Over the Water: Tim Hawkinson
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Tim Hawkinson’s Bosun’s Bass is the third project in the Exploratorium’s Over the Water series—an innovative, site-specific public art program developed for our new location at Piers 15 and 17. Our setting on the edge of the San Francisco Bay, with its adjacency to the lively public promenade of the Embarcadero, has given us this exciting opportunity to further develop a uniquely Exploratorium approach to creating and presenting civic art.

The previous two works in the series—Fujiko Nakaya’s Fog Bridge (2013), and Paul Ramírez Jonas’ We Make the Treasure (2014)—set the tone for an adventurous approach. Following this precedent, Hawkinson’s Bosun’s Bass is a bold and daring experiment with the physics of sound.

We were thrilled when Hawkinson accepted our invitation to develop a project for the Over the Water series as his artistic sensibilities
are in many ways the perfect match for the Exploratorium. Curious, imaginative, and extraordinarily inventive, he transforms everyday artifacts and readily available materials into astonishing works that confound logic and evoke rich associations. (As Doug Harvey’s lively essay in this publication reveals, a myriad of cultural and philosophical dimensions can surround a single Hawkinson artwork.)

Hawkinson first visited our waterfront site in spring 2014. Seeing the churning waters of the Bay between Piers 15 and 17 led him to suggest an idea for a “tide activated bellows” (as he describes in the interview in this catalog). Though Hawkinson has developed many other sonic artworks, our waterside location provided the chance for him to test an unrealized concept from his seemingly boundless imagination.

Over the course of the past year *Bosun’s Bass* took shape as Hawkinson worked in his studio in Altadena, California, while main-
Left, top to bottom: Bosun's whistle high pitch, low pitch, warble, trill
Right: Bosun's Bass calls
taining constant communication with an eager team of Exploratorium collaborators working on site in San Francisco. The process (some of which is captured in the images that follow) involved: rides in an inflatable dingy to explore the underwater architecture of the site; consultations with tide experts; tests with a large tube submerged in the Bay to measure how the daily ebb and flow of the tide (along with the wake from passing ships) affects air pressure; the design of various structures intended to keep an inverted shipping container vertical, and stable, in the turbulent waters of the San Francisco Bay; investigations into the use of bellows in airplane jetways and buses; research on the history of the boatswain’s whistle; scavenging trips to industrial landscapes; and hours and hours of tinkering as Tim fashioned a “bicycle whistle” from the most unlikely of materials. All of this activity manifested in a monumental, one-of-a-kind, kinetic sculpture that has piqued the curiosity of our public, and additionally generated a great deal of learning (and head scratching) along the way.

Experimentation can encompass a variety of processes, and yet it always entails a certain amount of peril since in order to learn something new, we must delve into the unknown. (It is interesting to note that the words “experiment” and “peril” share the same etymology from the Greek root “peria” meaning “trial, attempt, experience;” and the Latin root “experiri” meaning “to try.”) While some experiments are designed to test theories through very measured procedures, others are more open-ended, risky undertakings that bring with them many surprises. *Bosun’s Bass* followed the latter path. We feel grateful to Tim Hawkinson, our incredible staff, remarkable supporters, and our generous audience for sharing in this wonderful, (sometimes hair-raising), whimsical adventure surrounding an enormously delightful and astounding artwork.
ACKNOWLEDGEMENTS
Marina McDougall

There’s an element of pathos in Tim Hawkinson’s *Bosun’s Bass*. As we watch the imperfect motion of this jury-rigged, kinetic assembly of everyday objects, we may find ourselves mysteriously experiencing feelings typically reserved for sentient creatures. The work seems alive, human, and vulnerable. Its doleful and sonorous call produced via the inflating and deflating of dryer hoses, the gyrations of a rubber ball in a sriracha bottle, and the streaming of air into a water-tank float, uncannily evoke in us some recognition of our own human condition.

This may also help to explain why the team behind this project dedicated themselves so thoroughly to its realization—they invested whole-heartedly in this mechanical wonder.

*Bosun’s Bass* is an ambitious work and an enormous amount of behind-the-scenes heroics was required to create it. We extend our heartfelt thanks to our many staff colleagues and friends of the Exploratorium, each of whom in their various roles helped to bring *Bosun’s Bass* into being. We mention them each by name, on page 48 of this catalog. Here we’d like to express our gratitude to a few key individuals for their vital contributions.

The Exploratorium’s Over the Water program is stewarded by the Center for Art & Inquiry (CAI) in collaboration with Exhibits and
Media Studio. Over the course of the last year or so, the project came together with Hawkinson focusing on the “bicycle whistle” portion of the project, while a very talented team at the Exploratorium oversaw the realization of the “bellows” portion. Steve Gennrich, Aaron Handler, Michael Sgambellone, Jordan Roth, and Peter Taylor have been crucial to the project’s success. We are grateful to them for bringing their incredible design and engineering expertise to this daring experiment. We also thank the extremely generous and talented Exploratorium Manager of Building Operations, Chuck Mignacco; Jesse MacQuiddy, Senior Building Technician and volunteer Herb Masters for help with installation, as well as our admired collaborator Paul Troutman for his help with fabrication and assembly.

This is the third Over the Water catalog that we have created with CAI Advisor Leigh Markopoulos, and designer John Borruso. We feel so lucky to work with Markopoulos who guides us so sagely through every step of the editorial process; and are grateful to Borruso for his immense design talent and the thoughtful sensibility that he brings to the conception and execution of each publication. Doug Harvey’s essay on *Bosun’s Bass* is itself an artwork. He has deepened our appreciation of Hawkinson’s creation by revealing its rich cultural associations, and we are extremely appreciative for his contribution to this catalog. We would also like to thank Bob Gudgel for his kind permission to use the wonderful phone phreaking photo reproduced on page 43, as well as Pace Gallery and Hannah Barton at Artifex Press for help with locating images of Hawkinson’s work.

Exploratorium Trustee and chair of the Exploratorium Arts Committee Bill Fisher, was among the first to see the unique opportunity for the presentation of public art that our site on the Piers offers. He not only helped us to start the Over the Water program, but he shares our enthusiasm for Tim Hawkinson’s work, and we’re extremely grateful for his ongoing leadership in the arts at the Exploratorium.

Kirstin Bach, the CAI Program Manager, oversaw the entire project management for *Bosun’s Bass* and has worked determinedly to ensure its success. She is a marvel of dedication, integrity, and conscientiousness and we cannot thank her enough for her outstanding work.

And finally we would like to express our enormous gratitude to Tim Hawkinson for dreaming up this magical work and for bringing his remarkable artistic imagination to the Exploratorium community and our curious public.
Marina McDougall: On your first visit to the Exploratorium’s new site at the Piers you mentioned that you had always been interested in creating a “tide activated bellows.” Naturally, we were intrigued. How did this idea originate for you?

Tim Hawkinson: I wasn’t thinking so much about working with the tide before I visited, but when I walked out onto Piers 15 and 17 for the first time and saw the water and the wind chop, which was creating waves probably a foot high every couple of seconds, that impressed me as having a lot of power and potential. And then we started talking about the ebb and flow of the tides as a six-foot differential. This reminded me of an unrealized project that I had started researching for the Baltic Center for Contemporary Art in Gateshead, which is in the north of England. There’s an amazing
pedestrian bridge there that spans the River Tyne, which flows right next to the Baltic: it’s designed as a horizontal arc that, when it is cleared of pedestrians, can be tilted upward so that ships can pass underneath.

This mechanism made me think about creating an enormous set of bellows, which could be activated by the motion of the bridge tilting up and down. Although it didn’t work out in the end, it did get me thinking about working with forces much greater than I’d previously considered. At the Exploratorium, it was easy to see the potential of the tide being harnessed, and that made me think about those bellows again.

**MM:** Other sound works that you have created, such as *Bagpipe* and *Überorgan*, also use large volumes of air to generate sound. Can you
describe the differences in how they and the tide-activated bellows in Bosun’s Bass work?

TH: In previous sound pieces, I have relied on a fan or a blower to inflate a reservoir and maintain air pressure. In Überorgan the electric blower we used was rated at ninety decibels, which is comparable in volume to a train whistle. It was so loud, that we had to relocate it in the basement of Mass MOCA (the museum that commissioned the work). From there the air was channeled to twelve variously-sized balloons, each connected to a horn, allowing for twelve different notes to be generated. The horns played a program of songs and patterns that was inscribed on a 200-foot-long scroll of dots and dashes, like those used in a player piano, and that was read by another component of Überorgan.
In *Bosun’s Bass*, air pressure is primarily created through the natural rise and fall of the tide, with help from a blower to assist with inflating the bellows. The shipping container is upended and open at what is now its lower end, but sealed on all other sides. It is held in place by a steel brace in order to ensure that the bottom end remains submerged under the water. As the tide rises, the air inside the container is compressed and forced through a one-way valve into the “bellows”—formed by the accordion-pleated connector of an articulated MUNI bus—which is mounted on top of the shipping container. (When the tide falls, the air in the container is replaced via a second one-way valve.) From the bellows, the air is conducted through a tube to the bicycle/whistle and released. When the playing program is initiated, the different calls, which are encoded in the notches of the bike’s rear-wheel tread pattern, are read by a bank of
switches. These trigger different sound mechanisms, including a trilling component made from a Sriracha sauce bottle that has been fitted with a rubber ball, and a sort of damper made from the flywheel of a music box.

**MM:** You gave some thoughtful consideration to scale in conceiving the various components of the work.

**TH:** Yes, well there’s the twenty-foot long industrial shipping container, although you don’t see all of it because most of it’s under the deck, if not under the water. The accordion pleated bellows add another eight or ten feet. And then there’s the Huffy Easyrider bicycle, which is dwarfed in comparison. I think the difference in size—from the humanly scaled to the industrial—is important in leading the viewer into the work. There’s also a tension created in the juxtaposition of this really substantial metal object with the delicate and vulnerable bike and its little music box mechanism. Fortunately, the bike hangs over the water on the other side of the railing and so it’s hopefully out of harm’s reach.

**MM:** Shipping containers have impersonal, industrial associations, while bicycles are beloved as human-powered transportation.

**TH:** I think they’re more beloved in San Francisco than LA.

**MM:** You’re probably right! How did you come upon something as tiny as the boatswain’s whistle as an inspiration for the project?

**TH:** I was thinking about scale again and about something small that could run off one tide, taking one big deep breath of tide and operating for an extended period, a big balloon powering a tiny whistle. Then there was, of course, the maritime connection. I was also interested in the bosun’s whistle as a form of artistic expression and a very regimented way of passing on commands.

**MM:** It’s a communication device.

**TH:** Yes, but it’s a little limited and doesn’t allow for much self-expression as it’s challenging to communicate with just two notes.
Although I think boatswains probably develop different styles of whistling. The whistles are also quite shrill, as they have to be heard over the roar of the ocean and cannon fire and whatever else is going on. The bike scales the pipe up in size and lowers its pitch by about three octaves—a range that, for me, is much easier to listen to. So the “bass” in the title, *Bosun’s Bass*, refers to this lower tone.

**MM:** What does the sound evoke for you?

**TH:** When I first plugged it in I thought it sounded like a Shofar. Then when we were testing it, I went around the corner to the front of the Exploratorium, so I could hear the work without seeing it, and from that position it sounded like a ship pulling into the harbor. I thought it was beautiful.

**MM:** It’s clear that sound intrigues you—why?

**TH:** I am interested in the invasiveness of sound. You can’t turn your back on it, although you can plug your ears, I guess. And I’m interested
Music box detail from *My Favorite Things*, 1993
Roasting pan, water bottle, plant stand, and nine motorized metal disks
in using the way sound travels to explore how it can create a first impression of a work, before you have even seen it.

I think my earliest sound piece was the music box, *My Favorite Things* (1993). I wanted this work to have a stuttering, spontaneous quality, almost like somebody was tinkering with the keys. The box played the song from the *Sound of Music*, exactly the way I picked it out for the first time—note by note on its crude little keyboard—so it retained all of the missteps and faults of that initial attempt.

I was also interested in imitating the human voice through using reeds made out of bits of plastic stuck on the end of a straw and vibrated by a current of air. The base tone could be modulated by reconfiguring the shape of the “mouth”—a plastic soda bottle—playing these reeds.

I found that by altering this resonant cavity, I could even create different consonant and vowel sounds. So, I went on to make a very crude sort of talking machine using these components that was called *Ranting Mop Head* (1995).

**MM:** Did you have expectations for how visitors might respond to *Bosun’s Bass*?

**TH:** I’m not sure that I did have specific responses in mind. I usually set things up and then turn them over to the viewer. I like it when people bring their own personal history and information to a piece, and allow that to inform their interpretation. And although I don’t know that I myself would realize that it was specifically a boatswain’s pipe if I heard it when passing by, I think that the interval of those two tones is pretty identifiable—most of us are exposed to them just through popular culture.

**MM:** By manifesting the things that you’re curious about and have researched—the movement of the tide, the history of the boatswain’s whistle, the workings of pipe organs, as well as your love for all things nautical—in your work you provide a path of inquiry for a viewer to follow his or her own questions and associations. Do you think of art as a form of inquiry?

**TH:** Yes. That’s the way I work, and for me it’s a way of figuring out the world.
In the studio I forget that I’m an artist, and I just try to discern what it is that really has to come into existence. That’s sort of the question I ask myself: What do I need to bring into existence, or realize?

**MM**: You like to forget that you’re an artist. That reminds me of something that Robert Irwin says in the book, *Seeing is Forgetting the Name of The Thing One Sees*: “The object of art may be to seek the elimination of its own necessity.” Do you know that quote?

**TH**: I knew it. Part of the art was to forget the quote, I think. I’m really good at that.

**MM**: [Laughs] Many of your works involve technical challenges, but you don’t necessarily go about solving them in conventional ways. How would you describe your approach?

**TH**: Rather than doing a lot of technical research, I often rely on materials I’m familiar with from everyday use. This usually involves a lot of mixing things up and finding new applications and combinations in sometimes unexpected ways. With *Emoter* (2002), for example, I was interested in working with the random patterns on a television monitor. I bought a dozen or so night-lights, removed the light sensors, and attached them to the monitor. These were wired to different motorized features on a two-dimensional face—a sort of poster puppet-head. The eyes could open or close, or rotate, the eyebrows could arch, nostrils flare, and lips curl, or smile, or frown. These facial features operated independently and were controlled by whether the screen under a particular sensor was light or dark. And these random patterns were interpreted and given meaning by the viewer because we are all wired to read meaning into facial expressions. Usually I’m able to do all of this kind of technical work myself, but sometimes an idea, like *Bosun’s Bass*, requires extra help from fabricators, or engineers, and crane operators.

**MM**: This all seems quite intuitive. What first gave you the sense that you wanted to become an artist?

**TH**: It was sort of a process of elimination. I couldn’t see myself doing anything else. Maybe I could have gotten into science, but
Emoter, 2002
Altered inkjet prints on plastic and foamcore board on panel, monitor, stepladder, and mechanical components
I couldn’t make the connection between research, inquiry, and practical application.

In high school, back in the late 70s, I had a teacher who was really enthusiastic and encouraging and who exposed us to the contemporary art of the time. She took us to see Judy Chicago’s *Dinner Party* when it was shown in San Francisco, which made a big impression on me, and to museums and galleries, and I think even to the Exploratorium. Seeing contemporary artists putting their work out there and supporting themselves brought me to the realization that being an artist was actually an option.

**MM:** Is it fair to say, then, that there is a bit of Exploratorium or Bay Area influence in your work? What did your first works look like?

**TH:** I started by experimenting with really crude, basic kinetic stuff and I felt like, hmm, I have seen this somewhere before—oh, yeah, at the Exploratorium [laughs]. I really liked how everything there
was made visible so that you could see what was happening and the viewer could figure it out just by being given visual information. I think that was something that I tried to maintain in my own work, so I guess it’s fitting that I’ve now had the chance to make something here.

**MM:** While working with you on *Bosun’s Bass*, it has been illuminating to witness your material choices, and your preference for using vernacular elements such as the shipping container and bicycle, rather than customized parts. You repurpose the functionality of ordinary objects so that they elicit surprise, astonishment, and even existential responses from viewers. Can you share your thoughts on how you combine materials to produce these effects in your work?

**TH:** As I usually end up working with materials that I’m familiar with through everyday encounters, they’re usually things that viewers know well, too. I guess it’s important that viewers have some kind of established relationship to the objects—some way of identifying them. I mean, it’s kind of magical using common objects, like a bicycle or a shipping container, to achieve some other ends, but it’s also kind of demystifying at the same time when you see that whatever is being created or exhibited is really just, you know, an occurrence through these simple things that you’re familiar with.

**MM:** Frank Oppenheimer, the founder of the Exploratorium had a similarly opportunistic approach to the use of everyday materials in some of the exhibits he created. His “Coupled Pendulums” [c. 1981] exhibit, for example, incorporated a kitchen table that a staff member had left in the shop for repair.

So, some of your works arise out of the materials you find, like *Organ* (1997), while others are propelled by an idea that you want to explore. *Signature* (1993), for example, resulted from your determination to find a way to mechanically reproduce your signature.

**TH:** I think that most of the time I have an idea and then use whatever materials fit that idea, but as I’m interested in many different kinds of materials my works take on lots of different guises. For *Signature*, the idea was to make something that would exhibit a kind of automation, and it’s surprising that all I needed to accomplish this seemingly impossible task was a short list of basic materials.
Signature, 1993
School desk, paper, ink, wood, and metal; motorized
Initially, I wasn’t sure what I wanted the automaton to write, or draw; I just knew I wanted to make a machine that was able to impersonate the human hand. And after thinking about it, I realized that for me, strangely, the most impersonal thing for the work to write out was my signature. As the machine keeps churning out my signature it becomes meaningless, devalued in some way, and the growing mass of signed paper slips physically distances the viewer, further and further from “me” or the significance of my name. Although that wasn’t really what I intended, I thought it was interesting that the work took on a life of its own in this way.

**MM:** The Swiss artist duo Fischli /Weiss said, with reference to *The Way Things Go*—their 1983 video work about chain reactions—that objects are innocent when they’re passive, they lack agency in that state. But when they’re activated, they become “guilty.” When the *Bosun’s Bass* bicycle is activated and its various parts start to move—dryer hoses expanding, and so on—it also seems to take on a kind of agency.

**TH:** Definitely.

**MM:** You used the word magical just now. It’s hard to describe exactly the kind of effect that your work has, but I agree that there’s some quality whereby the actions of mundane objects either exceeds our apprehension of their normal functions, or take on new, more mysterious guises.

**TH:** Maybe mystery is a better word for it; there is mystery in everything around us.

**MM:** A lot of your work is also pretty funny. Is that intentional?

**TH:** No, I think that’s incidental. Maybe it’s part of using materials that we’re already familiar with in an unfamiliar way. My way of working does seem at times to tend toward the absurd.

**MM:** You could also make a very un-humorous version of *Bosun’s Bass*. It could be a very straightforward mechanism.

**TH:** I’m not sure that I could, because that would require manufac-
turing something from scratch and part of my aesthetic involves economy. I mean, that’s sort of where using the found objects comes from, repurposing something that already exists to accomplish whatever it is that I have in mind rather than going out and having something fabricated to particular specifications.

But that’s less about humor, and more about the beauty, the economy, of accomplishing something using more humble means. I do see the humor in it, but it’s not like I’m actively looking for something that’s funny.

**MM**: And yet audiences find your work amusing and they appreciate the fact that it is idiosyncratic. It defies easy classification.

**TH**: It’s too undisciplined to classify.

**MM**: Although your practice itself is very disciplined.

**TH**: Well, I spend a lot of time thinking and researching, and often one idea, or the research into one idea, will lead me to something else that’s somewhat related. I made a piece called *Möbius Ship* in 2006, which was a ship in the round that made a twist in the middle, like a Möbius strip, which is a circle with a twist in it so that if you follow the strip around on its outside, you wind up on the inside. The inside and the outside are one continuous surface. The ship embodied this same idea and so it was sort of capsized in the middle. That led to the *Klein Bottle* (2007), another geometric model that contains itself, in the form of a closed, non-orientable bottle.

But all the physical Klein bottle models that I’d seen seemed flawed in their design because their surfaces were interrupted: the neck of the bottle curves down and around to penetrate the side and then becomes the bottom. I thought that by weaving a bottle, you could have the two surfaces kind of merge together or flow through each other like a ghost walking through a wall. I showed this woven bottle on a kind of gimbaled frame, which allowed it to rotate on two different axes, giving it a very animated graphic feeling almost like a screen saver on a computer.

**MM**: So sometimes one project will lead into another or there might be a thread that you’re tracing through several works.
TH: Right. So, yeah, not to overemphasize the idiosyncrasy of my work, a lot of times pieces are related to each other.

MM: But you have never made a tide-activated sound work before.

TH: This is the first one!

Marina McDougall is the Director of the Exploratorium’s Center for Art & Inquiry, a research and development laboratory for the arts within the larger learning laboratory of the Exploratorium. As a curator McDougall specializes in interdisciplinary and hybrid practices in the context of public educational environments. She has worked closely with artists including Mark Dion, Fujiko Nakaya, Paul Ramirez Jonas, and Nina Katchadourian. McDougall was the first curator of art and design at the CCA Wattis Institute for Contemporary Art, and she aided in the formation of the Studio for Urban Projects. She has been a visiting curator at the MIT Media Lab, the Museum of Jurassic Technology, and the Oakland Museum of California. She is Adjunct Professor in the California College of the Arts Curatorial Practice Program and serves on the board of the Seed Fund.
TIM HAWKINSON, BOSUN’S BASS, 2015
Facing page: *Bosun’s Bass*, detail

Top: Bosun’s whistle, diagram, bottom: *Bosun’s Bass* bicycle diagram
Installing *Bosun’s Bass*
What the heck is a bosun’s whistle? OK, something’s coming back—a deep childhood memory of strongly desiring and eventually obtaining a Cap’n Crunch plastic two-note whistle from the bottom of a cereal box. I was an experimental musician even then, and explored the humble instrument’s potentials extensively around the family home for several weeks, before it mysteriously vanished. I was inconsolable. But I got over it and moved on to the family turntable, which is a whole other story.

When Tim Hawkinson decided to use a bosun’s whistle as the model for his ambitious kinetic sound-sculptural installation at the Exploratorium, he was tapping into a curious nexus of pop cultural and historical reference—an auditory trope that most of us would recognize, but whose original meaning and function are probably lost in the fog of technological obsolescence.
Familiar through countless mass-media depictions of nautical life (and, as I recently noticed, extraterrestrial escapades in the form of the Starship Enterprise’s electronic PA system on the original Star Trek series), the harsh, teakettle tones of the non-diaphragm type whistle have a loose semiotic charge—navy-something—but very few parsable details.

In fact, although it is now limited to ceremonial use—an idiosyncratic vestigial indicator of a “traditional” identity which has been completely subsumed by a homogenized global military culture centered on computers—the bosun’s pipe (aka whistle, call, or pippity-dippity) represents a functional language devoid of words; resembling whistle-languages found in indigenous cultures around the world and probably inspired and based on some ancient maritime culture—the Greeks supposedly used pipes to time the oar-strokes of their galley slaves.
While a traditional whistled language such as Silbo Gomero—used by inhabitants of the Canary Islands to communicate across their jagged terrain—bears a direct, if convoluted relationship to the regular spoken language of its host region, the same cannot be said with any certainty about the language of the bosun’s call. Instead, seamen have, over the course of time, reverse engineered the whistles with phoneme substitutes of their own devising, nonsense phrases or ironic vernacular translations, such as “The officers’ wives eat pudding and pies, the sailors’ wives eat skilly” for the officers’ call to mess (dinner).

There’s something about this inversion and simulation of an organic communication system—and the improvisational, collaged translation that unfolds from it—that seems very reminiscent of Tim Hawkinson’s creative process. On an immediate level, the bosun’s whistle dovetails with a number of recurring themes in Hawkinson’s oeuvre.
The bosun (a contraction of “boatswain”) was traditionally the crew member in charge of rigging and sails, and the bosun’s call vocabulary was originally centered on the manipulation of these technologies; technologies whose manipulation has figured regularly in Hawkinson’s work, most explicitly in the iris-like mandala of *H.M.S.O.* (1995), the repurposed dead Christmas tree *Das Tannenboot* (1994), and the self-explanatory *Möbius Ship* (2006). And these are just the tip of the iceberg—nautical references have been so prevalent in Hawkinson’s work that the project space Nyehaus, in New York, organized its 2007 survey show of his sculptures from 1993 to 2000 around this theme.


But on a deeper level still, *Bosun’s Bass* exemplifies—in both its inspiration and execution—Hawkinson’s recognition of flawed translation as a fundamental generative process in human creativity, and particularly in his chosen field. More than any other artistic medium, sculpture can be seen historically as an act of direct (if allegorically mediated) transubstantiation—translating marble or wood into a human body, for example.

From Michelangelo’s finding and freeing the corporeal forms trapped in the stone and Donatello’s exhortations to his statue of Lo Zuccone (“Pumpkinhead”) to “Speak damn you, speak!” to the ancient tale of Pygmalion and even the 3 million year-old jasperite pebble resembling a human face discovered in Makapansgat Cave in South Africa—and thought by some scholars to be the earliest evidence of symbolic thinking in our genus’ history—figurative sculpture embodies the tragicomic hubris of man the creator’s feeble
attempts to compete with God, or negative entropy, or whatever is keeping everything organized against all probability.

Faulty translation is a wonky central pillar to Hawkinson’s practice. “There’s something in the work about pattern recognition” the artist notes “—about seeing patterns in different circumstances and reusing them. I’ve talked before about misreading visuals—misinterpreting something and then working with that. Like here—” indicating 2007’s Leviathon, a gigantic skeleton that reveals itself on second glance to be made from a sculpted chain of rowing human figures “—mistaking the vertebrae in a brontosaurus in the Natural History Museum in London for Polynesian kayakers.”

Many, many pieces from Hawkinson’s vast and variegated oeuvre exemplify this principle: fingernails into bird skeletons, eggshells into hands, boulders into bears, manila envelopes into clocks, feathers into motorcycles, water bottles into spinning wheels, pharmaceutical bottles, cupcake forms, aluminum foil, and plastic wrap into combination Maori mask/automotive headlights . . . you get the picture. Any crack in our certainty that things are what they seem can unleash a torrent of sensory and conceptual riches. That’s the Secret of Art.

Or one of them anyway. The disintegration of meal from menu at play in the jury-rigged linguistics of Bosunglish is entirely consonant with Hawkinson’s recombinant aesthetics. But the actual artifact he has produced adds several more layers of meaning, alluding to the history of the geographical location in which Bosun’s Bass was realized (the San Francisco Bay), focusing on specific characteristics and connotative asides of his chosen subject matter, and expanding on its interplay with his own body of work.

In chaining together a shipping container, the hinged bellows of an articulated bus, and a bicycle, to form a gigantic, automated version of a pivotal naval communication tool (and its operator), Hawkinson has stitched together an exquisite corpse of transportation technology, forging a capsule history of San Francisco as transit hub.

The bosun’s call itself is a totally obsolete control mechanism (dating back at least to the Crusades) for a mostly obsolete interface between culture and nature, sail and wind. The bicycle is a patently nineteenth-century concoction, blithely ignorant of the petroleum-gobbling web of military-industrial shipping and handling that would follow in its dorky wake. It simultaneously evokes the earliest, most optimistic days of Modernism and its ongoing contemporary revival, more self-
Möbius Ship, 2006
Wood, plastic,
Plexiglas, rope,
staples, string,
twist ties, and glue
consciously rooted in a corrective urban utopianism whose ground zero is arguably the San Francisco counterculture of the 60s and 70s.

San Francisco as frontier outpost, as international port, as Gold Rush bed of hedonistic opulence, as silicon emerald city, as beat, hippie, queer ground zero, could easily be factored into this dissection. The city’s ahead-of-the-curve experimentalism as regards public transport (cue “The Trolley Song”) is brought to mind by the *Bosun’s Bass*’s flexible bellows made from the abdominal folds of an articulated bus (which made its American debut in the 60s via Oakland-based AC Transit), whilst the primary pulmonary automoton—the partially-submerged shipping container—consists of a twenty-first-century multipurpose cargo unit that morphs a little too smoothly between super-freighter, railcar, and truck (where’s Shia LaBeouf when you need him?!)—and is an omnipresent symbol of the trade deficit with the opposite edge of the Pacific Rim.

It is interesting to note how the elegance and complexity of the component technologies—from the invisible synthetic language and exquisite tendril-like simplicity of the bosun’s whistle to the ingenuous self-sufficiency of the bicycle, to the unadorned squeezebox functionality of the bus bellows, to the brute rectilinear containment capacity of the shipping container—follows a kind of inverse evolutionary progression. Yet grafted together they suffer a sea change into something rich and strange—a robot monster running time backwards to issue a deep, mournful command—“Let go. Let go.”

Or was that “Pipe Down Hammocks?” I always get the two mixed up. Hawkinson’s piece may be just as easily interpreted as a celebration of technological progress as a critique. The humble shipping container is, after all, merely a single cell in an unfathomably vast complex trade organism which has afforded a certain percentage of our species a standard of living unparalleled in human history. Go Team Venture Capitalism!

In a much earlier work, Hawkinson literally encapsulated a comprehensive global history of transport by sealing an absurdly elongated mash-up of model kits into a snug bubble made from discarded plastic bottles. *Trajectory* (1995), radiates the uncanny—resembling a vacuum-sealed exhibit in an alien natural history museum, like a horizontal stalactite or filigreed mound of primate guano accumulated over a couple of millennia. A curiously inert artifact, the uniformly silver mutant extrusion of vessels-within-vessels conflates ancient
sailing ships, tugboats, automobiles, airplanes, helicopters, jets, and spacecrafts (is that the X-15?!), rendering the technological narrative arc as a fait accompli: signed, sealed, and delivered. But this ain’t the case with *Bosun’s Bass*. It goes one step beyond.

Sometime in the very early 70s, a former Air Force electrical engineer named John Draper stumbled on a community of blind telephone hobbyists, who asked his help in developing an electronic tone-generating device to gain unauthorized access to various capacities of the phone system. The key frequency was 2600Hz, which, when played onto an open long-distance line, fooled the Phone Company into believing the caller had hung up, allowing said caller unlimited untraceable access to an open long-distance line. Draper and his fellow Bay Area “phone phreaks” discovered by chance that this exact tone was generated by an easily obtained plastic toy whistle from the bottom of a cereal box, and Draper soon took on his legendary nom de guerre, Captain Crunch. This was the birth of computer hacking.

After *Esquire* ran a highly publicized profile of Crunch and his phreak cohort, he was arrested for “toll fraud” and given five years probation. The article also brought Crunch to the attention of a pair of ambitious UC Berkeley geeks named Steve—as in Wozniak and Jobs—who enlisted Crunch as a tutor as they embarked on the entrepreneurial Hegira that would come to be known as Apple.
There’s a famous story about Crunch using the cereal-box whistle (which, incidentally bore no resemblance to the traditional opium-pipe shaped bosun’s instrument!) to telephone himself via a chain of long distance connections that circled the globe. I remembered hearing some of this a long time ago, but had forgotten about it until *Bosun’s Bass* jogged my memory. Improbably, the most archaic station in Hawkinson’s revised trajectory therefore links it to the next logical passage in post-industrial evolution, to the very technological reconfiguration of reality that rendered it obsolete: to the Digital.

This probably (though not certainly) coincidental anecdotal association turned my mind to other facets of Hawkinson’s work, beginning with the cognitive mechanism of his latest monstrosity. The “brain” of *Bosun’s Bass* is the binary score carved into the rubber of the rear tire of the bicycle plus the relays that translate these bumps and troughs into the various channelings and closures that result in the desired musical communication. The bosun’s whistle is itself a binary instrument, its vocabulary based on combinatorial oscillations between high and low; fractally augmented by trills, warbles, and microtonal slurs, certainly, but piping an essentially Cartesian jig.

Although in this case I guess it’s more of a Leibnizian jig. Often referred to as the conceptual father of computer science and information theory, the seventeenth-century philosopher Gottfried Wilhelm von Leibniz was obsessed with binary numbers for most of his life, and eventually—after a very early exposure to the I Ching—
formulated a theology of zero/one interplay between Creator and Void. All the riotous phenomena of creation generated by a dialectical engine of irreducible polarity, a piston stroke, the wind moving across the face of the water.

Sculpture as a negotiation of form and void is simultaneously the most obviously materialist and the most mysteriously metaphysical theoretical reduction. Leibniz himself, anticipating the scientist-mathematician Benoit Mandelbrot’s discoveries in the field of fractal geometry by four centuries, denied emptiness, saying “matter presents an infinitely porous texture that is sponge-like or cavernous but devoid of empty space, as there is always a cavern within every cavern.” The apparent dualism of the I Ching is, in fact, a temporary polarity, and each extreme contains the most infinitesimal germ of its opposite, which triggers an instantaneous reversal. Now that’s what I call translation!

Tim Hawkinson’s Bosun’s Bass is, like many of his works, a sad and beautiful puppet designed to contain and exclaim such contradictions; a simulacral human figure pieced together from its own technological excreta, summarizing our journey thus far, and the whittling away of time and place as the binary gap between point A and point B, of here and there, is incrementally negated by the evolution of transport. Rising from the ocean which is the mother of all life on Earth, standing just west of the end of human history, breathed by the pulse of the Moon’s gravitational pull on our blood and our imagination. Hear its cry: “Hail! Haul! Hoist Away! All Hands! Pass A Word! Pipe Down! Let Go! Let Go!”

1 In conversation with the author, April 2007.

2 Respectively, Bird (1997); Fist (2009); Bear (2005); Envelope Clock (1996); Sherpa (2008); Orrery (2010); and Koruru (2009).


Doug Harvey is an experimental musician whose early turntable experiments led to his grounding. His book ‘patacritical Interrogation Techniques Anthology Volume 3 (AB Books, New York) collects historical and contemporary documents applying Jarry’s ‘pataphysical concepts to the deliberate procurement of Bad Intelligence. His “Outsider Theory” class taught at CalArts and elsewhere examines the suspicious similarities between Critical Theory and paranoid conspiracy writings. www.dougharvey.la www.dougharvey.blogspot.com
Tim Hawkinson was born in San Francisco, California, in 1960, and lives and works in Los Angeles. After earning his BFA from San Jose State University in 1984, Hawkinson moved to Los Angeles to study at UCLA, graduating in 1989 with an MFA.

Driven by ideas, materials, and an interest in transformation, Hawkinson works in a variety of media, including drawing, painting, photography, video, installation, and sound, but is perhaps best-known for his sculptures. For these the artist uses commonly found and mass-produced materials, which he transforms into handcrafted objects and functional machines that twist familiar subject matter into wry, visual conundrums invested with deeper meaning. His inventive works range in size from monumental kinetic and sound-producing sculptures, such as *Bosun’s Bass* (2015) at the Exploratorium, to diminutive pieces created from prosaic materials such as fingernail clippings and eggshells. Often aesthetically idiosyncratic and humorous, his creations can be seen as meditations on nature, machines, mortality, the body, and human consciousness.

Hawkinson has realized numerous public art commissions and
onsite projects, such as *Bear* (2005), a giant bear made out of eight granite boulders for UCSD’s Stuart Collection, and *Überorgan* (2000), a massive automated musical instrument, which was commissioned by MASS MoCA for its 300-foot-long gallery, and which is possibly the largest indoor sculpture ever created.


Over the course of the last year, Hawkinson has worked between his studio in Altadena, California, and the Exploratorium, on the realization of *Bosun’s Bass*. 
EXPLORATORIUM OVER THE WATER PROJECT TEAM

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ABOUT THE EXPLORATORIUM

The Exploratorium is an interactive museum dedicated to science, art, and human perception. A global leader in informal learning, it has developed creative exhibits, teaching tools, programs, and experiences that ignite curiosity since 1969. In 2013, the museum moved from its original home at the Palace of Fine Arts to a LEED Platinum-certified new building at Pier 15, along San Francisco’s revitalized Embarcadero. In addition to the 600-plus exhibits that inhabit its six galleries, the Exploratorium transcends its own walls via its teacher professional development programs; its relationships with the National Oceanographic and Atmospheric Administration, NASA, and other governmental, educational, and corporate partners; and its collaborations with science centers around the globe.

CENTER FOR ART AND INQUIRY

The Center for Art & Inquiry (CAI) serves as an R&D center for the arts within the larger learning laboratory of the Exploratorium. CAI leads the Exploratorium’s arts strategy and direction, expanding the museum’s focus on art as a medium for exploration, inquiry, and discovery. Working with program directors from across the museum as well as a council of national advisors, CAI oversees the museum’s long-running Artist-in-Residence Program, hosts research fellows, and initiates special projects to advance work at the intersection of art and interdisciplinary learning.
Tim Hawkinson is as much a philosopher as he is an artist. His boundless repertoire of forms and his thematic concerns revolve around the nature of the self, identity, time, and physical reality. The wondrous Bosun’s Bass has emerged from the exciting collaboration between this original and inventive artist and the tremendous resources and spirit of the Exploratorium and its staff.

—Lawrence Rinder, Director and Curator, Berkeley Art Museum/Pacific Film Archive