Welcome to SASIC 9, **TRACING CHAOS: Aesthetics in the Surf Zone**

I was invited to attend this conference last year by Jose Borrer who I had been maintaining an email dialogue with for some time in regards to his work monitoring the artificial reef that was built in El Segundo. He gave a great presentation on work he was then doing in New Zealand designing much larger reefs that were actually functioning (somewhat) as surf spots. I am an artist, and we were both interested in the possibility of these things being art. He described wanting to 'sculpt ' waves on the surface of the ocean. I thought this was something to pursue, but he reminded me that the budget for producing this kind of art was prohibitive to all but the kind of budgets huge government agencies, such as the Army Corps of Engineers, work with. Nevertheless, it made me happy to even be having such a conversation, since I had recently moved here from New York, where it seems such a conversation couldn't have possibly taken place.

Southern California is at the geographic and cultural nexus of the discrete but often intersecting traditions of science and art. Although unique disciplines, science and art share some common objectives and have a history of comingling here perhaps more so than any other place: the film industry is perhaps the most prominent example of this, and they have only becoming more reliant on technology to make their visions come to life: The video game industry manufactures their 'realities' entirely out of software, and southern california architects have always been driven by new materials and applications: Frank Gehry most famously, used software developed for the military to design the Walt Disney concert hall. In 1967, the Los Angeles County Museum of Art asked artists and technology companies to collaborate on prospective art projects in something called the Art and Technology project. This ultimately had a significant impact on not only the way art looked in Southern California, but also on the way it was made.

As much as any of these examples, and more beautifully so, the sport of surfing embodies this relationship— Surfing can be seen as a kind of balancing act between technology and expression occurring in the natural chaotic energy field of the ocean. This is what SASIC 9 is all about.

SASIC 9 will offer presentations from both the worlds of science and art that consider what might make up what you could call the 'aesthetics' of the surfing zone. And, what do we mean by 'aesthetics?' Aesthetics has a number of meanings - casually it can just mean "the 'look' of something", but it is also an entire branch of philosophy. For our purposes here, it is about how to derive meaning from form. What is the history of an object's becoming? What are the forces involved, and how do the materials inhabit them? This concern is something familiar to art criticism, but it is also a part of our fascination with ocean waves. Where do they come from and how is it that they can seem to have an endless variety of type, of mood, of attitude and manner? What I want

to get at here is the meaning latent in that information: how to interpret it. In this conference we will not only hear about how waves are given form, but surfboards and art as well, and this information together should help define an 'Aesthetics of the Surf Zone'.

In addition to the presentations going on in here, there is also a small exhibition that I curated of artworks that I feel are cogent to this conference. It is located in the Center for Coastal Studies building just at the base of the pier. All the work is by currently working artists, most –but not all -of them surfers. Their works are not always explicitly 'surf art', but their work reflects a kind of aesthetic that emphasizes the experimental, flow, and a balance between the desires of the maker and the forces of nature.

Of course, many surfers believe that surfing itself is art. That's going to depend on how you define art, but a good working definition is that art is metaphor: it is something that stands for more than itself. We love surfing for many reasons, but I think we really obsess on it because it feels metaphorical. In the words of Tom Morey the unofficial spiritual guide of this conference,

"*It's all surfing- everything! In the New York Stock Exchange, you check it out, you pull in, and you try to figure out when to kick out safely. Surfing in the ocean just happens to be the purest form of surfing."*

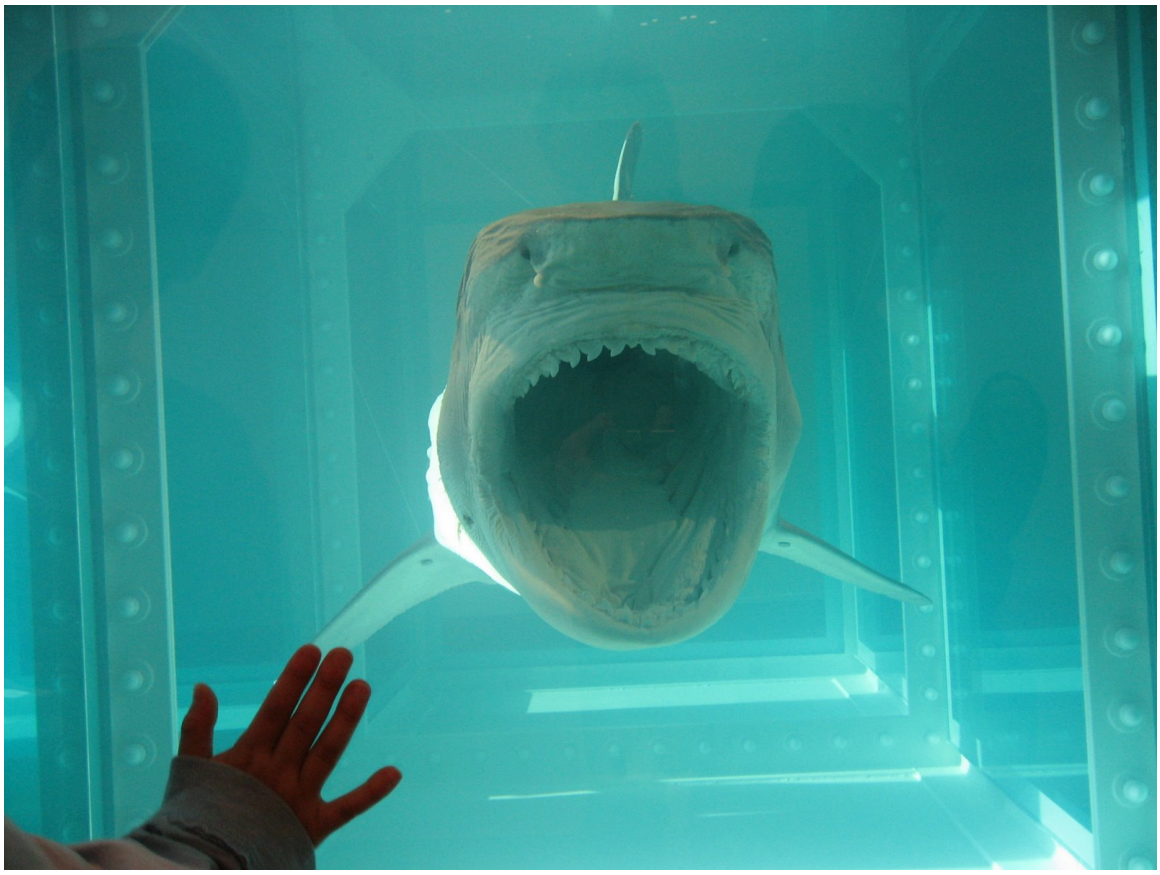
This is why surfing feels like art, and why it feels like something a lot bigger than what it looks like from the beach.

MODELING

The idea of metaphor brings me to a related idea that is a central theme of this conference: modeling. The strategy of modeling nature is a common scientific method, but it is also familiar to artistic practices. Particularly 'Process' based artists. That is to say artists whose work emphasizes the production process over the final result of an artwork. Not unlike scientists, these artists can be seen as researchers who engage natural forces in order to better comprehend them, and perhaps ultimately to control them. Control to a scientist may result in the construction of a jetty – or an artificial surfing reef. To an artist, it may be something like catharsis: the representing of something which is not cognitively understood, in order to establish a kind of authority over it.

What's significant here is the essential differences in the practitioners' methodologies; while scientists use models to describe and account for phenomena, artists use modeling- in the 'process' of their work- to represent or **embody** them. The ***kind*** of 'knowledge' revealed is accordingly different. The results of Scientific models are applied to predict future outcomes. Artists create the conditions for ***un***foreseen outcomes for

reasons that may have more to do with achieving a sense of emancipation ***from*** them. By this I mean, they represent the dynamic uncertainties of their world, and by doing so, overcome them.



If Damien Hirst, the famous British artist, puts a shark in a tank, how can it hurt him? This piece is titled, ***The Physical Impossibility of Death in the Mind of Someone Living.*** This sculpture is not about confronting death, it is about overcoming the *fear* of death. This may be chiefly a psychic or conceptual victory, but I would not right away dismiss the presence of such motivations in building jetties, either.

In any case, certain themes seem to relate the objectives of both disciplines. Integrating the Micro and the macro, the mechanics of perception, the physics of movement, randomness, an understanding of the relationship between man and his environment – these are all as much a part of aesthetic theory as they are scientific concerns.

If you accept for a moment that there are indeed similar objectives –or say, overlapping ones- in the arts and sciences: to know the world better in order to put it to use better, or simply to protect us from its vagaries, then it is worth considering what these approaches can learn from one another.

For my part in SASIC 9, what I'd like to present is a discussion of art- art that is made by surfers, or inspired by surfing, or related to surfing and its aesthetics- and in particular a kind of work that describes the ways and means of its production, the 'Process' of its 'becoming'- in terms that may have some relevance or resonance with scientific research or simply the desire to 'apprehend' our world.

SURFBOARD

I put a piece of my own in the exhibit, and I hope you will indulge me as I remark on it. It is the sculpture that looks like a surfboard. That generic looking surfboard was made from a Channel Islands Tri-Plane Hull shaped by Al Merrick in 1979 or '80. It was in pretty good condition and had not been surfed in years. I basically tore off the fiberglass skin and then resanded the foam. I was not trying to alter the shape, just trying to renovate it back to how it was. It came out a fraction smaller in overall scale. Then I reglassed it without the paintjob or decals.

What I was trying to do is make a sculpture of something, out of itself. I don't know if I succeeded, but you can try out surfing it tomorrow to see if it still qualifies as a surfboard.

So- what about a surfboard? Is it a piece of art to begin with? Is it a scientific instrument? It functions as the point of communion between the rider and the wave, its form determined by what is desired by one and offered by the other. It's shape describes a kind of negotiation: I want it easier to make commitments, so how about

some concave under the front to help me get in? and flip up that tip a bit to avoid random interference…turn down the rails so I can hold tight in the pocket when things get steep. The board you carry says much about how you want to your relationship to be with that mute and mysterious partner. You may hold style over performance. Flow over the ability to demand more from the wave. The way you want to communicate with that wave and how it will allow you to present yourself is described in the form of your board. It is a hybrid of art and science. The science is in the hydrodynamics: the study of the flow of water around the surfboard hull and the influence of that on its design. The art happens when we shape the board in an effort to fulfill the desire of how one wants to express oneself in the surf. That part is experimental, in that we don't really know how it will ride: we shape it by feel, we have a sense of it, and want to know where it will take us, but ultimately the outcome is unknown.

This might be the defining characteristic of experimental art: trying something uncertain to see what will happen- even encouraging accidents and unforeseeable outcomes in order to get to a place you could not have foreseen- maybe even somewhere 'impossible'.

PERCEPTION and phenomenology

(Robert Irwin, Untitled, 1971, Walker Art Center)

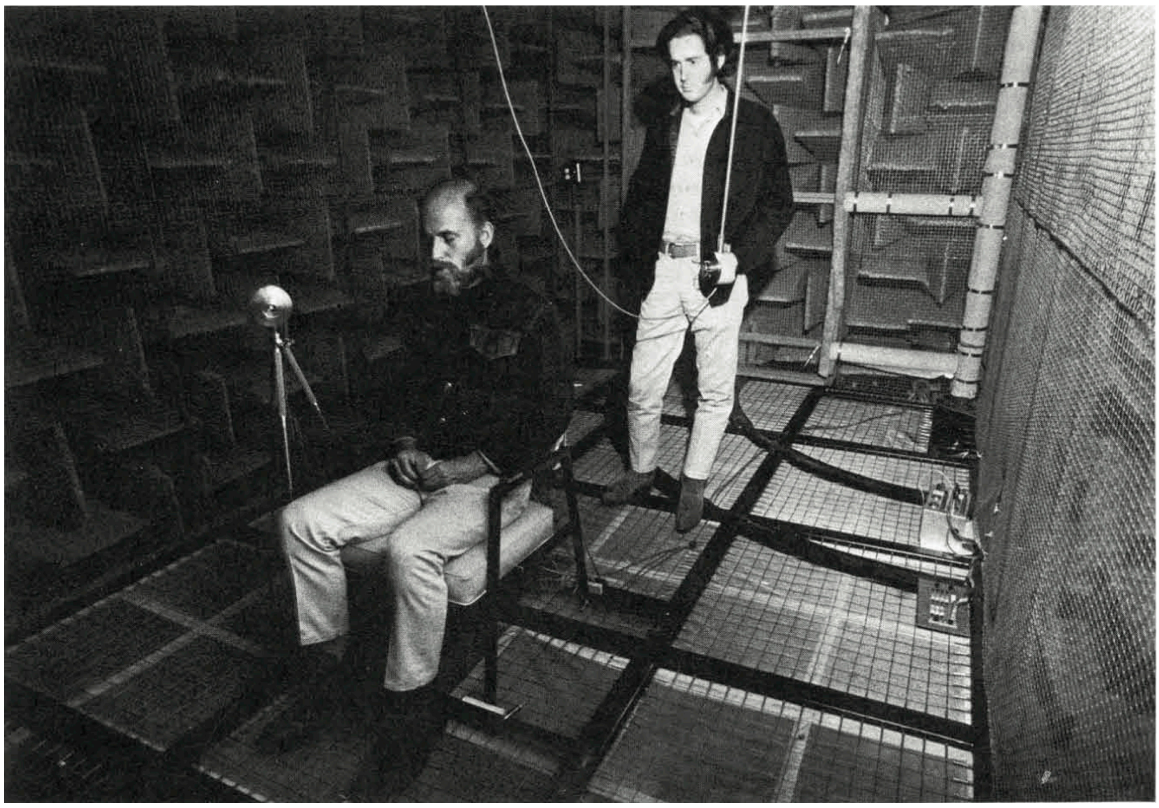
Last year the Dr. Walter Munk lecturer was Dr. David Sandwell a professor at this Institute. I was astonished to hear him ask the audience, "How many of you believe in sets?" I wasn't sure what he meant. Everyone, or I should say, everyone paying attention who was a surfer, raised his hand. I knew what sets were, I had spent my life waiting on them, worrying about them, talking about them, and I knew that even scientists had terminology for them: wave trains. However, Dr. Sandwell notified us that there was no empirical evidence supporting the existence of them. How could this be?

Since that time I have been paying much closer attention to what's going on in the water, and I have to say that what he was suggesting, which was that we project a kind of pattern onto the waves - we sort of organize them in our minds - seems likely to be true now. There are a lot of 'one wave sets' you just sort of write off, and if you bother to actually count, sets don't have any consistent number of waves to them at all. Lulls seem to have the same kind of randomness to them too. All that being said, there are times that it seems incontrovertible that there are regular sets coming through- but then maybe that is the exception that proves the rule: that ocean waves are an expression of nature's underlying randomness.

The physicist and science historian Thomas Kuhn, in his *Structure of Scientific Revolutions*, maintained that the perception of the world depends on how the percipient *conceives* the world. Even within the traditions of science, he states, a researcher is biased by the paradigm of his subjective perspective: his view of the world determines what he sees. Across time and across cultures, similar results will have different interpretations, meanings and ultimately lead to different conclusions.

This doesn't necessarily mean that reality is random chaos, but it is an unavoidably tempting subject for artists to pick up. At least since Tristan Tzara and the Dadaists at the early part of last century, the production of nonsense has been a valid art making procedure. And yet, among other things, it has raised the question of whether it in fact is even possible to produce nonsense. During the years of his Cabaret Voltaire, Tzara and fellow performers would scream and rant incoherently at the crowd. This has been interpreted as an expression of and metaphor for the way the First World War lay waste to the sense of civilized life in Europe. That right there makes it all sound pretty sensible, and suggests that we will find a way to find meaning regardless.

Another approach to the notion that reality may only be a subjective construct was later pursued when perception ***itself*** became a subject for scrutiny taken up by a group of Southern California artists who not incidentally were working in the surf ghetto of Venice beach.



(Turrell and Irwin in the anechoic chamber)

In 1967 the LA County Museum of Art initiated the 'Art and Technology Program' which partnered artists with cutting edge technology companies "in order to make the resources of industry available to (them)" in the words of Maurice Tuchman, the originator of the program and the director museum. He was hoping for more than just getting artists access to new materials, but also that some new *kinds* of artwork might be produced. **James Turrell** and **Robert Irwin** collaborated with Experimental psychologist **Ed Wortz,** who was then investigating human perceptual responses for NASA's Apollo program with the Garrett Corporation. This is how they described their project proposal:

Possible setup with three spaces:
1. queuing area- preparatory area sound dampened, less complex than the outside world, time: 5-10 minutes

2. anechoic chamber: entrance from chamber 1 is obscured by a blind wall.
visitor is seated in chair in reclining position with head mounted in center of space
size of room: a cube, approx. 12 x 12 x 12
sound dampening elements flocked back
The chair the visitor is seated in is constructed of moveable parts which will slowly flatten as it is hydraulically lifted up to the third, upper chamber
so that the visitor will end up prone on the floor of the upper chamber.

Expected stimuli will be something on the order of sub-threshold light flashes and sound flashes 'reorienting stimuli'; these stimuli will increase gradually to the point which seems to be between hallucination and reality.

3. upper chamber domed, cylindrical, semi-translucent for back projection, constructed of seamless Plexiglas. visitor's first sensation of this chamber will be that of experiencing a Ganz field. The space will have a sound quality and a light quality which will be manipulated; we do not plan to use any images per se, but are more interested in changes in light quality, color temperature of light, intensity of light, pulsating effects. We are interested in having changes take place behind the person, or on his periphery.

I don't think it is incidental that the third chamber bears a striking resemblance – *domed, cylindrical, semi translucent* – to the chamber of a wave…

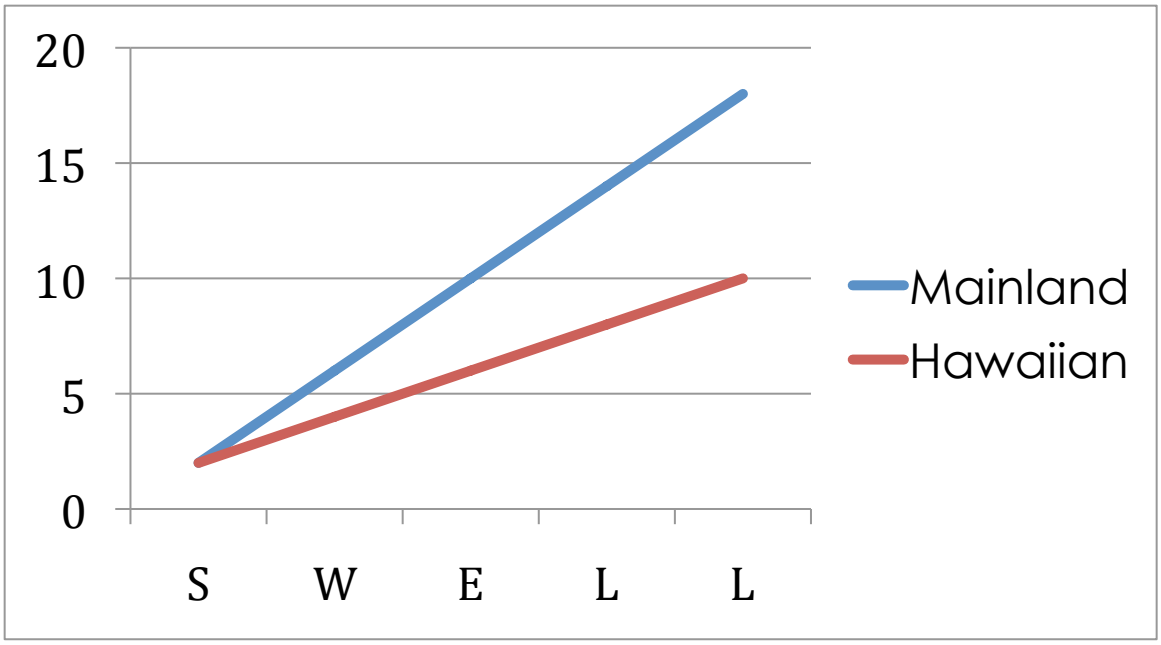
The artist's intention here was to allow *"people to perceive their perceptions-making them aware of their perceptions-We've decided to investigate this and to make people conscious of their consciousness."*

This I would argue is achieved by modeling it for them- disembodying perception to investigate how it functions and where it leads or misleads us - " We're concerned with manipulating the conscious state," they wrote.

(James Turrell "Roden Crater, east portal, skyspace)

The work of these artists- and their careers are still pursuing these lines of inquiry- can have the effect on the viewer of not knowing what one is looking at. It questions the credibility of our senses and suggests the need for a more nuanced interpretation of observation itself.

This is not really new material for a surfer. I think surfers spend a fair amount of time training themselves to really see. Waves have an incredible way of being misleading, and often the best surfers are defined by their ability to read them. Waves look relatively simple from the beach, but when you are out there, they are suddenly very complex. The way they appear from the side, or behind or from in the trough just doesn't seem to add up. They can seem to move in more than one direction at a time, and speed can change everything. The sliding scale of surf perceptions is institutionalized in the difference between mainland and 'Hawaiian' measurements. I've heard this described as a simple formula: "double it and subtract two". That would make a graph something like this :



It's interesting to see that as the swell grows, the discrepancy gets more dramatic. -But you knew that already, after all – that's the point. This is a scientific formula for subjective reality, probably the reality of the Hawaiian guy who made it up, wants you to feel out of your league and wants you to stay home.

MATERIALS / AESTHETICS

One of the ideas behind the Art and Technology program was to assist artists with the fabrication of artworks in the new materials which had been developed for military and

industrial use in post war southern california aerospace companies. These of course are the same materials, including fiberglass and synthetic polymers, that revolutionized surfboard design and construction. Two of the most innovative thinkers in the sport, Bob Simmons (who I believe was a classmate of Dr. Munk's at Caltech) and Tom Morey, both worked for aerospace companies. Knowledge of these materials and his ability to understand the existing research on wave dynamics and planning hulls allowed Simmons to rewrite the book on surfboard design. Interestingly, his boards, some of the first made with foam, fiberglass and polyester resin are notable for how casually they were finished. Quickly though, the aesthetic of a perfectly sanded and polished surface - a "finish fetish" (to borrow another term from the L.A. art world) – became the industry standard. This aesthetic is reflected in the art of surfers John Mc Craken and Craig Kaufman:

(Mc Cracken, red plank 1967, polyester resin, fiberglass, and plywood)

(Kaufman, *untitled,* 1968, acrylic and lacquer on vacuum-formed Plexiglas)

With artists working in fiberglass, resin, and Plexiglas, art critic Dave Hickey highlights the new vocabulary of art production: "*float, flash, tease, and coat*" - the language of industry made sexy by surfer artists.

This piece by Brian Wills made this year was finished by the same fabricator used by these early surfer artists in the '70's, Jack Brogen. In Brian's words:

I think of the as a bridge between something very specific (a horizon, a surfboard) and something very abstract (form, color, and light.) Light plays a big role in the painting. The piece changes when viewed from different angles.

This brand of art, like surfboards themselves, belies its origin as hand made objects, and is suggestive of a perfection aesthetic that is characterized by the surfer's quest for the perfect wave.

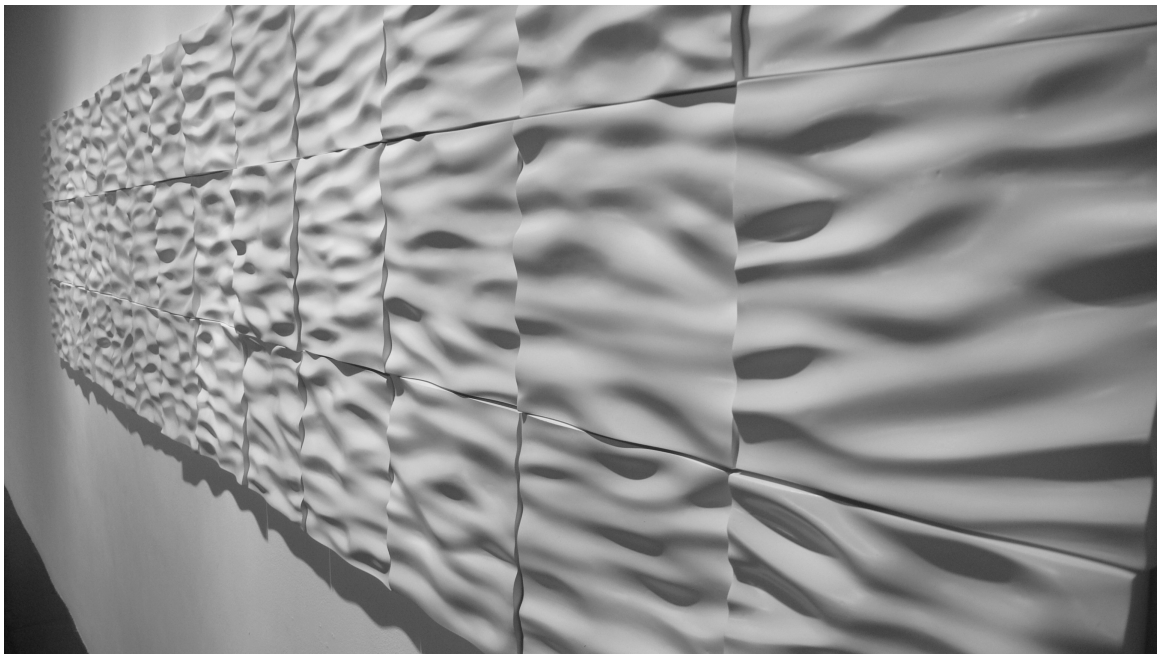
This image of mind numbing perfection is by surfer and artist Ashley Bikerton, who after establishing himself a carrer in New York, moved to Bali in order to, among other things, surf waves that somewhat resemble this. The image calls to mind a piece published in Surfer Magazine, probably ten years ago, about a surfer who was travelling in Japan where he knew the operator of a functionable indoor surf park. Under its normal regulations it was limited to pumping out a small wave every couple of minutes, but the operator invited the friend over after hours when he would fire the thing up to maximum power. It produced a head-high, peeling, chlorinated and completely rippable wave, that was virtually identical every time. After gorging himself for an hour or so, he describes becoming bored with it all, saying, in a bit of off hand surf-speak lucidity, "only the ***real*** is unreal".

Perfection is really a canard. It is part of the surfer's vocabulary, it is a vision that launched a thousand boats and Baja rigs, but surfing has always been about applying oneself to the unknown, to the pulse of the ocean as it comes, responding to its irregularities with instinct and style.

Here is a painting by James Hayward a surfer and artist who developed his world view right here on the beaches below us, in the 1960's. He describes his experience at San Diego State as a student:

"In college the art department was full of surfers. I think it was the intellectual freedom, or maybe the romance of isolation. The flowing with it; being one with the eminence power of nature, even if it is just for a few seconds. Painting is a lot like surfing; desire tempered with the realization that one is never really in control. And who wants to be; control being totally over rated. The down side is the sun. Quoting Liza Simpson: "the sun is like the truth, we used to think it was good for us".

Dave Hickey described Hayward's paintings as like the surface of the ocean that has recorded all of his rides during the day.



(Alex Weinstein Moby Dick, 2008)

This piece also resembles the sea surface. But in this case, Alex Weinstein, the artist, had that subject in mind. However, he didn't consult the ocean when making it, he simply shaped by feel. This approach emphasizes a kind of physical memory that is translated through gesture. It is a mimesis by the body of the maker of the body of the ocean. What if you were to reverse engineer its making? You would get back to a place very different from the equations of ocean wave theory. So is it a visual synonym?

Both of these artworks share the minimal aesthetic of the finish fetish works, but also celebrate the touch of the hand. This too is the surfer's aesthetic, because surfing is really about mark making, and about touch, about pressing oneself into the surface.

In the work of Kristin Beinner , you feel this, like a body surfer- the propulsion, half immersed. In her words her paintings,

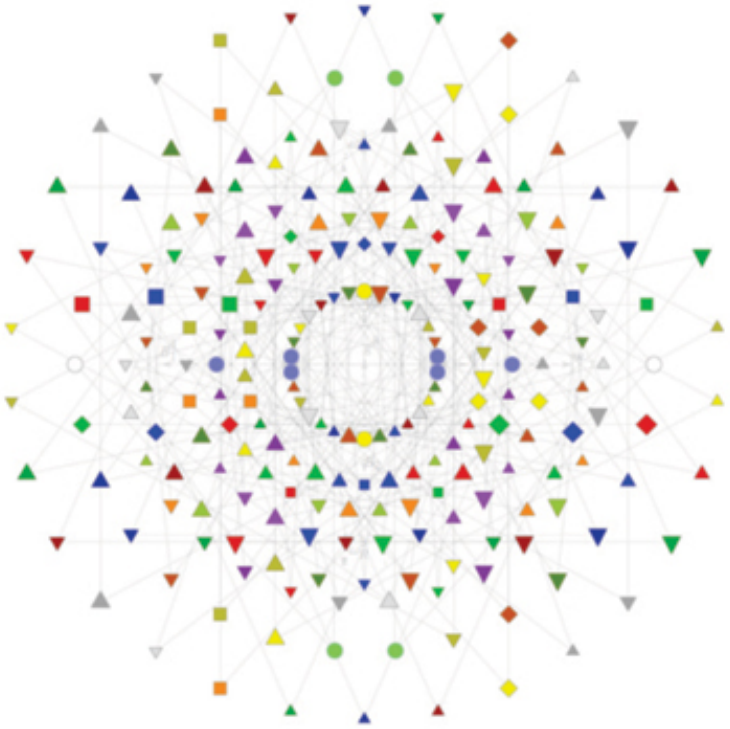
"filter action, movement and medium, to depict immersion and projection and present fluid space. Pigment and wax are extruded from the back of the support so that it hovers between the front and back of surface, between the woof and warp of the cotton interface."

(kristin)

Her work particularly suffers in reproduction. But you may see two of these works in the exhibit. Another surfer artist in there is Fritz Chesnut:

He made it by turning the canvas on its back, flat, like a table top, then he applies wet paints onto the surface, letting them pool and interact. He says he is investigating the way the liquids respond and move. Likening his manipulations to a kind of inverted surfing where the water is on top of the board, he then rocks the canvas until it looks "right".

After all, the way something looks may not turn out to be insignificant.



Garrett Lisi, a Maui surfer and physicist, has developed something called the Grand Unifying Theory – sometimes known as the Theory of Everything and is a kind of holy grail in particle physics – His is based on the visual beauty of his model. In his words:

"I had been working with equations for a decade, assembling the mathematical structures of particle physics into one large structure. Then, on a wild hunch, I went looking to see if this structure fit inside something larger, and almost immediately found that it fit E8. At that point, I was incredibly excited. It was days later that I found out that E8 had a very beautiful visual representation -- and seeing that... that made me think that this had a very good chance of being a true description of our universe. Theories are more likely to be true when they're pretty."

Garrett is waiting for results from the new Large Hadron Collider at CERN in Geneva to validate his theory. In the meantime, he is in Maui where, due to the surf conditions, you "couldn't get him off the island with a crowbar at this time of year", which is why he is not here.

MISINTERPRETATION

(museum of commerce)

Marcel Duchamp, who has been called the most influential artist of the last century (peter scheldahl), was certain that an artist is really only ever making half the artwork, and that the rest is provided by the viewer, in the act of interpreting it. What Duchamp is implying is that there is a break in the communication, that what the artist intended to say is no longer important and that ***all*** interpretations, including, and maybe most importantly, ***misinterpretations*** are part of the process of artmaking too.

I would not argue that this is always the case, but in general, the best art becomes something other than what the artist intended for it anyway. It needs to take on a life of its own. In 'Process' oriented art, this is built into the method of making the work, by sidelining the intentionality in the first place. Insisting on the random gesture and the courting of accidents allows artists to break the cycle of the hermetic world of our

thoughts, perceptions and expectations. Through error, they are attempting to divine an exit from the vicious circle of the known.

That is what surfer and artist George Raggett refers to as “breaking the frame”. These are some images from his ongoing project, The Museum of Commerce, a series of ever renovating “Situations”, that can neither be described simply as sculpture, installation, or even performance. In his words,

“The Museum lives. The Museum is an active experiment and a constantly evolving/devolving (shape-shifting) work of art. Each "Situation" is a realized manifestation of the Museum in the moment and in a given context. From the moment each Situation opens, the installation begins to change. This change is not predetermined, but rather develops as particular individuals or forces from the local environment act upon it. Individual works of art, collaborations and events are spun off during or after each situation. Many of the "spun off" works are relatively cheap or free unlimited multiples, and are intended to go to a diverse audience.”

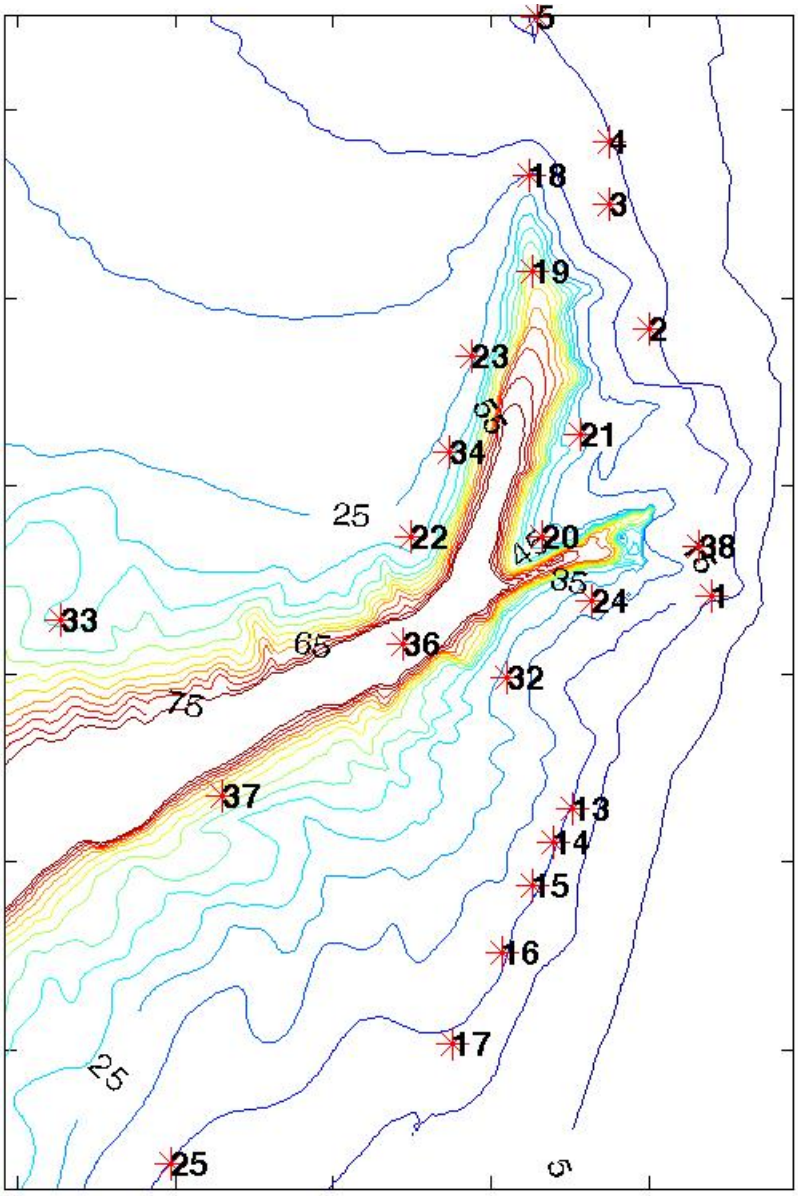
The final product is not prescribed, it is simply a *Result*. And like a science experiment, it is a result that contains information that in turn becomes interpreted into a kind of knowledge in the mind of the viewer.

But the problem with the kind of subjective “knowledge” art trades in is that it has a problem with being transferrable. This should not be the problem with the kind of **objective** knowledge Scientific research strives for. But over the last few decades, philosophers, linguists, historians and scientists as well, have put the notion of objectivity under a lot of scrutiny. As I have mentioned, Thomas Khun has described the limits of comprehension imposed by our own knowledge based biases. Phenomonologists describe the impossibility of knowing a world beyond what can be apprehended by our consciousness. Something called the “observer effect” suggests that you inevitably have an influence on phenomena simply by observing it. And language itself has been scrutinized for the limits of its capacity to communicate much at all.

Perhaps we are facing a kind of horizon of evidentiary knowledge- after which what can be known may be in a different form of knowledge. You have to keep in mind what knowledge is for in the first place- it’s not just to have information, or a beautiful artwork- it is for the sense of control over the vagaries of life, and protection from the uncertainties of the future.

You know, scientific models are a lot like artistic metaphors, they both stand for more than themselves. What would happen if we treated them like artworks too? does modeling in science ever become something beyond its initial intentions? Does it ever take on a life of its own? I imagine that it does, and I would not be surprised if a lot of scientists told me they were of the same opinion.

Could it be worthwhile to prompt mistakes on purpose while conducting scientific experiments? Or read errors for other meanings? Or misinterpret data?



(Scripps canyon)

This is an image I borrowed from Dr. Guza, who will be presenting the Dr. Walter Munk lecture later today. It is a chart of the bathymetry of the coast off the coastline here. Much can be interpreted from this image as we will see, but what seems pertinent to *this* talk is the striking similarity it has to the letter "Y". "Y", as it turns out, is the name Tom Morey decided to take after losing some of the authority over his given name to various corporate interests. But that was not the only reason. He interpreted a lot of applicable meanings from the new name, only a few of which are:

- *"Graphically, I find the strikingly symmetric look of "Y" quite pleasing.*
- *The design "Y" depicts the prime number three, yet also encompasses the prime numbers one and two.*
- *Yttrium, whose symbol is "Y" is used to strengthen even chromium.*

And most relevant to us today:

- *"Y" represents two of nature's great activities: branching, whereby the one becomes two, and mating, the two becoming one."*