](#)) The cues resemble stone entry gates that demarcate different areas of campus, with each area housing one or another division of academic studies and each division containing the departments with their respective disciplines. The Humanities area, for instance, opens onto a section of campus that houses an Art and a Philosophy area, and so on. The divisions replicate contemporary disciplinary turf and fail to suggest any educational reform via the virtual. Education in the virtual is supposed to simply echo the values and history of real-world university education, as it currently exists in the real world. There is no suggestion here that by entering the virtual realm, the teaching / learning process may undergo profound changes and that by being re-configured online, education may have a special opportunity to be transformed. One must not, of course, be too harsh on the pioneers who have built this first virtual university. Like all pioneers, they are easily shot in the back because they pushed ahead into unexplored territory. The rest of us, nevertheless, must not take for granted the reality assumptions that are brought wholesale into the virtual.

ACCD World

In coaching virtual world builders at Art Center College of Design, my concern is that they explore the properties inherent in the new medium rather than impose an aesthetic from other media like film, painting, or theater. These other media are not inherently interactive nor are their intrinsic goals to achieve real-time telepresence on a distributed network. Virtual space is not inherently linear, nor is it a narrative space as such. One of the key words for the experiments is "virtual realism," which points to a middle road between the extremes of network idealism, which wants everything uploaded into a new artificial cyberspace, and naive realism, which sees cyberspace as a threat to a presumably pure natural world. Between the extremes of network idealism and naive realism runs the middle course of virtual realism. See the book [Virtual Realism](#) (1998) that details the theory. The balance suggested by the term virtual realism applies not only to a philosophical stance towards the Net. It also implies a direction in virtual worlds design. None of the examples I cite are perfect examples of a completely balanced virtual realism. The examples are flawed either by the naive realism of the buildings of AW University or AW School, or they tilt toward the fantastical without yet having found the full functionality needed by a virtual world. Only more experiment can perfect the balanced approach and achieve a realism that avoids ontological nostalgia and non-functional aestheticism.

The following examples come from student work begun at Art Center College of Design in 1997 in the seminar "Sacred Geometry in Virtual Space" (<http://www.mheim.com/sgivs2>). The seminar goal was to develop non-realistic, non-ordinary spaces that contrast sharply with the representational architecture so prevalent in ActiveWorlds. The first important design decision was to reject the usual implementation of gravity that assumes a single horizon with a flat earth. This decision held profound ramifications for every other design decision, including the type of avatars that belong to the world.

The entrance to the experimental world, called "accd" world sets the dreamlike tone See ([Figure 4](#)). The entering avatar faces an expanding cone at the mouth of which float colored balls of varying textures. The colored balls are transport buttons that teleport the visitor to over a dozen aesthetic nodes. Each node offers a different interactive adventure. The brightly lit area at the back of the trumpet adds a surreal atmosphere to the entrance. Seen from a distance -- from a location triggered by one of the colored balls -- the entryway appears trumpet-shaped, which suggests its earliest function as a speaker's podium for a talk given at the online conference Avatars '98 ([Figure 5](#)).

Because of the absence of gravity, accd world has multi-layered building levels. You can float up or down to enter different structural levels ([Figure 6](#)). Some areas do not reveal themselves immediately upon entry. "Memory Chamber," for instance, first appears as a large black-and-white photo out of childhood's past. As you approach the photo to see it more closely, other photos begin appearing next to the first, until you realize that you are completely surrounded by old photos, ambushed, as it were, by memories from the past. One memory appears and brings with it, à la Proust, an entire chain of remembered images ([Figure 7](#)).

A similar surprise awaits the visitor to the "Starpath" node. By following the tiny double trail of stars, the visitor gradually encounters golden spheres that increase in size and frequency ([Figure 8](#)). Finally, after minutes of navigation, a dazzling sphere suddenly encompasses the visitor. The colors whirl kaleidoscopically as the visitor turns inside the sphere ([Figure 9](#)). Inside the sphere float other spheres, each a different "magic egg," and on penetrating each egg, the visitor encounters a different enwrapping environment. Like Chinese boxes, virtual worlds can contain other worlds *ad infinitum* -- limited, of course, by the power of the software.

Non-Humanoid and Humanoid Transforms

When we look at avatars, we see corresponding trends. The style of world design influences the way the self incarnates in the virtual world. The average world in ActiveWorlds clothes its real people in humanoid forms, and the forms tend to replicate gender types and character stereotypes found in pulp culture. A world will have avatars like "Surfer Dude," "Tourist," and "Tanya" ([Figure 10](#)) In their diversity, these avatars share in common a biped, humanoid form. With some few exceptions, the avatars prior to 1998 fit perfectly in a flat-earth world, replicating as far as possible us two-footed creatures who actually walk the earth.

One of the first avatars to be mounted in accd world was Tweek, which first appeared in 1997 ([Figure 11](#)). Tweek and Sqaak ([Figure 12](#)) are bird-like avatars. These giant birds are appropriate vehicles for navigating vast stretches without gravity. Not realistic birds, these avatars have odd appendages, like the throat-box hanging from Tweek which moves up and down as the bird flies, making the avatar a bird but not a bird, lending the bird's movement an odd, surreal quality. While more recent worlds in the ActiveWorlds Universe may have non-humanoid avatars like birds or dinosaurs, Tweek and Sqaak are actually non-humanoid transforms. They signal the open spaces of accd world. Unlike the average realism in ActiveWorlds, which creates a false immediacy, the free-flying avatar birds are not just birds. Realism needs transforms if the fantasy and fun of the virtual are to add something to real presence rather than simply replicate it. The result is not a perversion but a transfiguration of identity. Besides Tweek and Sqaak, a warped insect series adds to the flying population of accd world.

The accd avatars took a turn in 1999 with the introduction of humanoid transforms. Previously, accd world offered one humanoid transform by the name of "chairboy." ([Figure 13](#)) Chairboy came, like many computer users, with a chair permanently attached to his back. This condition lent a peculiar quality to his gait. The most recent additions to humanoid transforms are "Scoot," "Spaceman" and "Beetboy"

([Figure 14](#)). These three humanoid forms distort the form in different ways. Scoot has peculiar bug-like limbs and eyes. Spaceman has wide-open limbs that allow him permeability and airiness. Beetboy, on the other hand, has overly full limbs and leans top-heavy in some positions. Like a beet, his roundness makes him roll when he dances. Both these humanoid transforms call for certain adjustments in self-perception and signal playfulness with identity. Like a masked ball, the world invites visitors to hide themselves in ways that might prove meaningful.

The Dream Toys of Chuang-Tzu

"Avatar" in its Hindu origin means the incarnation of a deity, as in Vishnu taking the identity of Krishna in the Sanskrit poem the *Bhagavad-Gita*. (The Sanskrit avatārah derives from *ava*, down and *tarati*, he crosses, meaning "the crossing down.") The avatars of virtual worlds are placeholders for real-time human presence. They are not -- unless they are "bots" or semi-intelligent surrogates -- empty media receptors like answering machines or the phone pagers. They are animistic spirit vessels in a vast system of digitally encoded events. As such, avatars maintain a remnant of fresh humanistic issues in an age of technical systems. If, as some smart observers suggest, these systems are "not really about people at all," then we can still use avatar presence to pervert the basic trajectory of systems whose teleology is immanent and whose tangential implications are anti-humanistic, or at least hostile to humans insofar as human life becomes yet another artificial life form to assimilate. Avatars are more than subservient system input or maintenance attendants for the auto-poetic network.

Avatars tap into the age-old magic of transformation. Humans can, under the right conditions, take what lies immediately in front of them and transform it into something of cosmic significance. This transformative power is at the heart of ritual. The transformative power of the spirit animates avatars and confers on them presence at a distance (telepresence).

Likewise, when we put on our avatar, we also put off the habitual self. We accept a moment of transformation, shifting our shape in order to be who we are in different forms. We shed our form like a changeling. We lay aside the illusory fixity of being a hard ego encapsulated in a shell of flesh. Avatars allow us to engage a playful self, a self that does not let it be defined in narrow technical terms. This avatar self is a changeling, a joker-prankster who revives the human capacity to laugh and to laugh at oneself.

One day, the Chinese sage Chuang-Tzu had a dream, and he dreamt he was a butterfly. When he awoke, he was not so sure: Was he Chuang-Tzu dreaming he was a butterfly? Or was he a butterfly now dreaming he is Chuang-Tzu? The dreams we have show us the expansive, tenuous quality of our deep self-identity. A related Taoist practice is to go through an entire day nurturing a feeling of inner softness, blurring the outer events of life into a diaphanous, dream-like pattern. In such a state, our usually strongly invested attachment to the outcome of events recedes, and our harsh reaction toward events fades. With the edgy ego momentarily disengaged, we often discover newly rewarding ways of responding to life events. The diffuse ego flies free of being identified fully with either Chuang-Tzu or with the butterfly. Avatars can become the toys of Chuang-Tzu if we use them rightly.

Avatars and rituals belong together. Both allow us to diffuse the rigid ego so that we can move more freely through time and space. We should not let our pride in the new networks we have built override the inherent powers we have always enjoyed as natural teleoperatives. The challenges of world and avatar design remind us of the need for art to maintain our proper relationship to technology.

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Figure 1



Figure 2



Figure 3

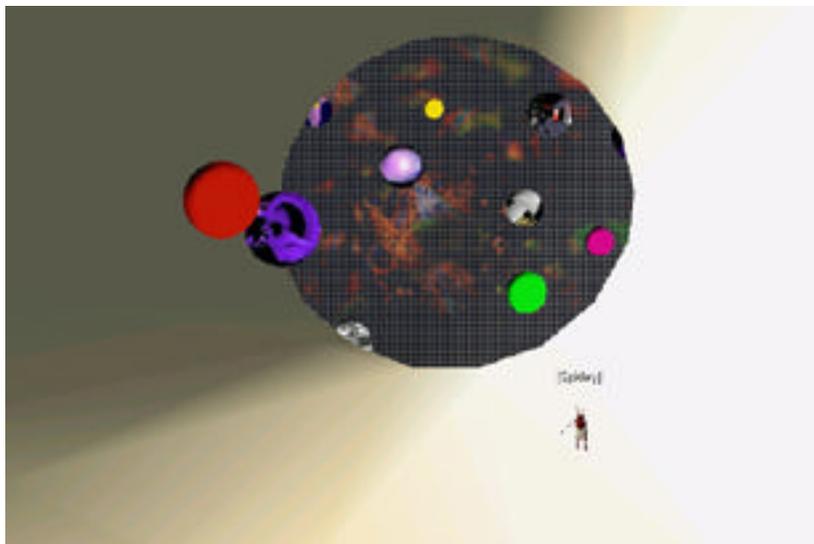


Figure 4

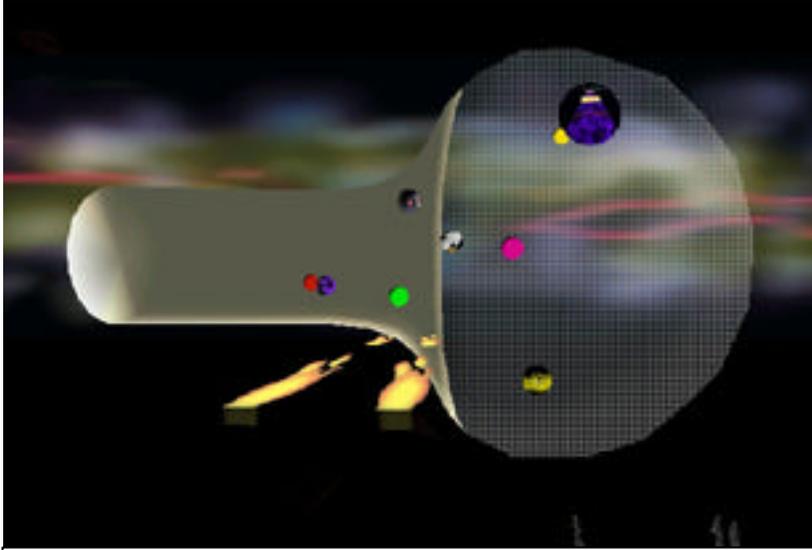


Figure 5



Figure 6

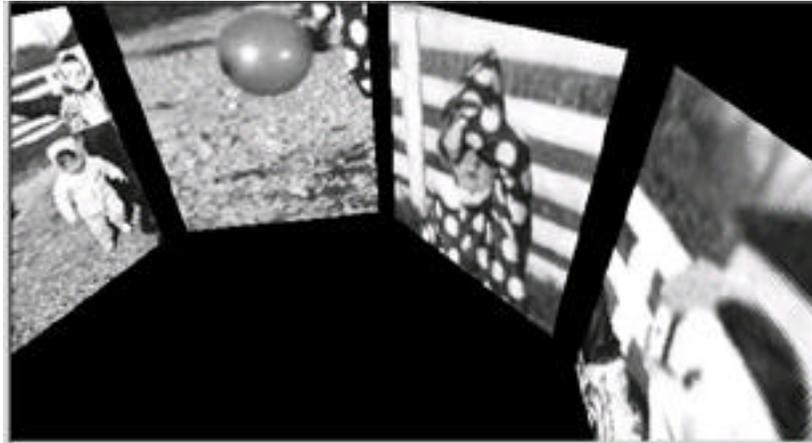


Figure 7

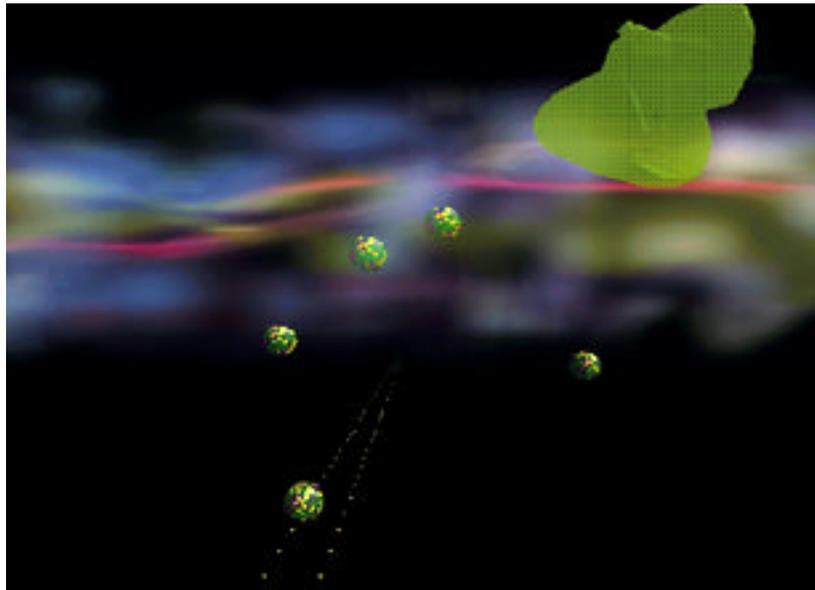


Figure 8

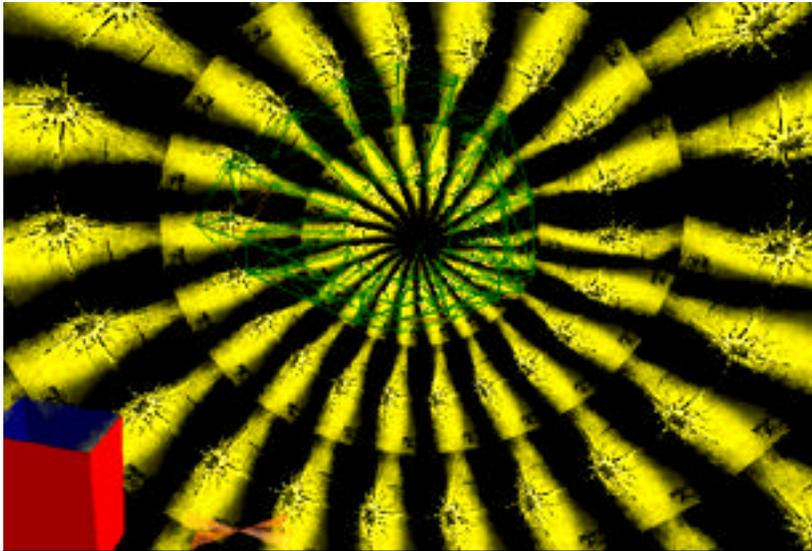


Figure 9



Figure 10

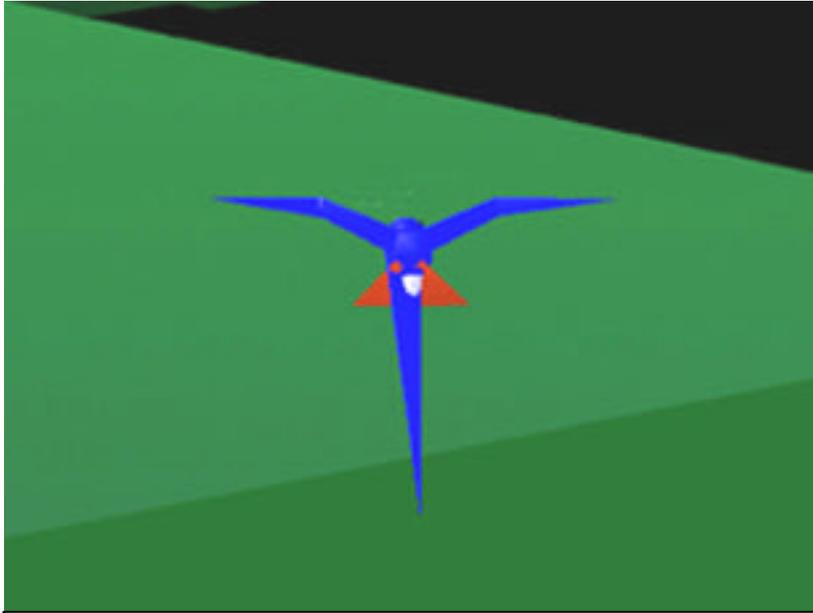


Figure 11

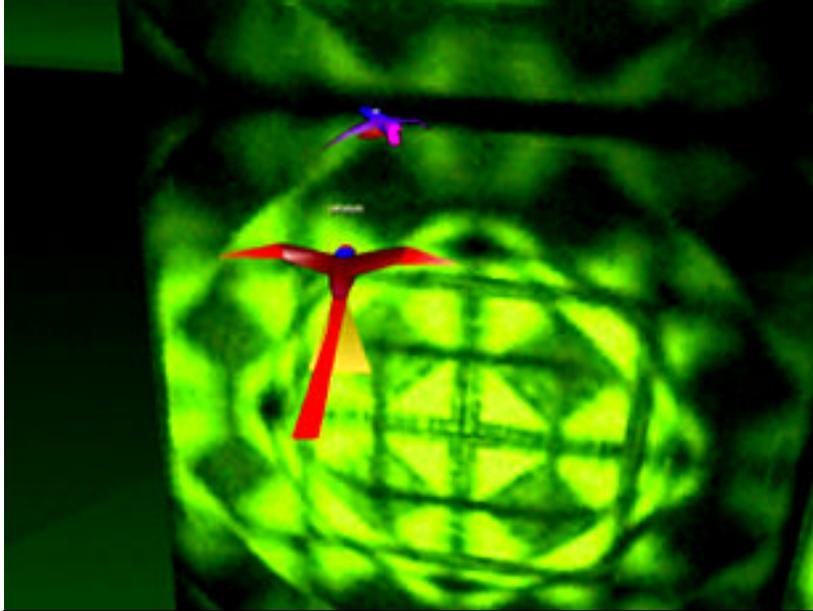


Figure 12



Figure 13



Figure 14