

MEDIATING ART AND SCIENCE

Mediating Art and Science: Media beyond the Two Cultures

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In his 1959 Rede Lecture at Cambridge, scientist-turned-novelist C. P. Snow famously described a methodological and conceptual rift between literary intellectuals, on the one hand, and scientists, on the other ([1959] 1998). Snow ventured to classify humanists as past-facing, “natural Luddites” who are slow to change (22), while scientists, he explained, may seem shallowly optimistic to outsiders but in reality have “the future in their bones” (10). “Between the two,” he noted, there lies “a gulf of mutual incomprehension.” Given the “curious distorted image” they have of each other, Snow thought it difficult for them to find “much common ground” (4).

On the fiftieth anniversary of Snow’s lecture, in 2009, many an author was quick to proclaim that the rift had only widened, in part due to the growing ambit of scientific research and increasing specialization, and in part due to alarming reports of scientific illiteracy and skepticism among general citizens (Hartz and Chappell 1997; Winston 2009). It struck us, as coeditors of this stream of *Media+Environment*, that there was plenty of evidence against this “widening rift” hypothesis and that a focus on media might help to clarify where the bulk of the evidence falls.

Efforts to bridge the “two cultures,” whether through a “third culture” of some kind (Brockman 1995; Kluszczyński 2011) or through a transdisciplinary fusion—variously neologized as “artscience,” “arts-science,” “sci-art,” or one or another form of humanities-science “consilience”—have arisen and (sometimes) dissipated over the years, but their general trajectory, we thought, was upward (Arends and Thackera 2003; Edwards 2008; Nicolescu 2008; Born and Barry 2010; Root-Bernstein et al. 2011; Slingerland and Collard 2012; Wilson and Sim 2014; Muller et al. 2015; Malina 2016; Bawa 2019; GUNi (Global University Network for Innovation) 2019). We could certainly point to many specific instances of practical collaboration across these “cultures”: centers like La Laboratoire in Paris, the University of Western Australia’s

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SymbioticA, the Wellcome Trust's SciArt program, the New York City-based SciArt Center, and MIT's Media Lab; the long-standing work of the LEONARDO Society, with its journal *Leonardo* and its LASER Talks (Leonardo Art Science Evening Rendezvous), now held in more than twenty cities around the world; the "STEM to STEAM" movement (Sousa and Pilecky 2013); the series of monumental exhibitions curated by Bruno Latour and Peter Weibel, including *Iconoclash* (2002), *Making Things Public* (2005), *Reset Modernity!* (2016), and *Critical Zones* (2020); and other conversations, colloquia, and collaborative forays across such hybrid terrains as transdisciplinary education, sustainability studies, Anthropocene studies, biocultural anthropology, enactive cognition, eco- and biosemiotics, technoscience studies, multispecies ethnography, and various philosophical explorations of "new materialism," the "ontology of things," and the like.

When it comes to the environmental domain, efforts toward bridging and even convergence become even more pronounced. The fields of eco-arts, ecomedia (and ecomedia studies), ecological design, environmental humanities, environmental communication, and ecocriticism have grown enormously over the last two decades, with institutions around the world recognizing their importance as complements to environmental science and problem-solving (Nye et al. 2013; Wood and Peterson 2014). Ecological themes and methodologies have spread across the arts (Weintraub 2012; Heise, Christensen, and Niemann 2017) and have given rise to new scholarly societies, academic programs, conferences, journals, festivals and exhibitions, and centers and institutes (from Munich's Rachel Carson Center and Stockholm's Environmental Humanities Lab to the UC Santa Cruz Center for Creative Ecologies, Monash University's Environment and Media Research Program, and the University of Vermont's EcoCultureLab; and see Jones 2017; Nye et al. 2013; O'Gorman, van Dooren, Münster, et al. 2019). Many of these respond to scientists' calls for engagement of the arts and humanities to aid in the communication of urgent environmental issues including climate change, species extinction, deforestation, desertification, bioaccumulation of toxins and plastics, and others (Hulme 2011; Sorlin 2012). Ecological science, like science in general, has become arguably more public than it has ever been, communicated via television specials, feature films, YouTube channels, Twitter accounts, podcasts, and a myriad of other new forms. So it should not be surprising that sites of popular and/or public science—from museums to forest, marine, and other field science labs—have been introducing artist-in-residence programs and other ways of incorporating the arts in engaging the public (Swanson 2015).

All of that said, the "two cultures" remain the constitutive background against which these various efforts appear as noteworthy but too often singular counterexamples (Lapworth 2015; Vaage 2016; Yang 2015b). The "artscience" initiatives, as Yang (2015a) laments, with "their short-lifespans [*sic*] and sometimes jerry-rigged execution," more often "serve to reinforce rather than

challenge the disciplinary status quo” (169). Universities are still largely divided between the humanities (or human sciences, *Geisteswissenschaften* in the German-speaking world) and the sciences (*Naturwissenschaften*), with the social sciences hovering or straddling somewhere between them, depending on discipline or subdisciplines. (Some disciplines, such as geography and anthropology, are themselves an uncomfortable mix of the “two cultures,” with the preponderance of their membership found either in the “cultural” or the “physical/biological” arm and only a minority operating in any genuine way between the two.) Methodologically, the humanities and the sciences are often still worlds apart, with “mixed-methods” research more commonly incorporating quantitative and qualitative data within a strictly delimited domain of research practice; rarely do these efforts stretch from the interpretive methods of the humanities to the causal-explanatory methods dominant in the “hard” sciences.

When the call went out for this stream, then, it was our hope to be able to better articulate the place of *media* in this supposedly long-standing discontinuity between the arts and the sciences—to use media studies’ conventional expertise in technology, audience, communication, and design to further reconcile Snow’s incommensurate disciplines. We envisioned a thematic bundle that would also help drive media studies “out of doors,” so to speak, to engage more fully with urgent environmental issues ranging from climate change and biodiversity loss to mounting burdens of waste and contamination. In this, we were following Sarah Kember and Joanna Zylinska (2012) in seeing media not only as objects and artifacts but as lively processes of mediation. One of us (Chang 2015) had already argued that Jay David Bolter’s and Richard Grusin’s foundational concept of “remediation” ought to be productively expanded to consider environmental remediation—in other words, that media scholars treat not only mass media but also natural media, including our bodies, as conduits—and the capacity for media forms of all kinds to transform or even ameliorate a degraded socio-ecological status quo.

In this vein, we sought contributors who could address or illustrate media’s relationship to the historical “two cultures” of the sciences and the humanities. We asked prospective writers to consider questions like these:

- How do ecomedia initiatives (both theoretical and applied) navigate between the two Snowian cultures—that is, of artists/humanists and of scientists/professionals?
- How have scientists turned to art and media forms (social media, games, virtual reality, and so on) not only to express their identities, research, and culture but also to formulate and wrestle with scientific problems? How might these choices relate to institutional and funding mandates for public outreach and changing standards for scientific professionalization?

- How do artists and media practitioners incorporate science in their work, whether through methods, materials (e.g., biomimicry), or sites (e.g., through programs that place artists in scientific research centers)?
- Where do media belong in relation to the growth of transdisciplinary “artscience,” “sci-art,” and related eco-humanities initiatives? Is it sufficient to define both “art” and “science” broadly, with “art” including the humanities and design, performance, and media arts, and with “science” including the natural and social sciences, engineering, and computer science? Are media the “third cultures” that might help to move artscience discoveries beyond the equally rarefied spaces of the lab and the studio?
- What are recent challenges to conventional modes of representation, from nonoptical imaging to speculative encounters with deep time or distant futures?
- How have artists, scientists, and/or media practitioners collaborated across disciplines to communicate or visualize contemporary environmental challenges? To engage community needs or movements?

Recognizing that Snow’s divide remains very much the product of a particular historical period and region, the “Mediating Art and Science” stream aims less to reify or resolve debates than to serve as a snapshot of cross-disciplinary provocations in these particular times and places. In this first installment of the stream, we are fortunate to feature three articles, each with its own distinct scientific, artistic, and/or scholarly perspective; others will follow and no doubt expand or contest this intermediary terrain.

The stream kicks off with Ellie Irons’s account of her collaborative and interdisciplinary public art work on the “Lawn (Re)Disturbance Laboratory” (the “Lawn Lab”), in “The Next Epoch Seed Library’s Lawn Lab: A Public Experiment in Collaboration with Seeds, Time, and Weeds.” Emerging from an organization Irons cofounded, the Next Epoch Seed Library, which collects, stores, and shares seeds of “spontaneous urban plants” (also known as weeds), the Lawn Lab carried out a series of interventions on (and in) institutional and residential lawns in the city of Troy, New York. The Lawn Lab’s interventions, she argues, constitute an interdisciplinary and applied practice that combines urban ecology, socially engaged art, and multispecies pedagogy, all the while challenging preconceptions about what constitutes urban “nature.” Irons’s art practice, and the essay itself, exemplify the fluidity of media considered as both aesthetic platforms and environmental substrates. Interlaced with photographs and videos of interactive installations and equally framed plots of turf, the article very much speaks to this journal’s deliberate blurring of mediatic categories.

The next article, by Sabiha Ahmad Khan, begins from a more conventional “media studies” perspective—an analysis of two popular movies—but finds in them an exemplary model of how imaginative technologies can engage broader audiences in the exploration of environmental issues. In “Rendering Climate Comedy in *Cloudy with a Chance of Meatballs 1* (2009) and 2 (2013),” Khan analyzes the Sony animation franchise in terms of its affective engagement with climate issues, and specifically the films’ constantly changing “food weather” and sentient “foodimals.” With its arrestingly beautiful and sensual depictions of food, she argues, the films’ animations respond to C. P. Snow’s call by deploying imaginative, and specifically comic, approaches to topics (food politics, climate change) that mainstream media typically treats logically, seriously, and ultimately with lesser impact.

In the third article, “01100110 01101111 01110010 01100101 01110011 01110100 [forest],” ecologist and visual communication scholar Danielle Svehla Christianson examines a scientific practice in terms of how its forms of abstraction—visual and numerical forms, specifically—enable but also constrain the understanding they make possible of the realities that are being “abstracted.” Christianson assesses the role played by 3D laser scanners and virtual reality technologies in studying microclimate effects on tree seedlings in a forest. She shows that the visualization technologies enable certain advantages, including continuity across multiple spatial scales, lively interactions, and new perspectives, but warns that they also carry risks such as a false sense of omnipotent control, incomplete representations, singular inscription, and limits to participation.

Altogether, even as they explore the arts-science interface in notably different ways, these authors demonstrate the generative interminglings we might encourage between Snow’s two cultures, aided and abetted by the capaciousness of media themselves.



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