

## AGENCY OF UNREALIZED PROJECTS

PROJECT PROPOSAL BY RICK SHAEFER

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### IRON CLOUD - PROJECT STATEMENT

#### CONCEPT

##### *Iron Cloud*

Initially, the concept of an “iron cloud” seems to be inherently paradoxical, an irreconcilable amalgamation of opposing materials that can only exist in the imagination or in a Surrealist landscape. This project aims to challenge this paradox by exploring the idea of getting an iron cloud to “float,” ie. to hover and to seemingly defy all that we comprehend about the limitations and restrictions of gravity. The idea of a large iron object floating soundlessly and motionlessly in the air touches upon an assortment of conscious and unconscious references; the phrase “lead balloon” comes instantly to mind. But why replicate the idea of ‘Cloud’ using metal, the opposite representation of cloud-in-nature?

The most obvious reason is the visual and textural dissonance that results from the juxtaposition, within the same environment, of the seemingly ephemeral phenomenon of condensing water vapor—a ubiquitous constant in our environment—and an extremely heavy and cumbersome, industrial-looking metal object reduced to its simplest, almost cartoon-like, form. (Functionally, the cloud acts as “container” of water as, correspondingly, do large metal furnaces and storage tanks.) The idea behind this project is to present an opposition that is jarring to the viewer, yet at the same time subliminally references a myriad of archetypal visual tropes.

Adding resonance to this archetypal connection is the extensive inclusion of clouds in almost all mythologies and religious iconographies—where they are used as both a sign of the divine presence and as the representation of the divine dwelling place—and the parallel physical representation of clouds in religious art, rendered in such solid materials as stone, metal, glass, clay, etc. Clouds in this context are shown as *solid* firmaments where saints, angels, or gods stand, sit, or reside. Historically, artists have had to willfully ignore or sublimate the inherently unsubstantial aspect of clouds and instead portray them as something substantive and solid—the ephemeral frozen in marble. More contemporary manifestations can be found in Science Fiction iconography, where clouds are envisioned as portents of either good or evil, or as portals to both. Here also we can find the additional presence of colossal metal structures, often seen emerging silently out of the clouds and hovering, seemingly unassisted, in the sky (for example, the massive alien ship in *District 9* or the truly colossal ones in *Independence Day* or *Close Encounters of the Third Kind*). On a more mundane and ubiquitous level, we have modern air travel as a reference, ie. the idea of extremely heavy metal flying machines taking to the air on a regular basis and the feeling, once aloft, that one could, given the chance, actually step out onto the surface of the clouds one sees from the windows of a plane. There are also analogous counterpoints to clouds in the oceans, our other “atmosphere,” where the seemingly impossible occurs: massive iron ships float effortlessly on water, and cumbersome metal buoys and mines hang suspended above the chains that tether them to weights on the sea floor. All of these instances emphasize the richness of the contrast between the reality of a naturally-occurring, ephemeral presence—ie cloud-in-nature—with some kind of heavy, solid and very physical representation of that presence—ie ‘Cloud’-as-artwork, or *Iron Cloud*.

On some semi-conscious level we are aware that clouds, these seemingly feather-weight entities (so often represented by cotton balls in classroom displays) that regularly traverse the skies above us, are actually quite substantial and extremely heavy objects of great size (clouds can weigh thousands of tons). There is almost infinite potential in the play between the symbolic meaning of the cloud-in-nature—mercurial, ephemeral, diaphanous, a harbinger of change (as Aristotle perceived them) or that which cannot be measured or fixed (Damisch?)—and the ‘Cloud’ object, or manufactured representation, which encases the *idea* of cloud-in-nature (perhaps even the actual remnant of a cloud, ie. its vapor) within a visually reductive sarcophagus. A hard shell, metal reliquary or iron exoskeleton thus takes the place of the original, signifying it and then replacing it in its original context: the air.

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### **PRACTICE**

#### ***Making Metal Float***

Moving from the theoretical to the practical, one is forced to ask: how is it possible to actually get this object, this “reliquary,” to float? I was originally seeking to make an Iron Balloon (hence the above mention of the “lead balloon” trope), as the simpler, single rounded construction would make the idea slightly more attainable (spherical shapes offer the greatest surface structural integrity vis a vis weight). In my research, I discovered that one of the best ways to float a heavy object in the atmosphere, without resorting to Helium or Hydrogen or Mag-Lev technology, is to construct a vacuum balloon. In theory this can be accomplished because the weight of a vacuum is less than anything surrounding it. If the containment structure is strong enough to withstand the imploding forces of a vacuum yet just light enough so that it doesn’t outweigh the air it displaces, there should be lift. However, actually building the structure then becomes the greatest challenge. The simplest shape to work with would be a single sphere (akin to the “lead balloon” noted above) of sufficient size to counterbalance the weight of the sphere with the atmosphere it displaces. The lightest metal that seems practical is Titanium, possibly with a carbon fiber matrix (or possibly Aerofoam) between the outer shell and an inner shell that holds the vacuum. In addition, a carefully calculated atmospheric pressure can be added between the two shells to help alleviate the disproportional pressures from the vacuum and the outside and provide more structural integrity than a single shell would provide. This also alleviates the need for a very robust, and therefore incredibly heavy, single shell.

After I explored the process behind constructing a lead balloon, I wanted to push the concept even farther. The idea of replicating a cloud seemed more compelling and soon became irresistible, despite the inherent complexity of dealing with a non-uniform shape. The typical graphic representation of a cloud is similar to a series of interconnected arcs or, in three dimensions, spheres—a structure not unlike a mound of soap bubbles, but in this case executed in metal. The combination of many spheres into a stack or cluster resonates with the viewer’s inherent understanding of the cloud shape as it is commonly portrayed. The ‘Cloud,’ as envisioned, is therefore more of a collection of interconnected spheres; together, the mass of interlacing arcs are mutually supportive and preserve the structural integrity of the work. However, designing a viable internal structure is critical in order to create the vacuum lift effect—and is also practically impossible without extremely sophisticated hardware.

The difficulties inherent in achieving a vacuum lift effect with metal begs the question: Is there some kind of alternative mode of representation that could convey a similar sense of juxtaposition between the ephemeral and the permanent? Short of creating an actual floating metallic cloud, the image of a cloud “captured” —bound, trussed, put on display—is almost equally compelling in its suggestion of archetypal images of exploitation and oppression: the animal in its cage (or the stuffed specimen in its case), the Unicorn tethered, Atlas chained, Christ crucified, etc. The tethered cloud becomes a powerful symbol for the fleeting and ephemeral as it is captured and bound. Here, perhaps, the idea of a reliquary (or sarcophagus) is even more heightened. We have a shell, a container of a remnant, a stand-in, or a monument hanging in chains. We have a wild and uncontrollable phenomenon bound and on display. By creating the external industrial appearance of an iron boiler or cluster of storage tanks, the connection to liquid-containing vessels is highlighted and the massive weight of the cloud, so unapparent in the actual, is accentuated and viscerally brought to the fore. The size of these ‘Cloud’ objects should be commensurate with, or visually reference, their real counterparts and the heft and bulk and weight should convey some of the immensity of the cloud-in-nature. The viewer should be awed and quieted in the face of the ‘Clouds’—in a sense, almost worshipful. These are living, somehow transcendent, objects.

### **CONCLUSION**

#### ***Invention and Presentation of “Lifecycle”***

As one expands upon the ideas surrounding the *Iron Cloud* project, there emerges the possibility of inventing an entire backstory—a “creation myth” of sorts—and iconography based around it. The very fact of the *Iron Cloud*’s earthly fabrication could be obscured and an extensive mythology about its supposed “lifecycle” and

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“construction” invented, as an attempt to insert what is obviously mechanical into the rhythms and cycles of the natural world. In this case, the various incarnations of the *Iron Cloud* and the stages of its development—its “aging process”—from ‘creation’ to initial ‘discovery’ to disintegration, could be portrayed as occurring in nature and shown through an extensive array of “model clouds,” presented as a series of sculptural prototypes to scale\*, drawings, explanatory photographs, and graphs. Thus, the artist and audience are able to analyze these objects as if from an amateur naturalist’s perspective. The proposed presentation of these components bring to mind traditional archaeological methods of collecting samples and relics from far-flung parts of the globe, and traditional museum displays of models—like the anachronistic curio cabinet of a mad explorer.

Various metals can be employed to represent the transformation of the “ages” or stages of cloud formation from birth to evaporation and disintegration. And, like the reconstituting of water vapor itself into a new cloud, the reforming of new metal clouds could come through possible smelting and reprocessing of the old. Rust, signifying the final stage of decay and decomposition, results from the interaction with oxygen and water, thereby relating the *Iron Cloud* to its “original” components. The cloud-in-nature dissipates when it becomes too saturated and “heavy” to hold onto its water content and subsequently releases some as rain; the cumbersome *Iron Cloud* disintegrates as well, its pieces falling to the ground, as a result of its interaction with these same elements of oxygen and water.

--Rick Shaefer, 2011

\*Several examples of the *Iron Cloud* prototypes/scale models are currently in production. An ironworker is making a scale model of the rusted iron version with heavy riveting, CAD files are being prepared to make nickel-plated and aluminum models at an industrial modeling shop with a 3D printer and CAD prototyping machines (for the “dissected” versions showing cut-away of outer skin and internal structures and for earlier-stage clouds in nickel mirror finish and aluminum riveted versions). Assorted plaster models are being prepared in the studio in preparation for the fabrication of copper, bronze, or aluminum versions. (see Figure 5 for an example).

### REFERENCE IMAGES

Figure 1.



Figure 2.

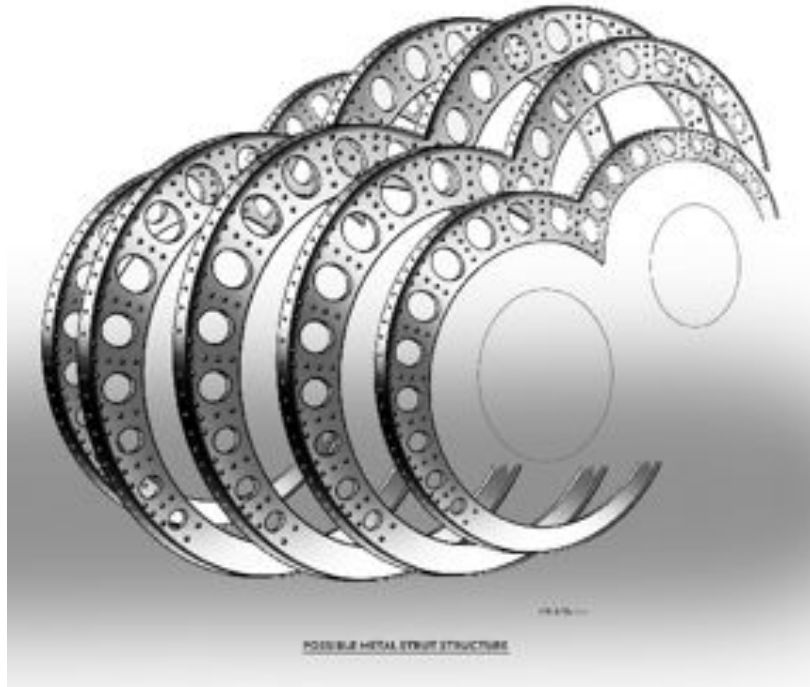


Figure 3.

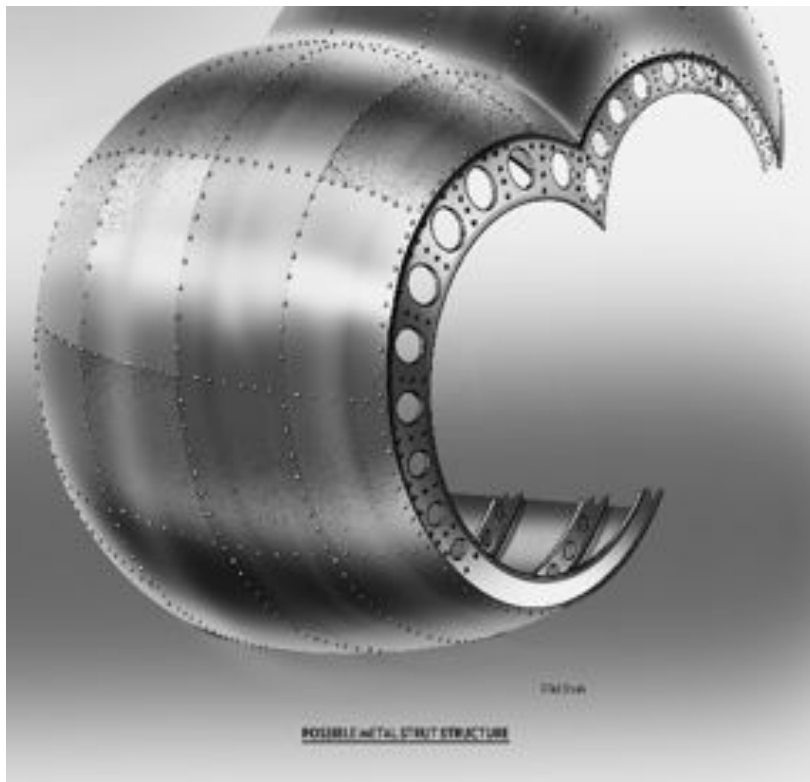


Figure 4.



Figure 5.



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Figure 6.



Figure 7.



Figure 8.

