

Christopher B. James with Brian O'Connell

On Art and Science

I asked Brian to join me in a discussion regarding the relationship between science and art based on our joint participation in a project taking place in 2019. This collaborative project links The Forest Island Artist Residency and an environmental research station located in Eastern California, designed to encourage open dialogue between artists and researchers with the aim of fostering objects and ideas that puncture the traditional boundaries of knowledge-making. This interview was both an opportunity to gain a more thorough understanding of Brian's work, and to talk through some ideas before we engage with the research scientists at the station.

Christopher B. James : What is Science?

Brian O'Connell: I'm going to answer in the most unscientific way by describing what science is to me as an artist. To paraphrase Sol LeWitt's last sentence on Conceptual Art, these sentences comment on art and science, but are neither art nor science.

People talk about science in terms of method, testability, repeatability, objectivity. However you define it, science is a discipline with its own rules and its history. Art is similar. For me, how science works is summed up in a moment early in its development, when art and science weren't yet so clearly defined. Having observed how white light passing through a glass prism divides into colors, and showing that colors recombine back into white light, Newton set about naming the specific constituent colors of the observable spectrum. Presupposing that white light must represent a harmonic combination following the rules of Western (ancient Greek) musical scales, he posited that it must be made up of seven colors (notes), which he identified as red, orange, yellow, green, blue, indigo, and violet. Though science may still make similarly erroneous assumptions, it long ago purged these most unscientific leaps. But it maintained the central insight about the nature of light. The cumulative nature of science and its stated willingness to undercut its own assumptions makes it fascinating to me. Though it exists within its own disciplinary boundaries, science is—to me, as an artist—a metaphor, an ally, and a foil for art. This is at best a comment on science, and definitely not a scientific definition.

CBJ: A comment on science is really more what I was looking for anyway as I'm intending to get at the relationship between art and science in your work. A casual definition of science might be that it is engaged with the systematic pursuit of underlying realities or truths. Art on the other hand, is artifice, something humanmade, informally referred to as creative, in the sense that it is primarily concerned with the production of something novel. But to reverse this, I'm curious to know if you believe that art produces a body of knowledge, and to what degree is science a fabrication?

BOC: Well, I think we're banging up against some very current issues in this discussion about truth(s) and knowledge. It has been popular to talk about art as a form of knowledge production. I am certainly allied with the intention of this phrase—or what I think that intention is—but I'm a bit suspicious of its origin. Sometimes it feels like a bureaucratization of what art does and how it functions within culture—a way to make it quantifiable over the last decades in increasingly neo-liberal contexts outside the US, and more understandable in strictly capitalist US (educational) environments. It makes comparison of art, science, and other disciplines possible by finding a product—knowledge—that can be compared in (quasi)economic terms. I'm not sure this is what we mean when we say art “produces knowledge.” I think art is a form of knowledge production, I'm just not sure what that knowledge is, and certainly I can't quantify it.

As for science being humanmade, I think it has to be thought of in these terms, and I also think it can't be thought of as existing outside artifice and creativity. It's what it does with its artificial and creative leaps, along with the subject of those leaps, that seems to differentiate it from other forms of knowledge production, disciplinary regimes, occupations, etc. That it has a relationship to reality, though not necessarily perceptual reality, seems to define its truth claims.

Going back to the Newton story, I can't help but wonder if Newton would have pursued his examination of light without his culturally biased assumptions about harmony—that is, without an urge to find something like “beauty” in the mechanism of his prism. This brings up two things: technology and beauty. First, I think it's important to distinguish between science and technology: advances in glass-making made Newton's prism possible, and his insight, despite its problematic conflation, was an application of that technology in a scientifically creative way. Second, I often hear scientists—and mathematicians even more—refer to *beauty*, which is of course an aesthetic category, and one, I might add, that artists, and aestheticians, have been wary of for centuries. I know you've been interested in figuring out what scientists mean when they use beauty to describe their work.

CBJ: Clearly, the correlation of truth to aesthetic beauty accounts for the lack of distinction between art and science in Newton's time. And while this notion is basically obsolete in art practices, it may persist in the sciences, despite its insistence on objectivity. A friend of mine, a theoretical physicist who has published a Theory of Everything, told me he based his conviction of its correctness on its beauty, which he defined in terms of simplicity—it was not what you and I would call simple—and symmetry. Keeping in mind this conflated history, I'd like to consider some of your work from your exhibition PALOMAR¹, which included a handmade film of a solar eclipse and numerous other related works such as *The Eye and the Planets: a series of prints made using a 19th-century process combining gum arabic, bichromate salts and pigment to fuse photosensitive chemistry with painting... The images model, at a macro-level, the microscopic arrangement of particles within the colloid solutions of gum bichromate (and other photographic processes)*.²

In these works, as well as others, you seem to be reversing this history of science's bifurcation with the arts by employing its technologies to produce objects that are certainly not knowledge in the sense of data or maybe not even facts, but solicit subjective and metaphorical interpretation.

BOC: I think it is fair to say that I am interested in the history of both disciplines—art and science—but I'm not doing anything scientific in the sense of producing new knowledge, of building on past discoveries. If anything, I'm more interested in science as a cultural phenomenon which has less to do with its ability to find verifiable truths or facts—though I don't dispute that it does!—than the way that explanations and ways of doing are aestheticized within and across cultures. Knowing is a shared form of understanding that in contemporary cultures often revolves around the concerns, if not the practices, of science. There are many kinds of knowing and I don't restrict myself to science when trying to figure out what I'm looking at, or for, in a particular project.

CBJ: I feel like a lot of the “knowing” to be found in your work is embedded in the making of it, in the history of its manufacture. Can you describe how these particular works came to be?

BOC: The slipperiness between science, casual observation, and cultural understanding is what drew me to Italo Calvino's short novel *Mr. Palomar* as a unifying principal or structural device that brought

¹ PALOMAR, Laure Genillard, London, February 27–April 16, 2016, <http://lglondon.org/index.php/project/march–april-2016/>.

² © Laure Genillard 2014, LG Gallery, London

together and in some cases generated the works in the exhibition *PALOMAR*. The novel is made up of 27 vignettes chronicling the observational musings of an older man, Mr. Palomar who, “perhaps because he bears the same name as a famous observatory, can boast some friendships among astronomers, and he is allowed to put his nose beside the eyepiece of a 15-centimeter telescope.” Coincidences drive my work—formal, linguistic, or just plain accidental. And this was the case with Mr. Palomar and what eventually became the works you mentioned. In late 2014, while visiting the Mount Wilson observatory, near Pasadena, California, I encountered a posted sign about an upcoming partial solar eclipse. At the time, I was making large gum-bichromate prints investigating the relationship between shadows and color filters—thinking of filters as producers of specifically calibrated partial shadows. What greater shadow/filter is there than that of an eclipse, the primal shadow?

I quickly built an amateur solar observatory using a cheap telescope and a foam core box that allowed me to record with a Bolex 35mm-film camera the passing eclipse in short bursts of up to about 30 seconds. I used black-and-white reversal film as a negative, from which to print a color positive with one of the last analog color timers working in Hollywood. To determine the colors I borrowed the three-part thematic structure that Calvino uses to organize the vignettes in his book, specifically how he used numbers to code visual, cultural, and speculative/cosmological experience, for example “1.3.2. The eye and the planets.” I substituted the color-timing filters red, green, and blue for Calvino’s 1, 2, and 3. So this is how these works may relate to something like the histories of science and art through a literary detour.

My prints that make up the series *The Eye and the Planets* were the result of working backwards from the experience of the eclipse to a sort of surreal game that produced a visual record of itself. I made triple exposures of configurations of 9 hand-sized balls inside a circumference that would efficiently hold 27 such balls three times. The overlapping shadows represent ideas closer to a science that Johannes Kepler or Christiaan Huygens might recognize—and debate—than those that contemporary scientists engage in.

CBJ: A bit of Duchamp’s “playful physics”. Your formulation of linked coincidences, self-referentiality and amateur experimentation is animated by an idiosyncratic specificity. In what I think was the only essay attributed to Duchamp, he outlined his belief that an artist only makes half the work of art and the remainder is provided by the viewer—her experience and her interpretation of the piece. To what degree do you think it is critical for a viewer to be aware of the origins and points of reference that inform the becoming of your work?

BOC: Making art is a bit like writing in a foreign language that you know fairly well but without a dictionary. When native speakers come along they understand, fill in, or dismiss your potential gibberish. That’s where at least half of the making takes place, in the viewer’s language. I think this is behind a lot of my “amateur experimentation,” much of the methods for which are taken from a combination of YouTube videos and scientific and technical papers. These sources can be or may as well be in foreign languages.

I want to address your notion of *idiosyncratic specificity* and specificity in general. It’s very important for me to hone in on specifics in the production of my work, but I am hesitant to assume specificity as a way to avoid the contingencies of how work might be (mis)read—a strategy that many of the conceptual artists I admire most seemed convinced might work. Maybe that’s why *idiosyncratic*

specificity—thanks for coming up with that term!—feels right to me. It's exactly what has led me to the doors—or more accurately email addresses—of scientists. Many of the coincidences have opened paths of cultural and artistic enquiry.

CBJ: When you talk about art-making as a kind of misused or misunderstood language, I'm led to something I quite like about your practice in light of the somewhat abstruse points of origin. There is both a reprise of methods and an adaptive reuse of materials that begin to establish some idioms across artworks or projects. In the works you showed at the Hammer Museum's biennial in 2014, for example, the technique of bicarbonate solar shadow prints returned. This time they were made using a wooden structure that you reassembled into a sculptural form in the gallery for presentation. I'm reminded of what a linguist once told me—that a person has to hear a new word seven instances before they understand it. This play with form and method extends to your play with literal language as well, particularly evident in your appropriation of the scientists' nerdy game of clever acronyms as in your project of radio telescopes *BAD (Big Art Dish)* and its successor *Number One Test, Big Art Dish (NOTBAD)*. Getting back to the earlier idea of novelty and truths, do you see play as having more of a generative role in your work, or more so, one of discovery?

BOC: Well, I guess I'd say both. Play generates interest and questions which lead to a sort of discovery, often the discovery of another question, or in some cases a material solution. I think I got closest to that in the online part of the Hammer installation you refer to. It was called *How to UCLA*. A QR code on the wall of the gallery led to a site (<http://howtoucla.info>) that randomly displays all the titles under the title search term "how to" in UCLA's main library. I mentioned earlier that a lot of the know-how that goes into adaptively reusing methods comes from online and other searches of how-to, scientific, and DIY methods. Idiosyncratically playing with these solutions seems to me like a form of "serious play" that can become culturally resonant, even critical of how we ask questions and find solutions.

I'm intrigued by your connection of play with misuse and misunderstanding, because I often think of it in exactly those terms, but most people think of play in terms of games, which require rules. I'm wondering if art can be seen as playing by rules, but the wrong rules.

CBJ: That piece is pretty enjoyable to click through, it definitely starts to feel "culturally resonant" as you browse across random but rather loaded entries. It's a kind of haphazard research that does turn up something. It's about questions and solutions and it's about research and technology as well, but there is clearly nothing *objective* to be discovered. Much of your work, as you suggest, might be seen as art playing science by the wrong rules. And those rules are your rules, your idiosyncratic rules. Do you think there is a kind of knowledge, maybe a kind of subjective knowledge, available to an artistic practice that is not available to science?

BOC: Something like subjective knowledge production may well be the province of art of all types. I don't think, however, this subjective knowledge is that of the producing subject. It exists, as we said earlier, in the viewer's language, or through, as Barthes would say, the viewer's various lexicons—"the one lexia mobilizes different lexicons." Even though, as you point out, the "rules" of production are at least partially my own, they do not feel like my own. They feel like they follow a received logic, one that reflects and comes out of the situations from and in which my work takes place. This is, of course, something that scientists, if not science, also feel. The focus of their research is the result of political, economic, cultural, institutional, and historical forces, though their results hope to be otherwise. In the case of art, it seems the more evident those forces are the better.





