

## What is a Climate Artist?

### Introduction: Science as Cargo Cult

Rereading the *Origin of Species* by Darwin on its 150th anniversary, one is struck by the lucidity and humility of its argumentation as well as the transformative power of its conclusions. Yet the scientific theory of evolution is still not widely understood or accepted by most people.

Arrhenius first wrote about the impact of increasing CO<sub>2</sub> on global climate in 1896, and yet the issue was still argued at the highest levels of government until recently. Somehow the ambitious enlightenment projects of the Renaissance and the Scientific Revolution are incomplete. Most scientific knowledge is not culturally appropriated. In many ways science has become a “cargo cult.” Many people who use the cell phone for daily survival could not explain the difference between a photon and an electron.

### Making Science Intimate

I believe that one of the reasons for this is that common science does not make common sense. The vast majority of the information about the world I study as a scientist is mediated to my senses through scientific instruments; almost none is captured directly by my naked senses. I can tell when my instrument is hallucinating. I develop new words to describe phenomena I encounter that have no counterparts in daily life. I can manipulate concepts that are not grounded in my experience as a child. But this intimacy with the world mediated through instruments is not the daily experience of most people.

I think one of the interesting new developments is a generation of artists that is now collecting data about their world by using scientific instruments—but for their cultural purposes. Not only are they making powerful art, they are also making science intimate, sensual, intuitive.

### Micro-science

A second reason for this disconnect of modern science and public understanding is that science is carried out mostly in guarded (mostly male) monasteries. This institutional isolation of science is a historical accident of its development, particularly because of its close connection to government and industry in wartime. But there are signs that kinds of “micro-science” are developing, a new form of people’s science that is made possible by the Internet and the new public access to scientific data and instruments. Science producing communities have ownership over the knowledge they help generate, and this knowledge is locally rooted and meaningful. To coin a phrase, micro-science is to the National Science Foundation what micro-credit is to the World Bank. I am not calling for a renewal of amateur science but rather for embedding mediated contact with the world in everyday life. The work of technological artists is part of this movement.

### Hard Humanities: The Engineering of Rapid Cultural Change

I think that the encouragement of intimate science by artist and micro-science at all levels of society is an important component of the hard humanities. The hard humanities are the

disciplines in the arts and humanities that will be essential to navigating the cultural transformation we face within the next two generations. Controlling climate change, abandoning our dependency on oil for energy, creating the conditions for sustainable development, these will require as deep a cultural transformation as our ancestors accomplished over tens of thousands of years in moving from agrarian to urban societies. The work of artists in promoting art-science and art-technology collaboration is, in a very real sense, part of the toolkit for survival. This is a strong claim: artists using new media and new technologies are not creating playthings for rich people but are part of the rapid cultural engineering we need to do to face the burning issues of our times.

## Landscape Artists

We know what a landscape artist is, and indeed landscape artists over several hundred years have helped shape our cultural imaginaries of the relationship between humans and nature. A key transformation brought about by Renaissance artists and scientists was that they recontextualized humans within the natural world as well as the relationships of individuals to their societies. When Paul Cezanne painted and repainted the scenery of Provence, he developed a visual vocabulary and artistic stance that has influenced art making for a hundred years. When Claude Monet and Vincent Van Gogh laid the groundwork for new ways of representing the world, it was not at all obvious at the time what the impact of their new way of seeing would be; today thousands of landscape artists work in their traditions.

## What is a Climate Artist?

But what is a “climate artist”? A hundred years from now we will identify the climate artists working today who helped shape a new cultural imaginary. I believe that “climate art” will somehow involve making information about our changing world perceptible and sensual and making sense data accessible through instruments and not via the naked body.

Today artists like Marko Peljhan with his Makrolab create new kinds of artist’s studios that make sensory connections to the data environment; the artist claims the “landscape” as a territory accessible only through scientific and technical instruments.

With her *Pigeon Blog* Beatriz da Costa engages pigeon racing communities in collecting environmental data for art purposes; the data about pollution levels is collected and made “sensible” not only as abstract data but also as information embedded within a particular social community.

Andrea Polli works in urban environments, making local micro-climates visible. In her work *Heat and the Heartbeat* she sonifies small changes in ambient temperature and projects future climate change.

Sabrina Raff monitors oxygen levels and translates them through an art-making robot that draws on the walls of the gallery. Her art-making instrument takes data about the world and converts it

into “visualizations” that are the equivalent of the process used by landscape artists, although they involve “mediated” sense data.

In her work *Remote Senses* New Zealand artist Janine Randerson takes data collected from orbiting satellites, Chinese and American, to project visualizations of meteorological data, converting large-scale global information to local meaning.

With her *Inside Outside Handbag* Katherine Moriwaki and other artists working with smart textiles create clothing and objects that respond to ambient environmental data. If we were as sensitive to methane and carbon dioxide as we are to heat and light, we could not ignore the changes in our air.

Argentinean artist Andrea Juan makes expeditions to Antarctica to make performances linked to the measurement of methane levels and ice melt, just as the artists on Darwin’s journeys sought to make sense of scientific data collecting.

We do not know yet what kind of art making will best help us transform our cultural relationship to climate, but I believe it will involve artists who collect scientific data with instruments but for artistic purposes.

#### Activities of the Leonardo Network

The Leonardo organization and network was founded over 40 years ago when the term “computer artist” was still disputed. Such artists have appropriated the computer as a means of cultural production; computers are now more widely used for cultural and social purposes than for industrial or scientific purposes. Today we see artists involved with science and technology who work in a variety of ways on the burning issues of our times. To do this they must now appropriate the sense data obtained using technological instruments. As I have articulated above, I think this work is part of the toolkit needed for the rapid cultural engineering that lies ahead.

The Leonardo “Lovely Weather” working group<sup>1</sup> has been discussing and documenting the work of artists involved today in issues connected to climate change. A number of texts have been published in Leonardo publications and Web sites.<sup>2</sup> Our current call for texts “Environment 2.0” has been organized by Drew Hemment and the work will be connected to the Futuresonic conference.<sup>3</sup> We are working with the Letterkenny Art Center on artists residencies, which are teamed with scientists working in specific places that are particularly sensitive to small changes in micro-climates.

Over recent months a number of us have been developing the concept of “Open Observatories” which disseminate tools, techniques, data, and knowledge for carrying out projects in micro-science, intimate science, people’s science, and crowd sourcing.<sup>4</sup> These open observatories would allow small communities to develop locally generated knowledge that can be the basis for local action to help these communities evolve rapidly and respond to the changes that will be needed to confront climate change, breaking oil dependency, and sustainable development. Open observatories would include the work of artists collecting data for cultural and artistic purposes

as well as community leaders and researchers seeking to find ways to mediate personally meaningful access to scientific knowledge. Finally, Open Observatories might become the locus for societal retroaction on the direction and content of future science, and they might help establish a new social contract between science and society. They might provide test beds for climate artists.

Roger Malina

1. <http://www.leonardo.info> and <http://www.olats.org>
2. Lovely Weather: [http://www.olats.org/fcm/artclimat/artclimat\\_eng.php](http://www.olats.org/fcm/artclimat/artclimat_eng.php)
3. Environment 2.0: <http://www.olats.org/fcm/artclimat/appelcontribDrewHemment.php>
4. Open Observatories: [http://139.82.134.7/open\\_observatory/](http://139.82.134.7/open_observatory/)