

CENTER for EXPERIMENTAL LECTURES

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<http://experimentallecures.org>

Matter (In Several Phases)

by Christoph Cox

1. Of solids and objects

[Sound: Christian Wolff, *Stones*]

[quoting Lucy Lippard and John Chandler, "The Dematerialization of Art"]:

During the 1960's, the anti-intellectual emotional/intuitive processes of art-making characteristic of the last two decades have begun to give way to an ultra-conceptual art that emphasizes the thinking process almost exclusively. As more and more artwork is designed in the studio but executed elsewhere by professional craftsmen, as the object becomes merely the end product, a number of artists are losing interest in the physical evolution of the work of art. The studio is again becoming a study. Such a trend appears to be provoking a profound dematerialization of art, especially of art as object, and if it continues to prevail, it may result in the object's becoming wholly obsolete.

**I DO NOT MIND OBJECTS
BUT I DO NOT CARE TO
MAKE THEM.**

- LAURENCE WEINER

**"THE WORLD IS FULL OF
OBJECTS, MORE OR LESS
INTERESTING. I DO NOT WISH
TO MAKE ANY MORE."**

- DOUGLAS HUEBLER

The visual arts at the moment seem to hover at a crossroad that may well turn out to be two roads to one place, though they appear to have come from two sources: art as idea and art as action. In the first case, matter is denied, as sensation has been converted into concept; in the second case, matter has been transformed into energy and time-motion. If the completely conceptual work of art in which the object is simply an epilogue to the fully evolved concept seems to exclude the *objet d'art*, so does the primitivizing strain of sensuous identification and envelopment in a work so expanded that it is inseparable from its nonart surroundings.

A work of art may be understood as a conductor from the artist's mind to the viewer's eye.

- Sol LeWitt

I personally am more interested in the idea of the material than the material itself.

- Laurence Weiner

The validity of artistic propositions is not dependant on any empirical, much less any aesthetic, presupposition about the nature of things. For the artist, as an analyst, is not directly concerned with the physical properties of things.

- Joseph Kosuth

**THE MOTHER SCIENCE
OF CONCEPTUAL ART IS
ADVERTISING.
THE MOTHER SCIENCE
OF MY SCULPTURE IS
GEOLOGY.**

- Carl Andre



still of Katie Paterson, *Langjökull*
<http://www.katiepaterson.org/icerecords/>

[quoting Robert Smithson, "A Sedimentation of Mind: Earth Projects]:

When a *thing* is seen through the consciousness of temporality, it is changed into something that is nothing. Separate "things," "forms," "objects," "shapes," etc., with beginnings and endings are mere convenient fictions: there is only an uncertain disintegrating order that transcends the limits of rational separations. The fictions erected in the eroding time stream are apt to be swamped at any moment. The brain itself resembles an eroded rock from which ideas and ideals leak.



Drill a hole about a mile into the earth and drop a microphone to within a few feet of the bottom. Mount the amplifier and speaker in a very large empty room and adjust the volume to make audible any sounds that may come from the cavity.

— Bruce Nauman

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2. Supplement: Universal Features of the Dynamic Process



Robert Smithson, *Asphalt Rundown*, 1969
<https://www.youtube.com/watch?v=5AmpyiR6kj8>

[Quoting Manuel DeLanda, *A Thousand Years of NonLinear History*]:

The thin rocky crust on which we live and which we call our land and home is perhaps the earth's least important component. The crust is, indeed, a mere hardening within the greater system of underground lava flows which, organizing themselves into large “conveyor belts,” are the main factor in the genesis of the most salient and apparently durable structures of the crusty surface. Either directly, via volcanic activity, or indirectly, by forcing continental plates to collide, thereby creating the great folded mountain ranges, it is the self-organized activity of lava flows that is at the origin of many geological forms. The rocks and mountains that define the most durable traits of our reality, merely represent a local slowing down of this flowing reality. It is almost as if every part of the mineral world could be defined simply by specifying its chemical composition and its *speed of flow*: very slow for rocks, faster for lava.

Similarly, our individual bodies and minds are mere coagulations or decelerations in the flows of biomass, genes, memes, and norms. Here, too, we might be defined both by the materials we are temporarily binding or chaining to our organic bodies and cultural minds and by the timescale of the binding operation. Over the millennia, it is the flow of biomass through food webs, as well as the flow of genes through generations, that matters, not the bodies and species that emerge from these flows. Our languages may also be seen over time as momentary slowing downs or thickenings in a flow of norms that gives rise to a multitude of different structures. And a similar point applies to our institutions, which may also be considered transitory hardenings in the flows of money, routines, and prestige, and, if they have acquired a permanent building to house them, in the mineral flows from which the construction materials derive.



Robert Rauschenberg, *Mud Muse*, 1968
<https://www.youtube.com/watch?v=nzrQxXYVrrg>

I THINK YOU IMMEDIATELY GET INVOLVED WITH MUD-MUSE ON A REALLY PHYSICAL, BASIC, SENSUAL LEVEL AS OPPOSED TO ITS ILLUSTRATING AN INTERESTING IDEA [. . .], BECAUSE THE LEVEL OF THE PIECE, ON THE GROUNDS OF AN IDEA, IS PRETTY LOW.

— ROBERT RAUSCHENBERG

In a very real sense, reality is a *single matter-energy* undergoing phase transitions of various kinds [...] Rocks and inds, germs and words, are all different manifestations of this dynamic material reality, or, in other words, are all different ways in which this single matter-energy *expresses itself*. Thus, what follows will not be a chronicle of “man” and “his” historical achievements, but a philosophical meditation on the history of matter-energy in its different forms and the multiple coexistences and interactions of these forms.

3. On the Dynamics of Fluids”

[Sound: Catherin Béchard & Sabine Hudon, *The Circulation of Fluids*]

[quoting Michel Serres, *Genesis*]:

I am speaking of the flux, the laminar flow that is sown, here and there, with turbulence, in which, perhaps, the things of nature are born. I speak in several voices of the sheet of white water flowing along and of the white noise escaping from it that I can hear, I speak of the multiple fluctuations in the flux, I am speaking only of pure process now.

[quoting Ilya Prigogine and Isabelle Stengers, *Order Out of Chaos*]:

It has long been known that once a certain flow rate of flux has been reached, turbulence may occur in a fluid. Michel Serres has recently recalled that the early atomists were so concerned about turbulent flow that it seems legitimate to consider turbulence as a basic source of inspiration of Lucretian physics. Sometimes, wrote Lucretius, at uncertain times and places, the eternal, universal fall of the atoms is disturbed by a very slight deviation – the “clinamen.” The resulting vortex gives rise to the world, to all natural things. The clinamen, this spontaneous, unpredictable deviation, has often been criticized as one of the main weaknesses of Lucretian physics, as being something introduced ad hoc. In fact, the contrary is true – the clinamen attempts to explain events such as laminar flow ceasing to be stable and spontaneously turning into turbulent flow. Today hydrodynamic experts test the stability of fluid flow by introducing a perturbation that expresses the effect of molecular disorder added to the average flow. We are not so far from the clinamen of Lucretius! For a long time turbulence was identified with disorder or noise. Today we know that this is not the case. Indeed, while turbulent motion appears as irregular or chaotic on the macroscopic scale, it is, on the contrary, highly organized on the microscopic scale. The multiple space and time scales involved in turbulence correspond to the coherent behavior of millions and millions of molecules. Viewed in this way, the transition from laminar flow to turbulence is a process of self-organization.



Carsten Nicolai, *Wellenwanne*, <https://vimeo.com/48454665>

4. Of the Air and the Kinds of Air

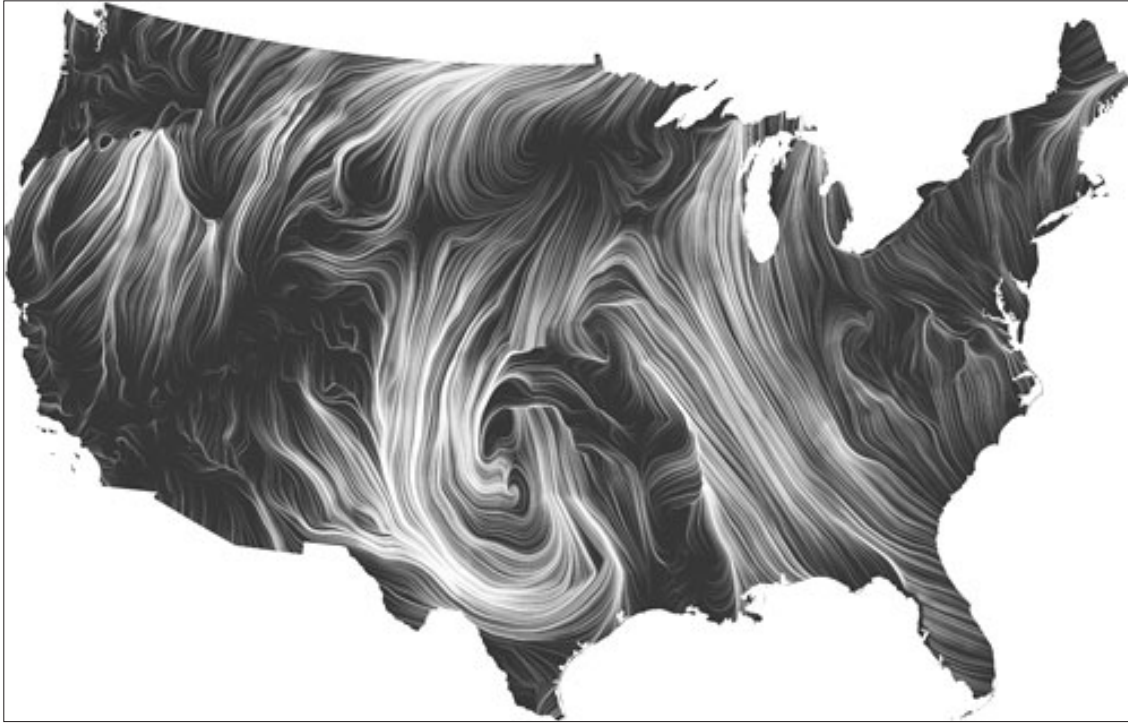
[Sound: Francisco Lopez, *Wind [Patagonia]*]



Carsten Nicolai, *Future Past Perfect* <https://vimeo.com/68526345>

[quoting F. W. J. Schelling, *Ideas for a Philosophy of Nature*] :

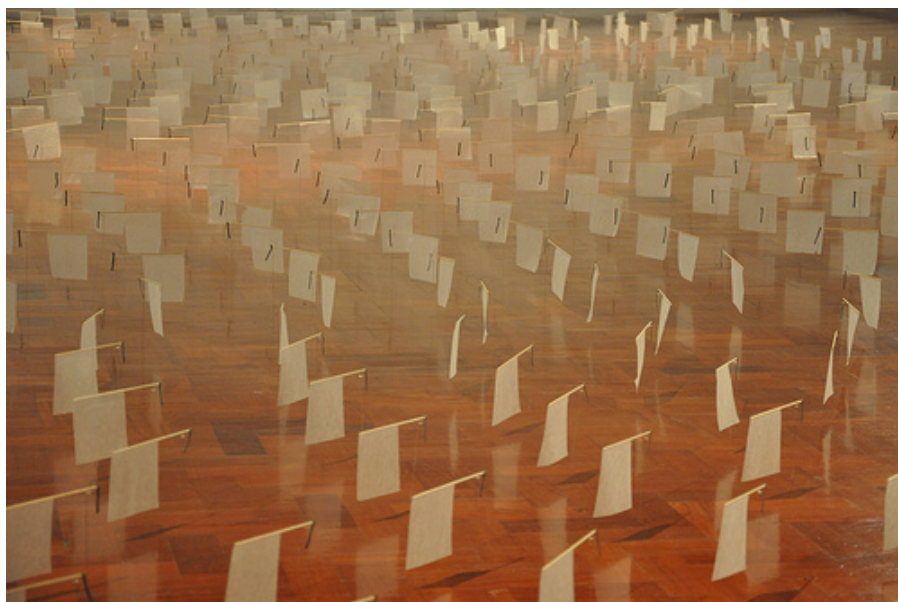
Our globe is surrounded by a transparent, elastic fluid, which we call air, in whose absence no process of Nature flourishes, without which animal as well as vegetable life would be totally extinguished – [...] the universal vehicle of all life-giving forces, an inexhaustible resource, from which both animate and inanimate Nature draw everything necessary to their welfare [...] The atmospheric air changes daily in innumerable ways, and only the persistency of these alterations gives it a certain universal character, which can pertain to it only as such and taken as a whole [...] Our air is the result of thousands of developments which occur on and in the earth. While the vegetable kingdom exhales the purest air, the animal kingdom breathes out a kind of air which is unsuitable for the support of life and proportionately lessens the purity of the air. The collectively uniform distribution of substances, which dispense ever new materials in nicely calculated proportions into the atmospheric cycle, never lets it reach the point where a perfectly pure air would exhaust our vital forces, or a mephitic gas would stifle all seeds of life. Materials which Nature could not entrust to every region of the earth and which are necessary to the constant renewal of the air, she conveys nonetheless to the atmospheric cycle of distant regions by winds and storms.



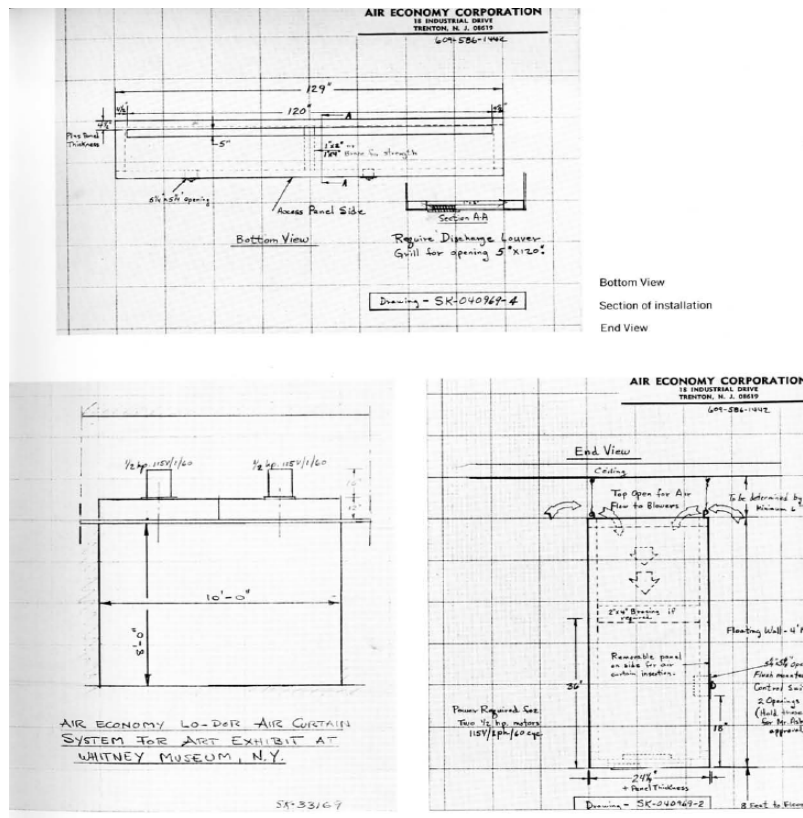
Fernanda Viégas and Martin Wattenberg, *Wind Map*
<http://hint.fm/projects/wind/>

[quoting David Toop, *Haunted Weather*] :

In issue 5 of *Musics* magazine, published in 1976, Max Eastley wrote a short history of Aeolian harps, including the story of St. Dunstan, who narrowly avoided incineration at the stake in the Middle Ages for the suspiciously demonic crime of making a harp that played by itself. Eastley also related the interesting case of Ichabod Aengus Mackenzie, a sculptor and musician who produced 53 wind sound sculptures in 1934. “During an interview he was asked if it disturbed him to leave his instruments performing alone without a human audience,” Eastley wrote. “He replied, ‘That’s up to humans. They’re never without an audience.’



Felix Hess, *Air Pressure Fluctuations*, 2008



Michael Asher, sketches for *Air Works* curtains

[quoting Felix Hess, “Air”]:

I made hundreds of small paper air vanes. Light, very simple and fragile, these paper vanes seem to turn without any friction. They sense the softest of flows, and give way to the air with no will of their own; they purely follow the air flow. When they are set up on the floor, forming a field of white moving paper, we see how the air flows in curves along the floor at our feet, how small whirlwinds are formed when we walk. In a room warmed by the light of the sun, the vanes may point east in the morning and west in the late afternoon. You may find them pointing towards you as the air is moved by even the warmth of just one human body. Patterns are continually changing, the vanes are never at rest.



Olafur Eliasson, *Ventilator*, 1997
<https://vimeo.com/73126408>

[quoting Michael Asher, Writings 1973-1983]:

In response to Joe Goode's window paintings of the mid-sixties, and wondering why he would not use the actual windows as he claimed to be interested in the window phenomenon, I decided to open my own window and sit beside it, and feel the air as it passed through. This was the first step that eventually led to the air works. Next I opened various windows in the apartment in east-west directions and observed the air as it condensed and accelerated in corridor like zones of the apartment (the Venturi effect). Finally, I bought a standard fan from Sears and placed it on the floor. In the airworks I attempted to avoid specific, formally ordered art-object materiality. I decided that I wanted the air-generating units concealed, so [...] I purchased [...] some two-by-fours to frame-in the ceiling, and [...] enough drywall to finish the garage walls and construct four-by-four movable panels to be placed above the ceiling frame. The air blower was installed above the ceiling to generate a vertical column of accelerated air from ceiling to floor. [...] The air units were moved around to different ceiling outlets to produce linear, ambient, and planar bodies of air for a more efficient and versatile air-delivery system.

In this work I was dealing with air as an elementary material of unlimited presence and availability, as opposed to visually determined elements. I intervened therefore to structure this material, given in the exhibition container itself, and to reintegrate it into the exhibition area. It was necessary to enclose the generating device and integrate the enclosure with its architectural context in order to focus the viewer's attention on an ordered body of air, juxtaposed to and continuous with the ambient air that was defined by the exhibition container.



Robert Barry, *Inert Gas Series*, 1969



Robert Morris, *Steam*, 1971

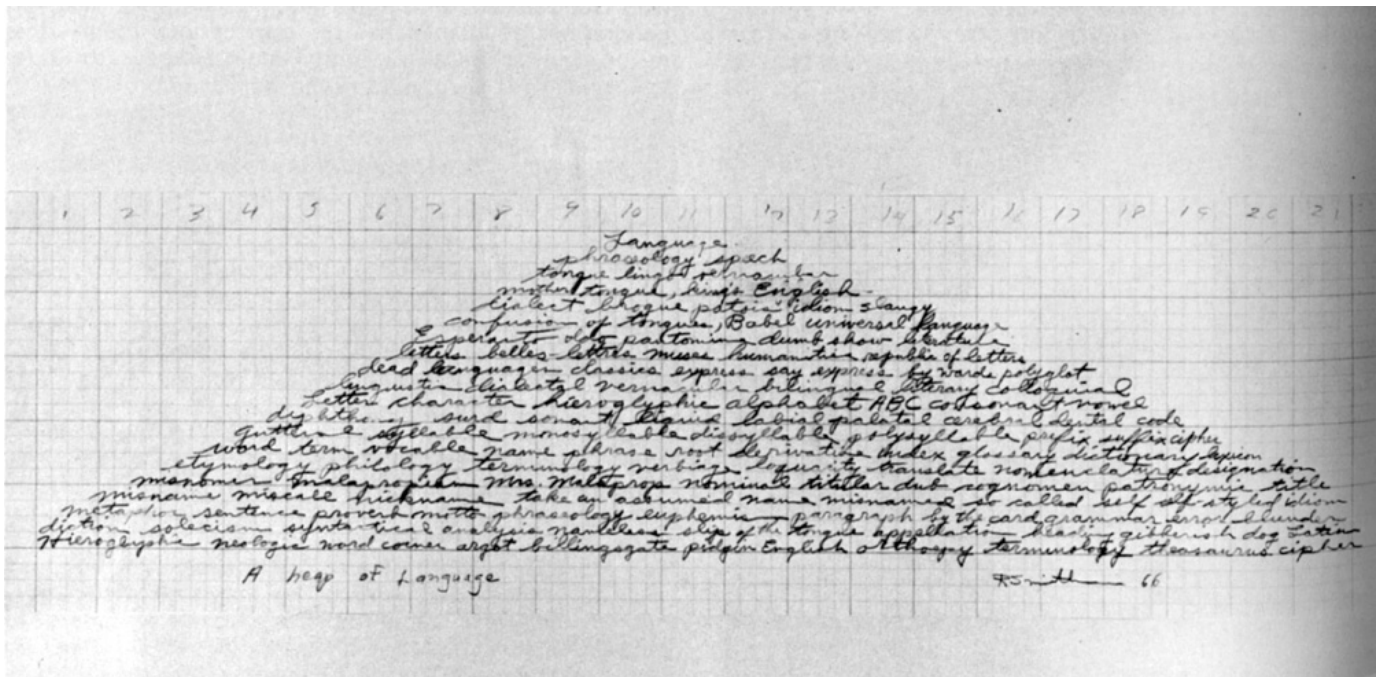
<https://www.youtube.com/watch?v=eK1W5yIuQhQ>

[quoting Robert Barry, “Interview with Ursula Meyer, October 12, 1969”, *Conceptual Art*]:

I chose to work with inert gas because there was not the constant presence of a small object or device that produced the art. Inert gas is a material that is imperceptible – it does not combine with any other element. Here is the place where the gas was released – the Mojave Desert. It goes “from measured volume to indefinite expansion” – as it says on my poster. That is what gas does. When released, it returns to the atmosphere from where it came. It continues to expand forever in the atmosphere, constantly changing and it does all of this without anybody being able to see it. In the desert we released all kinds of gases: Neon and xenon, the so-called noble gases. The gas is purchased in glass flasks or tanks. The label on the Pyrex flask might read “2 liter xenon” – yet you see nothing. You have to trust the manufacturer. When we released a tank in the desert – in the middle of nowhere – it made a whistling sound. That’s all we know about its being there.

[quoting Robert Morris, “Steam”]:

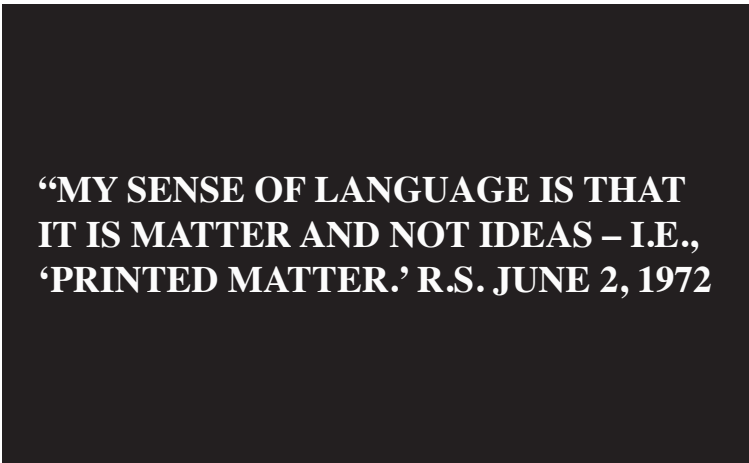
The epitome of the ephemeral. A refusal of “form” that does not, however, collapse into the sublime. A summation and cancellation of all the clouds ever represented in art. An expenditure of heat: that which life itself mortgages from the sun. A monument to both Heraclitus (you can’t put your foot into the same stream twice in this work) and Parmenides (we will not speak of the work’s “nothingness” in the face of heat which is the “one” of every living thing). Let’s not forget the ancient sacred springs bubbling up in steamy, forgotten mists – sites now cemented over for shopping malls. Undoubtedly the archaic is celebrated in this work. Dig deep enough beneath the very spot on which Steam is installed and what would be found? Old pottery, broken, once polished stones from forgotten settlements. But dig deeper still and see a broken oil lamp, a Roman bronze strigil. Go deeper, beyond every human artifact and into the earth’s crust and heat rises. Smoke and the churning innards of the grumbling gut of the earth itself belches up its indigestion in sulphurous clouds. Let’s not forget the stones, thousands of them that have, since the Cambrian, lain in rivers submitting to water’s infinitesimal rate of sculpting. Leonardo marveled at the process. How many miniature Brancusi ovoids have been dredged up here to occupy this geometric plain through which *Steam* percolates. These stones form the base of our monument of *Steam*. But perhaps *Steam* is after all an anti-monument [...] After all, Steam is just a lot of hot air; a towering babble of hissing, wordless vapor; a physical-visual-thermal sigh; a sweet, warm, mute breath wrung reluctantly from Watt’s engine of work. A damp, incoherent mumble of the delights of evanescence and multiplicity; a gaseous, upward rush celebrating the contradiction of an object made from thin air.



Robert Smithson, *A Heap of Language*, 1966

[quoting Alvin Lucier, *Music 109*]:

In 1988 I made a performance piece [...] called *Heavier Than Air*. Several performers whispered sentences from Joe Brainard's book *I Remember* through CO₂-inflated balloons held in front of their mouths while slowly changing the direction of the balloons from left to right and back, focusing the sounds to listeners in various parts of the room. I used whispering because the high frequencies of whispers have short wavelengths that travel through the balloons easily. The long wavelengths of lower frequencies would have flowed around the balloons, not through them. Sound waves are not particularly directional; they want to spread out from their source. As the waves flow through the balloons they travel more slowly in the middle than at the edges because the balloon is round. It's thicker in the middle. It takes longer for the waves to pass through, flattening them, and causing waves to exit on a flat plane on the other side, focusing them in a narrow beam.



**“MY SENSE OF LANGUAGE IS THAT
IT IS MATTER AND NOT IDEAS – I.E.,
‘PRINTED MATTER.’ R.S. JUNE 2, 1972**

[quoting Robert Smithson, “Interview with Paul Cummings, July 19, 1972”]:

SMITHSON: But I was interested in language as a material entity, as something that wasn't involved in ideational values. A lot of conceptual art becomes, you know, essentially ideational.

CUMMINGS: How do you mean “material,” though?

SMITHSON: Well, just as printed matter – information which has a kind of physical presence for me.

This whole conceptual thing treats language as a secondary thing, a kind of thing that'll disappear when it doesn't disappear. Language is as primary as steel [. . .] As far as concepts are concerned, it's completely . . . you know, the idea that art doesn't take a physical form is ridiculous. Even if you just sit there and say “Well, I'm not going to talk anymore. That's my statement.” Well, already you've hit the air with a few blasts, and that's your thing, so there's no escape from the physical, and the only artists I respect are the ones who admit that there is a physical aspect.

[Sound: Felix Hess, *Air Pressure Fluctuations*]

5. Of the Combustion of Bodies



Still from Luke Fowler, *A Grammar for Listening, Part I*

[quoting Francisco Javier Tirado, “Against Cyborgian Territorializations”]:

Let us abandon [the] object model of liquids and think of fire, specifically of a flame. The topology of a flame is extremely paradoxical. The edges of the flame vary at such a speed for us that it is impossible to say either if they are actually present or where they are. All of a sudden, the flame disappears, it moves somewhere else, or it represents itself right here, and it is no longer the same flame. It continues and discontinues. It is more than unstable and less than stable. It is not a flow, as it lacks any constant to give it order. It is random fluctuation, always the same flame but bearing no relation to what it was a moment ago. It dances unpredictably. It has no constant edges, frontiers or margins. The flame enables us to get away from representationist thinking.

[quoting Michel Serres, *Genesis*] :

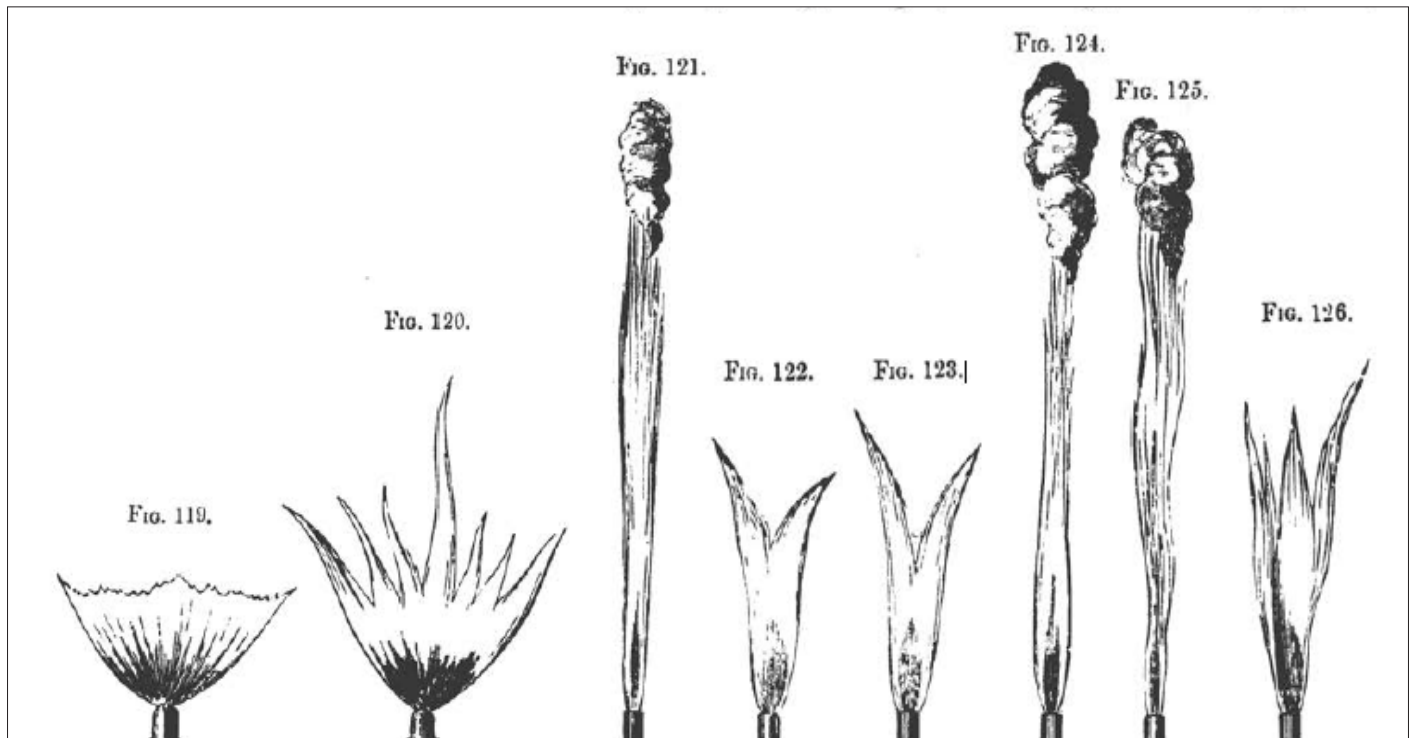
Fire is [...] the work of the multiple [...], a shaking-up of myriads [...]. A cloud is an aggregate, a nebulous set, a multiplicity whose exact definition escapes us, and whose local movements are beyond observation. A flame is an aggregate [...] that is even more nebulous. Here then are a couple of concepts in which the multiple reveals itself as such. Heat and flame, cloud and wind, climate and turbulences, we could refer to them as concepts for multiplicities.



Paul Sharits, still from *Bad Burns*, 1982
<https://vimeo.com/42194355>

[quoting John Tyndall, *Sound*]:

The most marvelous flame hitherto discovered is now before you. It issues from the single orifice of a steatite burner, and reaches a height of 24 inches. The slightest tap on a distant anvil reduces its height to 7 inches. When I shake this bunch of keys the flame is violently agitated, and emits a loud roar. The dropping of a sixpence into a hand already containing coin, at a distance of 20 yards, knocks the flame down. I cannot walk across the floor without agitating the flame. The creaking of my boots sets it in violent commotion. The crumpling, or tearing of a bit of paper, or the rustle of a silk dress, does the same. It is startled by the patter of a raindrop. I hold a watch near the flame; nobody hears its ticks; but you all see their effect upon the flame. At every tick it falls. The winding up of the watch also produces tumult. The twitter of a distant sparrow shakes the flame down; the note of a cricket would do the same. From a distance of 30 yards I have chirruped to this flame, and caused it to fall and roar. I repeat a passage from Spenser [...] The flame picks out certain sounds from my utterance; it notices some by the slightest nod, to others it bows more distinctly, to some its obeisance is very profound, while to many sounds it turns an entirely deaf ear [...] When a brilliant sensitive flame illuminates an otherwise dark room, in which a suitable bell is caused to strike, a series of periodic quenchings of the light by the sound occurs. Every stroke of the bell is accompanied by a momentary darkening of the room.



from John Tyndall, *Sound: A Course of Eight Lectures*, 1867

[quoting Alvin Lucier, “Tyndall Orchestrations,” *Reflections*]:

One person, sitting at a small table in the middle of the performance space, lights and adjusts the flame of a propane-fueled Bunsen burner, sensitive flame apparatus, or other specially designed glass- or metal-tipped device, to the point just below flaring. Any number of singers, talkers, and players of acoustic or electronic musical instruments, positioned at different distances far enough away from the flame so as not to disturb it by air currents from their voices or instruments, explore the phenomenon of responsivity of a gas flame to sound by singing, talking, and playing in such a way as to cause the flame to jump, duck, and bend in pre-determined or spontaneous shapes.

**ELECTRICITY IS THE PERVADING ELEMENT
THAT ACCOMPANIES ALL MATERIAL
EXISTENCE, EVEN THE ATMOSPHERIC. IT IS
TO BE THOUGHT OF UNABASHEDLY AS THE
SOUL OF THE WORLD.**

— JOHANN WOLFGANG VON GOETHE

6. Of Electricity



Christina Kubisch, *Security*, 2009

[quoting F.W.J. Schelling, *Ideas for a Philosophy of Nature*]:

Now an entirely new phenomenon arouses our attention, in which activity seems to arise against activity, force against force. This, however, is also almost the only thing we know with certainty or confidence of the source of that remarkable phenomenon. [...] Perhaps there is no phenomenon in Nature which has been observed with such precision, in all its relationships, in all the individual variations it takes, as the phenomenon of which we speak [However,] the theory of electricity has become almost more an enumeration of the machines and instruments which have been invented on its behalf than an explanation of its phenomena.

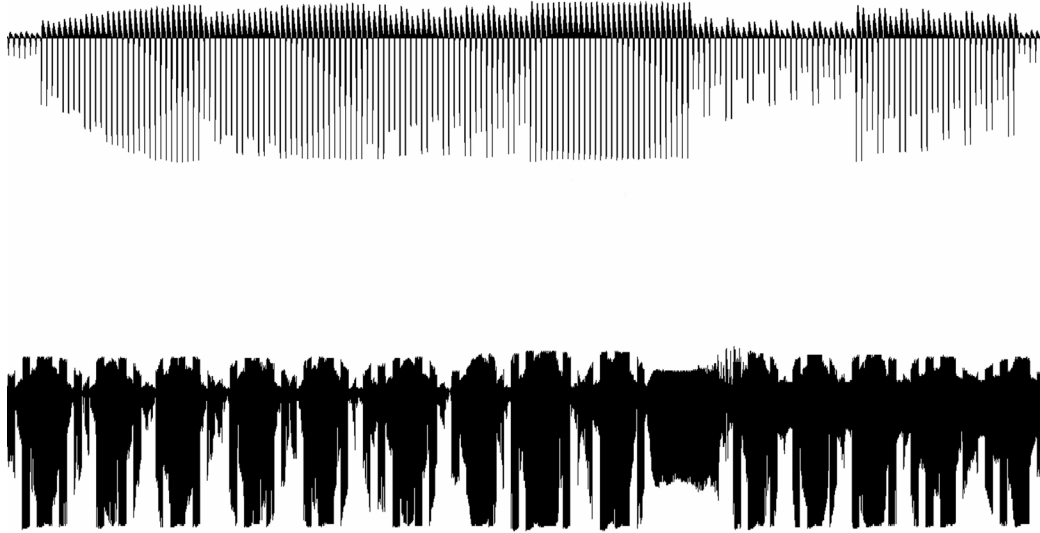


Christina Kubisch, *Electrical Walks*, 2003

[quoting Christina Kubisch, “Invisible Cities,” *Cabinet*, Issue 21]:

I began investigating electrical fields at the end of the 1970s. I had been studying electronic music at the Conservatory in Milan. But the classes there were very conventional; and I wasn’t very satisfied with what I was learning. So I decided to enroll in Milan’s Technical University [....] One day I bought a telephone amplifier, a little cube that you could put next to your telephone so that you could hear it without having the receiver in your hand. The cube was switched on, and when I came into the laboratory, it started to make really strange sounds in my handbag. I took it out and asked my professor what was going on. He explained to me that there were coils in this little cube, and that they picked up some of the machines in the room. It was like a flash in my mind. It was exactly at the time when I wanted to get away from performance and start producing installations.

In my early installations, there were people wandering around with these little cubes in their hands, walking along thick electrical cables that had sounds running through them. It was kind of tiring to have these cubes in your hands all the time. So, four or five years later, I found a factory that built wonderful headphones. The sound was better and more subtle. And the headphones worked over longer distances as well.



[Sound: Christina Kubisch, *E-Legend II*]

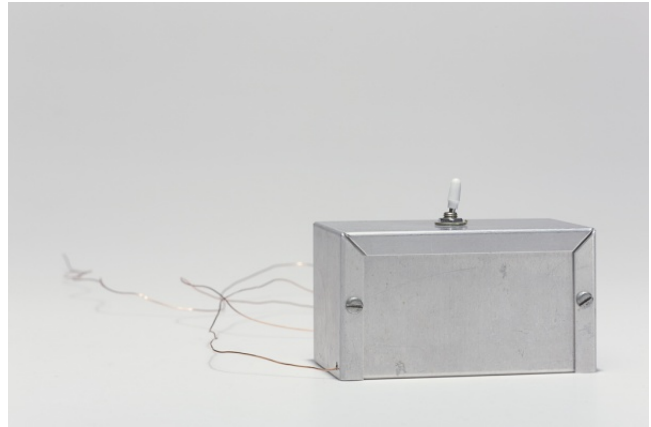
I wanted to go on with other pieces and investigations. So I put the equipment away. About eight or ten years later, when I put on the headphones again, I heard so many strange sounds: humming sounds, rhythms, and all kinds of things that, of course, disturbed me, because I didn't want them. Eventually, I realized that I no longer needed to put my sounds in cables because they were already out there. So I built a new generation of headphones that are especially sensitive to electricity and that don't suppress or ignore all these electromagnetic fields but, instead, amplify them.

Every current in an electrical conductor – for example a wire or a cable – generates an electromagnetic field. These currents can be “musical,” like the signals running through loudspeaker cables; or they can come from electrical activity in the infrastructures of buildings or cities. The magnetic component of these fields is picked up by the sensor coils in the headphones. And, after amplification, these signals are made audible by the little speaker systems in the headphones. So if there's an electromagnetic field (say, an underground cable) and another one nearby (say, the headphones), the fields pick up each other. The sound jumps through the air from one to the other.

There are so many [sounds] – and more and more each day. They are also different in every city. Some of the best ones are the security or anti-theft systems that are at the entrance of every shop. When you walk through them, you get pulsating sounds that have different rhythms. Some are so strong that you can't even come near them with the headphones. This summer I put on my headphones during a very strong thunderstorm. There was no electricity, because all the power had gone out. But, when I recorded, I got the sounds of natural electricity, which was wonderful. The recording is so strange: very low, but very clear. At two points, you hear voices. You can't understand the words, but you can tell that they are voices. I knew that electricity could transport voices, but I had never heard it before. It's quite breathtaking when you hear things like that. This is nature, too—*electrical* nature!



Robert Barry, *8 mc Carrier Wave (FM)*, 1968; and
1600 kc Carrier Wave (AM), 1968



Robert Barry, *Electromagnetic Energy Field* (detail), 1968

[Robert Barry, “Interview with Ursula Meyer, October 12, 1969”, *Conceptual Art*]:

This is very important. Vibrations having substituted for thinghood. Could it be said that you made an art form of vibrations? Of energy. An art form of energy?

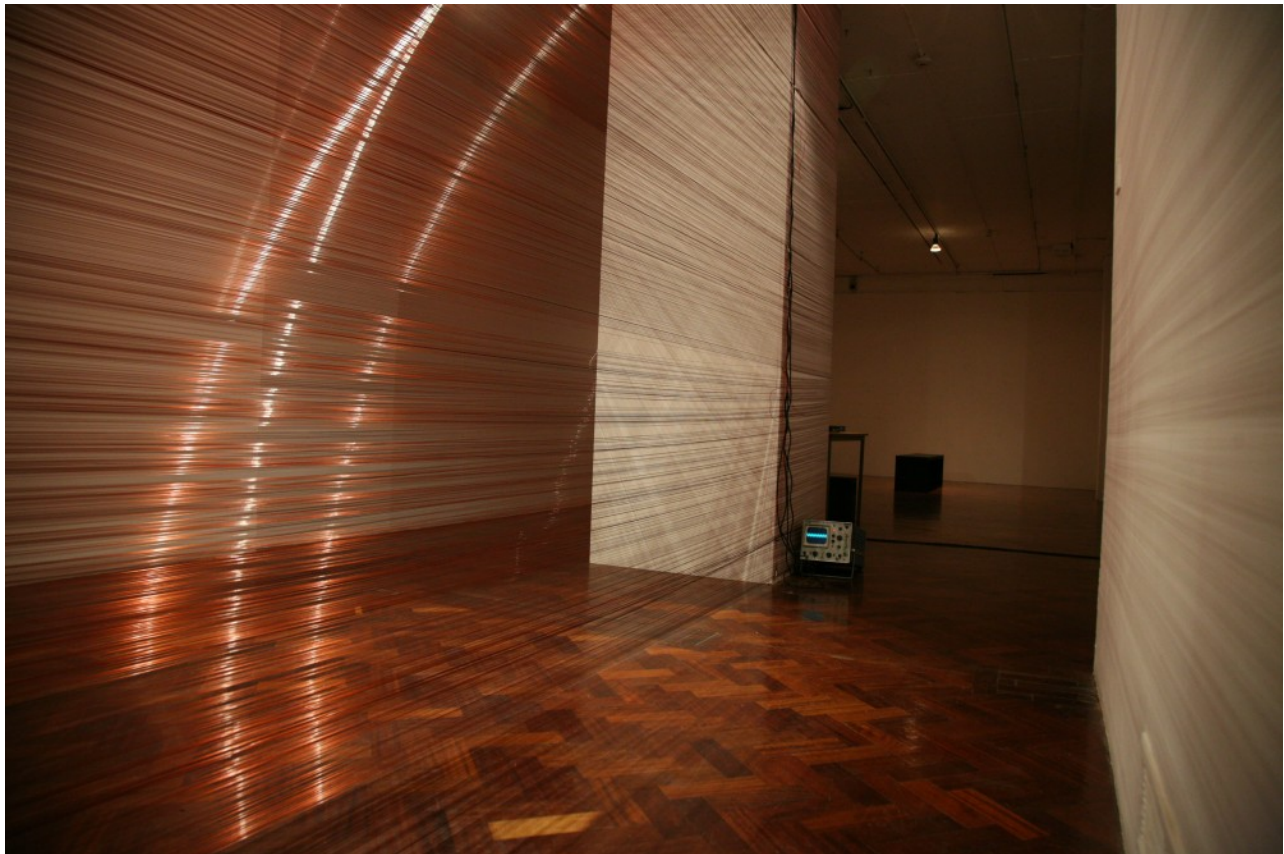
Yes everything is energy. There is not anything that is not energy. You may say of a Minimal sculpture that the object itself is the art even though it may emit these energies. I would say it's the energy that's my art.

Let us go back to your pieces made of extended wire.

Yes. The wires were so thin and were in certain pieces stretched so high above the ground that it was virtually impossible to see them – or to photograph them. And from that I went to things that could be neither seen nor perceived in any way. My father, who is an electrical engineer and always worked with carrier waves and radio transmitters, ever since I was a kid helped me out [...] I guess it was the first invisible art. It could not be perceived directly. And in the “January 1968 Show” I included several carrier wave pieces. One was called *88 megacycles Carrier Wave (FM)* and another *1600 kilocycles Carrier Wave AM*. Since you cannot photograph a carrier wave, we had to photograph the place where the carrier wave existed. The carrier waves have several very beautiful qualities. For example, they travel into space with the speed of light. They can be enclosed in a room. The nature of carrier waves in a room – especially the FM – is affected

by people. The body itself, as you know, is an electrical device. Like a radio or an electric shaver it affects carrier waves. The carrier waves are part of the electromagnetic spectrum of which light waves are also a part. A carrier wave is a form of energy. Light waves are made of the same material as carrier waves, only they are of a different length [...]. The form of a piece is affected because of the nature of the material that it is made of. The form is changed by the people near it although the people may not be aware of the fact that they are affecting the actual form of the piece, because they cannot feel it.

And then there was this piece in Seth's show: *40 KHz Ultrasonic Soundwave* installation. We call it sound wave, I don't know why, because we can't hear it. Ultrasonic sound waves have different qualities from ordinary sound waves. They can be directed like a beam and they bounce back from a wall. Actually you can make invisible patterns and designs with them. They can be diagrammed and measured. I will do a piece for Jack Burnham for his show [...] in the Jewish Museum. I have to go to the place and work with the walls right then and there.



Joyce Hinterding, *Aeriology*, 1995

[Sound: Joyce Hinterding, *Spectral*]

7. Postscript

[Terry Atkinson/Art & Language, “Concerning the Article ‘The Dematerialization of Art’”]:

I have some inquiries I wish to advance relating to the usage of the word “dematerialization” with precise regard as to its correctness [...] The *Oxford English Dictionary* defines “dematerialization” as “to deprive of material qualities” [...] It certainly does not follow that because an object is invisible, or is less visible than it was, or is less visible than another object, that any process of dematerialization has taken place.

Matter is a specialized form of energy, radiant energy is the only form in which energy can exist in the absence of matter. Thus when dematerialization takes place it means, in terms of physical phenomena, the conversion [...] of a state of matter into that of radiant energy; this follows as energy can never be created or destroyed. But further, if one were to speak of an art-form that used radiant energy, then one would be committed to the contradiction of speaking of a formless form, and one can imagine the verbal acrobatics that might take place when the romantic metaphor was put to work on questions concerning formless-forms (non-material) and material forms.

I will be in New York over Easter. I would welcome an exchange of views with you.

Thanks To:

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Words:

Lucy Lippard & John Chandler
Lawrence Weiner
Douglas Huebler
Carl Andre
Robert Smithson
Robert Rauschenberg
Manuel DeLanda
Michel Serres
Ilya Prigogine & Isabelle
Stengers
F.W.J. Schelling
David Toop
Felix Hess
Michael Asher
Robert Barry
Robert Morris
Alvin Lucier
Francisco Javier Tirado
John Tyndall
J.W. von Goethe
Christina Kubisch
Terry Atkinson/Art & Language

Sounds & Images:

Christian Wolff
Katie Paterson
Bruce Nauman
Doug Aitken
Robert Smithson
Robert Rauschenberg
Catherin Béchard & Sabin Hudon
Carsten Nicolai
Francisco López
Fernanda Viégas & Martin Wat-
tenberg
Felix Hess
Michael Asher
Olafur Eliasson
Robert Barry
Robert Morris
Chris Kubick
Paul Sharits
Luke Fowler & Lee Patterson
Christina Kubisch
Joyce Hinterding