

## Interview

### ***Looking for the Horizon: A Conversation between John Durham Peters and Chris Russill***

Chris Russill  
Carleton University

John Durham Peters  
Yale University

#### **Introduction**

The following conversation between Chris Russill and John Durham Peters, author of *The Marvelous Clouds*, took place at the Le Reine Elizabeth Hotel in Montreal, Québec, Canada.

**Chris Russill (CR):** We are speaking with John Durham Peters (2015a) on the occasion of his new book, *The Marvelous Clouds* while he has a few hours left here in Montreal. It is March 14, 2016, by the Gregorian calendar. Thanks for doing this, John.

**John Durham Peters (JDP):** My great pleasure.

**CR:** Let's dive right in. Many fields now emphasize environmental problems as a central if not constitutive concern of their work, including media theory. Why does environment have such prominence for media scholars today? It is obviously an important theme for scholars of an earlier era—Lewis Mumford, Hannah Arendt, Marshall McLuhan, Paul Virilio, Félix Guattari come to mind—and this is evident once we are attuned to the significance of environment in their work, yet something seems different today. Do you have a sense of what is happening?

**JDP:** And in Harold Innis (2004) there's a central ecological element. When you read his memoir of growing up in Otterville about apple storage and the maple syrup harvest, it's clear that the economic and life rhythms of his people were tied into trees and seasons. And of course we must mention beavers.

**CR:** That didn't take long [laughter]!

**JDP:** Beavers, right, we're in Canada! The ecology of the beaver ends up determining the history of a nation—and its international relations. For readers of Innis it is no

**Chris Russill** is an Associate Professor in the School of Journalism and Communication at Carleton University. Email: [chris\\_russill@carleton.ca](mailto:chris_russill@carleton.ca). **John Durham Peters** is María Rosa Menocal Professor of English & Film and Media Studies at Yale University. Email: [john.peters@yale.edu](mailto:john.peters@yale.edu).

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stretch to think of beavers as natural objects for media theory. But as to why the [significance of the] environment now, I think the worst answer is academic fashion. In writing *The Marvelous Clouds* I had a few pangs of conscience that I was at risk of cashing in on the currency of green work without doing the serious interdisciplinary homework required. As a counter to fashion, I tried to show how the interest in nature is a deeply embedded concern in both American transcendentalist and pragmatist traditions, and that both of those lineages are not afraid to talk about nature in really rich and complicated ways. I'd say the current challenge of critical environmentally conscious media studies is to avoid the old ban on talking about nature at all. Naturalization for a long time was an intellectual felony. To call something natural was to say, "it's okay, it's given," and thereby reinforce the existing power structure. Obviously much critical work has importantly sought to find contingency and history where ideologues have found nature. But that doesn't mean we should abandon the concept of nature—an entity that, after Darwin and others, turns out to be deeply historical as well. If we do, we risk letting the natural scientists walk off with all the goodies. Nature should be at the heart of the humanist's agenda.

The green turn, especially the atmospheric green turn, then, has a longer horizon. During the Cold War there was very much the sense of apocalypse from the sky. It wasn't 400 parts per million of carbon. It was thermonuclear holocaust. And fear of death from the sky is a very old worry in many cultures—the dangerous sky that's going to erupt and burn and bring species extinction. We shouldn't forget this horizon when we hear IT engineers talk about "the cloud." We look upward and instead of seeing God or animals in the clouds, we see the end. The anthropocene is fashionable, but it is also urgent and deep.

**CR:** I feel like that's a perennial tension in media theory. There is the imperative to have an ethical-political relationship to contemporary things that are going on, while trying to let the deeper wellsprings of our thought shape our response. As a friend of mine says, there is a fair bit of ambulance chasing in media theory.

**JDP:** That's perfect.

**CR:** The anthropocene is a rather interesting site through which humanistic scholars work out their relationship and dissatisfaction with natural sciences. I find the term encourages an elemental approach, insofar as we are turning the Earth inside out. We're unearthing trees, rocks, liquids, gases and flinging them up into the sky and oceans with ridiculous rapidity. In this respect, I think a concern with the anthropocene encourages the atmospheric sensibility of your book—I mean there's something strange about so intently flinging the terrestrial into the air and into the ocean. So I find "anthropocene" an interesting term to think with, as a provocation to reframe intellectual work in relation to how the Earth works. But I understand the way rapid shifts between fads overwhelm the sensibility we are talking about.

**JDP:** Right, right.

**CR:** You mentioned beavers and Innis, it reminds me of the problems that

exporting beavers created in South America, I think Argentina, when they created a beaver colony to reproduce the fur trade and ended up with an unmanageable ecological menace.

**JDP:** I can believe that. Like rabbits in Australia—an iatrogenic disease!

### **The Canadian tradition as mediator**

**CR:** Perhaps this is a good transition to Canadian media theory. Can you remember where you first came across it? Was it James Carey or before his work that you started reading McLuhan or Innis?

**JDP:** I was an undergrad and I dropped out for a year to work in a stockbrokerage. My only alienable skill was typing so I worked as a wire operator.

**CR:** Oh, please let this be a *Bartleby*-type story.

**JDP:** It actually sort of is. I can remember talking to one of the stockbrokers, a kind of artsy guy who had gotten into stockbroking to make ends meet but wasn't really invested in it, and he mentioned McLuhan to me. This was 1980. Then I remember getting the news of McLuhan's death shortly after that, so it was on my radar when I was still an undergrad.

Carey was a great advocate of the Canadian tradition. One of the great things about the Canadian tradition is that it gives Americans a way of getting outside the bubble, and of looking in. I guess Americans can profit from the double bind McLuhan talked about. McLuhan, like Robbie Robertson, had an infatuation with the American south, as allied critics of the industrial north, of Yankee hegemony. Those of us upset about the grotesque pathologies of American life find an alternate path in Canada. (Of course those pathologies also enabled some of the great things about American life, the pressure cooker that gave us such literary, musical, cinematic, and other inventions.) For a long time, American thinkers went to Paris to get outside. But Canada is a lot closer!

**CR:** I hear Trump is driving that number up.

**JDP: He-who-must-not-be named ...** I once heard a talk by Mark Noll (2013), the distinguished historian of American religion, in which he said that instead of buying a red convertible for his midlife crisis, he started studying religion in Canada. Everything was so radically different but in subtle and obscure ways. Canada scrambles the categories. You can't have a Red Tory in the United States. It's just very hard to imagine George Grant's kind of politics there. To me it sounds really attractive to have a spiritual interest and investment in long-lasting cultural values, but also a radical approach to economic life and social order. Such thoughts hardly compute in American consciousness.

If you are interested in the philosophy and history of technology, Canada is the place to be. Personally, I have never found more receptive academic audiences anywhere than in Canada. Canadian scholars take their canons seriously. You can always get a good conversation going about Innis, say. The U.S. may have more contestants, but [it has] a much more muddled canon.

**CR:** Well you have offered a canon of sorts in the past. In *Speaking into the Air* (Peters, 1999), you develop this tension between American pragmatism and what we might call the post-Heideggerian inheritance, and while I didn't check to see the degree to which the Canadian tradition registered in that book, it's certainly more pronounced in *The Marvelous Clouds*.

**JDP:** Definitely.

**CR:** And I think this is one of the very interesting ideas you have, that of the Canadian tradition as a mediator of continental and American philosophies of media. In this respect, Canada figures not as the anti-environment to America, as McLuhan put it, but as mediating the theoretical tensions of the relationships between America and Europe.

**JDP:** Yes, I floated this idea in a conference in 2006 in Germany and published it later (Peters, 2008a).

**CR:** I think you used the Daimler Chrysler merger ...

**JDP:** ... A merger that in fact didn't work out very well.

**CR:** But based it in Toronto. I'll confess that the idea of a merger that becomes a German takeover of U.S. production that ends up sold off to Italians is a pretty fun analogy for cultural theory. But, seriously, the proposal gets at your own mediatory impulses and hints at the longer legacy of Canada as medium and mediator. Canada is an in-between space—of cultures and economics during the fur trade, of military struggle with the DEW [Distant Early Warning] Line and the Cold War, and of environment given its historical role in facilitating environmental agreements between Americans and Europeans during global crisis. In scholarly terms, your proposal encourages a way of reading Innis and McLuhan that is unique and rather different from how both Carey and Friedrich Kittler do so.

**JDP:** Yes, both Carey and Kittler bring their own biases, of course. Both favour Innis over McLuhan. Kittler's critique of McLuhan is a standard poststructuralist attack on his Catholic humanism, his complaints about media-induced "angelism" and "discarnate" sensibility, which were things that Kittler celebrated in his smirky, jokey way. Carey's Innis is a brilliant economic historian, but Kittler's is a military historian, best known for his lecture at Imperial College in 1949. I'm not sure how carefully he read Innis, but Geoffrey Winthrop-Young (2011) calls Kittler "Innis in combat fatigues" (p. 140).

**CR:** Innis is at his anti-American best at that point.

**JDP:** Kittler loves the anti-American part too. It's common in German intellectual life to be anti-American, but fascinated by America at the same time, which is also not unusual for Canadian intellectual life.

**CR:** There is an old saying that suggests Americans are benignly ignorant of Canada, whereas Canadians are malevolently informed about the United States.

**JDP:** I think that's certainly true.

### **The next evolutionary step for media studies**

**CR:** One of the claims made in the 2006 talk (Peters, 2008b) is that Kittler identified the next evolutionary step for media theory. It is a statement you put forward in this new book as well (Peters, 2015a). It is a pretty provocative thing to say. Have people missed this step? Or are they unaware that their thinking is shaped by it?

**JDP:** Well, this is very interesting. Because the diffusion of Kittler is very uneven, just as the diffusion of German thought is very uneven. German media theory is hardly ever called that inside of Germany. It's clearly an export label. It's like Bruno Latour's quip that four things are wrong with the term "actor-network theory": actor, network, theory, and the hyphen. Similarly, there are three things wrong with the term "German media theory." It's not only by Germans or about Germany, it is not only about media but more recently "cultural techniques," and it is history as much as theory.

In the U.S., Ivy League language departments have taken on so-called German media theory more readily than Big Ten communication departments (University of Iowa, Penn State, University of Minnesota, University of Wisconsin, University of Illinois, etc.). Communication studies as a discipline is historically connected with the kind of Midwestern vision of prairie Republicanism, of good people speaking well, of a rhetorically empowered citizenry that Kittler's cranky high-cultural, snarky, philosophical, tech-heavy stories don't resonate with very well. As he once snarkily put it, human beings are mixtures of neurophysiology and communications technology. That's not very Jeffersonian ....

**CR:** Comparative literature gets there early on and establishes a digital humanities frame for his work. That is different from how other traditions of media theory are appropriating his approach.

**JDP:** Exactly. The book that Mark Hansen and Tom Mitchell (2010) put together, *Critical Terms in Media Studies*, is a good example of comp lit media studies. I find in teaching Kittler that the nerdy or hipster males often like him best. Kittler participates in an engineering boy culture in his socially clueless fascination with the machine. In his intense identification with operations and programs his work has some resonance with the culture of autism—a point that Douglas Coupland makes about McLuhan. It is probably uninteresting what Kittler's clinical history is. But in terms of the stylistic mode that he works in, he's rarely interested in people or in relationships except insofar as he can convert them into algorithms.

**CR:** Only broken people really ....

**JDP:** Or demi-gods. In his last crazy work on music and mathematics it's kind of a complete about-face. Instead of figuring out how Europeans love knowledge, let's figure out, he says, how Europeans knew love. So let's stop talking about war and start talking about love technologies, which are music and mathematics. To be fair about my previous point, he does care—rapturously—about love relationships here.

These books are both enigmatic and suggestive, as I've argued in a recent essay (Peters, 2015b).

In terms of the next evolutionary step, Kittler, among other German media scholars, stands for several key things. Erudition is important. A sense of history. A willingness to get into the guts of machines. It's not something that I do well, although I think it's really important. Kittler even taught computer programming.

**CR:** You call him the theorist of the elements at one point.

**JDP:** Yeah. The Greek word *stoikheia* means elements (as in Euclid's *Geometry*) or letters, but it also means soldiers, so it brings together some of Kittler's key interests.

**CR:** How about time-axis manipulation and the way Sybille Krämer and yourself extend those reflections? Kittler loves 1-3-1 narratives in media history. Where there's writing, the differentiation of media flows with phonographic and photographic recording, and then the de-differentiation suggested by automated digital computing is understood as a technical device that erases the viability of the concept of medium altogether. Krämer's (2006) essay was a revelation in its isolation of the way recording facilitates the manipulation of temporal processes, and I find that this fact steers media theory to the environmental in ways that other narratives of the supposed sublation of media by software or convergence culture do not.

It shifts how you understand your surroundings to be constituted. Once you are intensely recording natural processes that escape our senses, and once you register environmental processes that exceed the consciousness and temporality of the human so profoundly—once you record things that we do not register physiologically—you get a very different account of the surroundings you're in. There are other ways into that realization aside from Kittler, but his approach strikes me as the most able to intersect with the self-understanding of earth sciences as presently constituted. It is very different from the Gaia-oriented approach taken by Latour.

**JDP:** Yes, Kittler celebrates the nineteenth-century analogue revolution for being able to record nonsense, non-signifying data. In his 1-3-1 narrative, the "1" was just writing, which imposed the discipline of the signifier. Everything had to go through the needle's eye. But in the graphic revolution you can record barometric pressure, blood pressure, vowels, heat, vapors, Earth tremors. A key question for environmentally inflected media studies is how to use our semiotic and hermeneutic tools on texts that were not consciously composed. The Earth itself is full of "signals" as the stratigraphers say, as they hunt for the marker that announced the anthropocene.

**CR:** The golden spike.

**JDP:** The universe is full of signals that are full of meaning but not products of mind. We can tell the four-billion year history of oxygen or the more recent history of climate from the texts they left behind. How should we think about the text of geologic history? What kind of hermeneutics can we bring to records that were not made by signifying animals?

**CR:** I think your book raises that question. What's at stake when you start calling these things a signal, a text, or media? Usually people default to a common constructivism. The idea is that once humans have a technical analogue for thinking about these things, then they retrospectively understand them as media. Ice cores then become media for example. It strikes me that there's a certain historicity that goes with that, and the human is safely installed as the maker of meaning, the planet is just undifferentiated background until people treat it as a semiotic medium.

I didn't take your book in this way. I see it as challenging that sort of constructivism.

**JDP:** Yes, thank you for that reading. And yet it is very difficult to wiggle out of seeing humans as lords of the signifier. It's especially hard in thinking about history.

When an anthropologist finds a new fragment of a pelvic bone or something, it's a new bone. But it is also old. And so the old is in some ways what's most new. So the past is emergent and radically dependent on the media by which we access it. Once corpses were just rotting cadavers, but since Crick and Watson they are archives of DNA. The past becomes signal only because of historically contingent technology, as I have argued (Peters, 2008). There is a historical construction of the past, but it is not fully or only constructed. There is something exceeding the mind.

**CR:** I think you're enabling the more complex sense of recursion that animates the earth sciences to shape our speculations here. Obviously, there is the iterability of writing and the recursion of computers, and these are interesting ways to work through the strange temporality of a past that becomes a signal that lets us access or renew the past. But if we let the approaches of the earth sciences become more emblematic of our thinking, and if we let the problems of how we record the fleeting, dynamical, cyclical processes that constitute our planet shape our historical approach, then this is going to force interesting changes in how we understand media.

**JDP:** Exactly.

### **The planetary**

**CR:** The most distinctive parts of your book (Peters, 2015a) demonstrate how physiology is deeply conditioned by the geophysical. Media theory is influenced deeply by an array of traditions that prize embodiment, whether physiological experimentation, phenomenological orientation, or affect theory, yet your book suggests the need to ground our conceptions of body and life in a much broader array of geoplanetary understandings and temporalities. Obviously, I think this is badly needed; however, I was surprised to learn how deeply our cosmologies and theologies have engaged this task.

**JDP:** Oh, absolutely. What else do cosmologies and theologies worry about? Max Weber defined religion as providing an account of the cosmos as a meaningful totality. Our bodies are made out of Earth elements. And star dust. The prejudice in critical studies against "nature" is nowhere near as strong as the more general

intellectual prejudice against geocentricism. Nicolaus Copernicus, Johannes Kepler, Galileo Galilei, et al., taught us in the paradigm case of a modern intellectual overthrow that the Earth was not the centre of the cosmos. But today we need a critical geocentricism, an appreciation for our embedment in this unique planet.

**CR:** You invoke the film *Gravity* (Cuarón, 2013) as an allegory for reattaching media theory to its Earth-bound condition.

**JDP:** The climax of that movie is really moving. Throughout the film you are deprived of a horizon. You don't know how to orient. The film systematically removes a geocentric gaze; we look at the Earth, not from the Earth. (Sounds from Earth, in the form of radio voices, interestingly, do provide one form of solace.) The spaceship is a parable of the anthropocene, of living in an entirely human-fabricated environment (see Buckminster Fuller). Once Sandra Bullock plops down on the Earth facedown in the mud, on the ground underneath the sky, there is this kind of visceral sense of rightness, of homecoming, of Odysseus being in Penelope's arms in Ithaca.

**CR:** I take the film against the horizon of our renewed interest in space transit films, *Interstellar*, *The Martian* (Scott, 2015), *Gravity*, and how they have repurposed the cultural programming of the twentieth-century space program. There is of course 2001 (Kubrick, 1968) and its crystallization of the mid-twentieth-century claim that our destiny is in space. It's brilliant in using filmic depictions of space as a medium of philosophical inquiry and scientific collaboration. Yet, it's so complicit with the cultural programming promoted by the space age, and its debasing depictions of Earth as a cradle or prison rock that requires escape for humans to evolve. It has been interesting to see these revaluations of space travel emerging. It's most obvious with *Interstellar* (Nolan, 2014) where the Matthew McConaughey character, the pilot, argues that our planetary narcissism cut off our interest in space and foreclosed the destiny of the species.

**JDP:** But then in *Interstellar* (Nolan, 2014) love solves everything. It bridges the chasm in the end.

**CR:** I guess I was too busy sorting the gravitational lensing to really notice. The temporality is so unforgiving. I loved that the film stays with that bit of it.

**JDP:** I thought *The Martian* (Scott, 2015) gave short shrift to the radical alienation of being on a planet other than Earth. The day-night cycle, the hot-cold cycle, how the sun looks different up there. Matt Damon is way too chipper.

**CR:** He's not even worried.

**JDP:** It's a kind of classic, stranded Yankee ingenuity, a Robinsonade: just put the poop in the potato soil and recycle. Damon makes travel look so easy across this barren planet. There is little reckoning with how fragile and fussy the infrastructural requirements would be to do what he's doing.

**CR:** I feel like Arendt (1958) really nailed this cultural tendency with her notion of Earth alienation.

**JDP:** *The Human Condition* (Arendt, 1958) is such a green book. And I don't know if it's been read that way enough.

**CR:** It's in the perfect moment, 1958, just as concerns with DDT are congealing into something bigger, and as Rachel Carson (1962) is putting together the pieces that become *Silent Spring* ...

**JDP:** Sputnik is a framing worry in *The Human Condition* (Arendt, 1958). It's a good example of how you connect the passing moment to the big stuff.

**CR:** I always wonder about that. Arendt and McLuhan think that Sputnik is the really big deal, moreso than the digital computer, but it's a long book, so she's obviously thinking about this for a long time before artificial satellites spring into existence. She has that wonderful stuff in there about the telescope (Arendt, 1958). So it seems Sputnik is tied in with this longer conversation about telescopic optics and that her arguments about Earth alienation are bound up with the way the telescope changes our relationship to the cosmos.

**JDP:** Perhaps its opportunism on Arendt's part to grab a headline but show its world-historical significance. And the telescope also enforces solipsism, alienation from our own sensation. Because we can't trust our own eyes. Her analysis offers a kind of double movement, which I think is really great.

**CR:** Yeah, right. It corrodes faith in the senses by extending the eye to the unseen. There is so much good telescope theory! Alfred Whitehead, Arendt, Hans Blumenberg ...

**JDP:** Blumenberg really deserves a much more robust reception in media studies. He's basically got much of the insight of Martin Heidegger without the pretentiousness and the toxic political past and with a very rich understanding of intellectual history and a sustained focus on technology.

**CR:** I'd like to loop this back to the question of earth science, and of the planetary, and of using some of the geo/eco/planetary conceptions of Earth as categories for media theory.

**JDP:** It's fascinating that geology has become the sexiest science. How did that happen?

**CR:** I don't know. It is actually pretty strange. Climate change, as a scientific idea, is more atmospheric and oceanographic than geologic, so it is odd to have the terrestrial science reassert itself as the source of alarm. Yet, it's refreshing that in a time supposedly defined by hyper acceleration the slowest field of study is having a moment, and it's a field that seems to reflect the pacing of its phenomenon in its work practices. I just like that the pace at which geologists work seems to reflect the phenomenon rather than career arcs or professional aspirations.

**JDP:** What about albedo as a concept?

**CR:** Oh, perfect! Do you know these "moon shot" proposals for coping with climate

change should it manifest abruptly? These ideas for changing the colour of the planet? One geoengineering group proposes whitening the clouds—a fleet of automated ships would shoot sea water into the clouds to whiten them, to increase their albedo. The effect is to shift the albedo of the planet and reflect more sunlight back to space in hopes of cooling the Earth. A whiter Earth to save the day. Chris Rock should get this into his stand-up routine. If it isn't working as intended, or if a volcano goes off and dims the planet unexpectedly, you just turn off the cloud-watering nozzles. Somehow this is all presented as benign, as if messing with or reprogramming our planetary light processing isn't fraught with difficulties. At any rate, I think albedo is wonderful because the planet is understood in terms of its properties for reflecting, refracting, and processing light. As an optical medium, I prefer it to geological referents and their inevitable sense of depth.

**JDP:** Albedo is of Latin origin, like a lot of scientific terms. There's a linguistic example of a long or slow indebtedness.

**CR:** I wish this sense of long and diverse cultural indebtedness was evident—shouldn't we at least consider whether it is defacing the planet to change its colour? The most frightening pictures I've seen are these huge holes in glaciers, essentially a waterfall within a glacier. They are really beautiful, in a way, but the problem is that then the glacier doesn't need to melt to raise the sea, it just needs these moulins to drill down to the bottom, to lubricate the ice-land interface, and then it can slide into the ocean. The "glacial" pace of moving ice is sped up, the oceans rise, and the resulting icebergs melt, thus reducing the albedo of the planet. It is horrifying.

**JDP:** The James Balog (2012) film *Chasing Ice*, which uses automatic cameras to document the changing icy landscape of the planet, is very scary. And totally sublime.

**CR:** I like that he breaks himself into pieces to place these cameras there and then the cameras can't inhabit the environment either, and so they have to go back to fit them to the environment. A good lesson on how the biases of our usual surroundings are internalized into our default approach to environmental media, as you, Melody Jue (2014, 2015), and John Shiga (2013) are so good at illustrating. Nicole Starosielski (2016), too. I watch the film and think we are trapped by the idea that if crisis is not brought to the scale and temporality of our eye then we cannot know, care, or engage it, and so the presumption is if we record climate change, if our eyes were where the cameras were, then you would actually see it. And that by seeing and feeling anthropogenic climate change you would take it seriously. In this respect, I wish the problem of time-axis-manipulation in these films was more explicit—the finitude of cognition and interpretation more acceptable.

**JDP:** This goes back to geocentrism. Finitude is such an enabling and crippling condition at the same time. How do you get us to think about scale? The moralists have long noted the mismatch between the grandeur of the cosmos and the pettiness of our lives. We live in an astonishing universe and yet here I am, and I'm going to try to catch my plane in an hour. We're in Montréal in a hotel room

grounded in this time and space and you and I get to be friends and have a great conversation. Perhaps the impossibility of ever seeing the big picture is a good thing and, we can rejoice in the astonishing fact that there is existence at all, and we are part of it for the time being.

### Clouds

**CR:** Clouds are an interesting site in this respect. The references in your book are fleeting, yet deeply significant and given priority in the title and frontispiece. There is only one image of clouds though, the Dutch landscape painting (see Figure 1).

**Figure 1: View of Haarlem with bleaching fields**



*Note:* Jacob van Ruisdael (1665)

**JDP:** The painting is from 1665 by Jacob van Ruisdael, one of the greatest of many Dutch landscape painters. There are lots of reasons why I love the painting. In colour it's so much more beautiful. The clouds are kind of purply. I wanted it to be the cover of the book, but the press nixed it. At first I was upset about their cover design because it's an aerial view of winds rather than clouds. I wanted it to be the Sandra Bullock view, looking up, between heaven and Earth. But I've grown to like the

cover. The image of swirling winds pointing in many directions kind of captures something of the busy multiple quality of the book itself.

But the Ruisdael would have been great. The artist was a Calvinist and Calvinists are iconoclasts and anti-idolators; they cannot make an image of divine things. But what about clouds? They are a kind of safe way to represent God's creative activity. Note the church on Ruisdael's horizon.

**CR:** Slightly clouded.

**JDP:** No one is really supposed to notice it, but it is the anchoring point. I love the fact that the horizon line is low. It's like two-thirds sky to one-third Earth. And it is not a particularly beautiful landscape. It's a bleaching field. The Dutch have a saying that God created the world but the Dutch made Holland.

**CR:** The Ruisdael painting reminds me of Richard White's (1996) neat little book on the Columbia River, *The Organic Machine*, and his attention to work as mediating our relationship to nature.

**JDP:** White's work is great. The Netherlands is a perfect model of a land that is both ship and sky. Haarlem without anthropogenic labour would not exist. Much of Holland is below sea level. There's the human-made environment right there, a little forerunner of the anthropocene.

**CR:** I like the resolution because you can't see the people working in the bleaching field, although they're there. And the church is on the skyline, built to stand out, yet dimmed by the clouds. In the book, you refer to the painting at a key moment, as you are suggesting a tension or conflict between terrestrial and atmospheric logics, and the image represents this tension, with the grid organization of land and the vague, indeterminacy of the sky.

**JDP:** The landscape follows the geometric logic of Renaissance perspective with grids and vanishing points. But the sky disobeys such strictures. The clouds exist as shape, colour, or contour, but not as line or depth. I owe this to Hubert Damisch's (2002) great book on cloud painting.

**CR:** I must say that this series of claims is really remarkable. Damisch (2002) offers the cloud as an agent of sorts, such that the challenge of depicting clouds scrambles the elements of Western landscape painting. You hint that the same could be said of media history, and you discuss how cloud recording confounds not just painting but photography and satellite imaging and computing as well, as if clouds instigate an abstraction of vision that we typically situate as an effect of nineteenth-century innovations in technical media. When did that occur to you? Is it true? I hope it's true.

**JDP:** Yeah, you're the only person who really caught how important cloud painting is in the history of analogue media. In the standard Kittler narrative, it is only with nineteenth-century analogue media that we can capture white noise. And yet white noise is precisely what these clouds are. They are not geometry, a symbolic grid, or alphabet. They are colour, shape, form, movement. There's no way to really anchor

them. In some ways this is the innovation, the ways that painters capture such fluid-dynamic entities.

**CR:** The Kittler story still has the human as the pivot point. It is when recording doesn't flow through the human any more, that's the big distinction, that's the break.

**JDP:** Exactly. He assumes the human point of view to show its sublation by analogue recording.

**CR:** But you are reorganizing media history around the recognition of problems posed by dynamic objects, or unfixable processes that take fleeting form as objects. I find this so interesting because it might mean media theory and earth science can be constituted through the same problematics.

**JDP:** By all means, yes! Clouds are kind of the ultimate escapable object for a series of media regimes.

### **The digital**

**CR:** The book (Peters, 2015a) starts by bringing together concerns about ubiquitous digital computing and environmental deterioration, and it suggests that environmental destabilization calls out or renders relevant—refreshes perhaps—the kind of approach that is going to follow. Yet, in the ending of the book the digital is not evoked much. It ends on a different note.

**JDP:** Yeah. It's much more of a carbon note than a digital note.

**CR:** Yet throughout the book (Peters, 2015a), there's a lot that's said about either specific digital technologies or about the study of the digital in general. Most obviously, there's the way the digital is contextualized in terms of the longer history of writing, and it is a distinctive approach to take. How are you asking us to think about the digital when you situate it in this way?

**JDP:** I think that writing is the forerunner of all media. In its ability to do time-axis manipulation—to turn time into space and space into time, sound into sight and sight into sound—writing is the great precursor of both audiovisual and digital media. And in much of its history, writing has been a data processing medium. It was a tracking, categorizing, and computational medium before it was a storehouse for works of literature. Poems and novels are relatively rare compared to directories and phone books. Atlases, almanacs, bibles, cookbooks, directories, encyclopedias, to start the alphabet, are among many examples of printed genres that are about access to data.

**CR:** This approach challenges an overly literary sensibility, to be sure, and suggests that computation and writing are coeval, and that computation never escapes or fully separates from writing in the way we typically imagine it to do so.

**JDP:** The honorific sense of writing has to do with the kind of lamentation narrative about its decline. (But note the explosion of texting; writing is not going anywhere!)

**CR:** There are still people that lament the GUI [graphical user interface] as a corruption of the command line conception of computation. You probably remember your first computer being command line and you wrote to give instructions.

**JDP:** I worked with DOS [disk operating system] a little bit.

**CR:** It is how you gave it commands, but also how you understood its workings. Many people believe that losing that connection through writing to computational systems results in massive illiteracy, even as graphical interfaces are celebrated as a condition of democratizing computer use. You know, Biella Coleman's (2012) work on hackers? Isn't it all about writing, all about IRC [internet relay chat]?

**JDP:** I love her work. And note the military connection too. The command line involves command. The computer is a kind of shrunken postal service, with its addresses and storage depots and distribution networks. But the postal system, originating in the Roman *cursus publicus* is a system for routing military communications through the empire. Bernhard Siegert's (1999) first book is all about this.

**CR:** In one of Richard Feynman's old lectures he explains the essence of the computer as a filing system, as brought into being as a filing problematic. The computer is simply a file clerk that is automated, and he has this wonderful Feynmanesque way of making its workings accessible through a praxiological metaphor that builds on this example.

**JDP:** There is a robust tradition of interest in media history for files and paperwork. I think of Bernhard Siegert, Cornelia Vismann, Bernard Dotzler, and Markus Krajewski, and closer to home, Lisa Gitelman, Ben Kafka, and Craig Robertson. I try to add to this in a recent piece about how Mormon theology's deep interest in accounting can be seen media-theoretically. The argument is that Joseph Smith envisions a way that records on Earth are valid for eternity (Peters, 2016). This is tied up with the Mormon doctrine of vicarious rituals on behalf of the deceased so that you can do baptisms or marriages or other kinds of sacred ceremonies in temples on behalf of your dead ancestors. And Smith is totally insistent that these events have to be witnessed and be documented. There have to be signatures of witnesses and at the point when you've gathered all these signatures, you're going to create this kind of divine archive. The mission of the church is on the last day to deliver the book to God. Here the final judgment is not this big apocalyptic rupture but the handing in of a literary work—more like a dissertation defence maybe!

**CR:** The temporal bias of religion puts it at the forefront of storage.

**JDP:** But as I always remind my students, it is not enough to talk about space and time in the Innis tradition; you always need the third term of power. Innis was a forerunner of the great interest in bureaucracy. The categories that bureaucrats invent are the categories that govern us. What counts is what's counted, as someone quipped. Didn't Stephen Harper muck with the census in Canada?

**CR:** He did. He wanted to erase the evidentiary basis on which the state

conventionally disposed over the social. So there were a series of things he did that illustrated a kind of disdain for the knowledge function of the state. We got rid of him and the long-form census is mandatory again. I'll confess it seems distinctly Canadian to agitate for a return to long-form bureaucracy.

**JDP:** Bernhard Siegert says the state is always dealing with the entropy of paperwork because states produce paper, but they also produce way too much paper to ever be monitored. In some ways computation was invented to track the crisis of paper overload. And, of course, it's produced other kinds of overload. Iatrogenic disease again ...

**CR:** Yes! I am partial to the thesis that automated digital computing is called into being by the bureaucratic nightmare of managing these internationally inter-dependent systems.

**JDP:** Absolutely. You know Ben Kafka's (2012) book *The Demon of Writing*? He shows how the term *bureaucracy* is invented in the late eighteenth century and how it kind of goes viral amid all the worries about paperwork during the French Revolution and beyond. He's got all kinds of really interesting psychoanalytic stuff about the paranoia of some bureaucrat somewhere writing something in an office and thereby wrecking your life, which we can all relate to because that's happened to every one of us.

**CR:** I think of Terry Gilliam's (1985) film *Brazil*. Robert De Niro's character is literally buried by paperwork. Tuttle [De Niro's character] might even be an HVAC repair specialist, which seems even more appropriate today. By opting out of bureaucratic existence he is branded a terrorist, and he engages in a sort of anarchistic infrastructural repair, yet the disdain for paperwork that characterizes his politics ultimately fails, as he is literally consumed by a whirlwind of papers or computer printouts or something. No escape. The film is delightfully nuts.

**JDP:** Yes, so in fishing for historical models of dealing with environments and infrastructures, bureaucracies and religion are kind of goldmines for thinking about how we use media to mediate our life on Earth.

**CR:** It is interesting how religious institutions have become a crucial mediator of earth science for those on the campaigning and policy sides of environmental work. If you need to mediate this difficult message on climate change, if you realize you need to access pre-existing communities of persuasion that have been around for a long time, then you need religious organizations. The marketing and PR professions are not very old, but the religions have stories, symbols, narratives, parables, and places where people gather, and so there has been a push to learn from and integrate religions organizations—to recognize the longer timeline and civilizational perspective on which they sometimes operate.

**JDP:** I was talking earlier about Red Tories—Pope Francis joins a kind of ethical conservatism with a radicalism about the poor and care for the Earth.

**CR:** He chose a good name! I find this all very interesting, *The Marvelous Clouds* as our Pope Francis moment. Or as a Red Tory reckoning with the implications of environmental crises that finds the common project in scientific and humanistic concerns.

**JDP:** Remember that for me, Red Tories are fantasies of looking across the 49th parallel; I have not had to live with them! But if there's anything that this book is written against, it's C.P. Snow's postwar idea of the two cultures of art versus science. What a hideous idea. My book is also trying to write in such a way that there wouldn't have to be fights between science and religion. It's trying to kind of offer a religious outlook that is at once scientific. Maybe someone like Baruch Spinoza or, you know, a lot of people.

**CR:** Or James ... William James.

**JDP:** James. You took the words right out of my mouth. I can't imagine a better name to end on.

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