

## REMEMBERING URSULA LE GUIN (1929-2018): THREE TRIBUTES TO HER SPECULATIVE IMAGINATION

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NOEL GOUGH

*La Trobe University, Melbourne, Australia*

### **Preamble**

This essay recounts three of the generative ways in which Le Guin's writings informed my scholarly activities during the year 2018, each of which was initiated by a call for papers from one of the collegial networks in which I participate:

- "Remembering Ursula Le Guin (1929-2018): A secular saint of 'No Church' STS?" (paper presented to the Annual Meeting of the Society for Social Studies of Science, Sydney, Australia, August 29<sup>th</sup>–September 1<sup>st</sup> 2018).
- "Speaking of nature: generating ecocritical questions from Ursula Le Guin's (1929-2018) speculative fictions" (paper presented to the 8<sup>th</sup> International Outdoor Education Research Conference, Sippy Downs, Australia, November 19<sup>th</sup> – 23<sup>rd</sup> 2018).
- "Remembering Ursula Le Guin (1929-2018): Transnational curriculum inquiry and the speculative imagination" (paper presented to the 6<sup>th</sup> World Curriculum Studies Conference, Melbourne, Australia, December 9<sup>th</sup> –12<sup>th</sup> 2018).

One of the anonymous reviewers of an earlier draft of this article worried that it lacked a "commonly held thesis which ... might have unified the three sections of the article." This reviewer is right to assert that my article "is not a three act play," but I am reluctant to claim that these three activities have any unity beyond their obvious repetition of Le Guin's name and the concept of speculation. Rather, in Deleuze and Guattari's (1987) terms, each activity is better understood as a "plateau" produced from the rhizomatic entanglements of my curriculum theorizing with my interpretations of Le Guin's publications.

### **Ursula Le Guin (1929-2018): A secular saint of "No Church" STS?**

Soon after Ursula Le Guin's death on 22 January 2018, I received the first of several invitations to participate in conferences throughout the year, each of which prompted me to reflect on her contributions to several of my scholarly interests. The first invitation came from three

North American colleagues (professors John Laurence Bencze, Jesse Thomas Bazzul, and Sara Tolbert) who invited me to participate in an open panel (symposium) at the annual conference of the Society for Social Studies of Science (4S) to be held in Sydney, Australia, August 29<sup>th</sup> - September 1<sup>st</sup>, 2019. The introduction to Open Panel #38: "Science and Technology Studies and Science Education: 'High' vs. 'Low' Church Tensions" follows:

Scholars and others have long encouraged infusion of research from science and technology studies (STS) into school science. Since at least the mid-19th century, for instance, educators like Spencer (1861) have recommended that science knowledge be learned through science inquiry activities informed by references to history, philosophy and sociology of science. Nevertheless, science education systems have tended to emphasize instruction in widely-accepted knowledge claims of the sciences and, associated with that, idealized conceptions of these fields. Struggles with authenticity of representation in science education (e.g. of phenomena, the social world, and ontological and epistemic groundings) seem to mirror STS publications – which have noted tensions between so-called "High Church" and "Low Church" STS (Steve Fuller, 1997), the former emphasizing academic studies to represent the nature of science and technology while the latter prioritizing studies reforming these fields in ways benefiting societies and environments. Such tensions seem evident in, for example, nature-of-science education approaches – along with many "STEM" (Science, Technology, Engineering & Mathematics) education initiatives – that avoid problems associated with capitalist influences on scientists and engineers and socioscientific issues education that prioritize students' reasoned personal choices about controversies over actions they might take to engage global crises (locally and globally). "Low church" approaches might also be said to value minoritized, rhizomatic flights away from staunch universalist, dominating understandings of science and phenomena. Papers in this Panel will, accordingly, address 'High-Low Church' tensions from a diversity of perspectives as they pertain to STS infusion in science education. (Preliminary Program Abstracts, p. 76)

I saw this panel as an opportunity to demonstrate Le Guin's unique and substantial contributions to public understanding of science and technology through both her science fiction/fantasy/fabulation (SF) and her non-fiction essays and blog posts. Donna Haraway (2016, p. 5) refers to Le Guin as one of her "partners in science studies, anthropology, and storytelling" (others include Bruno Latour and Isabelle Stengers) and both Haraway and Le Guin have been my partners in exploring science education's imbrications with popular media (including SF literature, cinema, comics, television and videogames) for many years (see Gough, 1993, 2017).

**Why “no church” STS?**

If forced to make a choice between “High” and “Low” Church positions in STS, I would choose the position that the introduction to this panel calls the “minoritized, rhizomatic flights away from staunch universalist, dominating understandings of science and phenomena” of the “Low Church”. But lines of flight (or deterritorialisation) enable movements away from spaces regulated by dominant systems of signification and I thus prefer to avoid binaries altogether and suggest that the material-semiotic spaces of science and speculation that Le Guin explored (and to which she contributed so prolifically) constitutes a “No Church” position in STS.

A “No Church” position is also a more appropriate representation of Le Guin’s own spirituality, given her lifelong engagement with Taoism (see Le Guin & Seaton, 1997).

**SF and science education**

SF and material worlds are now so entwined that they cannot be understood in isolation. In contemporary technocultures, the objects of scientific inquiry are thoroughly colonised by subjects that once belonged entirely to fiction, as Sarah Franklin (2007) demonstrates in her account of the ways in which Dolly—the now (in)famous cloned sheep produced at Scotland’s Roslin Institute in 1996—is situated within a broader genealogy that stretches from the past (where did she come from?) to the future (what does she point toward?). Franklin (2007, p.3) emphasizes “the inseparability of the new biologies from the meaning systems they both reproduce and depend upon, such as beliefs about nature, reproduction, scientific progress, or categories such as gender, sex and species”.

This paper presents examples drawn from Le Guin’s fiction and non-fiction writings to demonstrate that speculative fictions and material phenomena do not stand in a relationship of externality to each other and that her work should be understood as constituting a distinctive contribution to the infusion of STS in science education.

**“Belief” in science and religion**

A recent example of the clarity of Le Guin’s thoughtful writing is particularly appropriate to the low church/high church framing of this panel discussion.

In a post on her blog dated February 4<sup>th</sup> 2014 and titled “Belief in Belief”, Le Guin (2017a, p. 131) begins by quoting from Charles Blow’s editorial in the *New York Times* (January 1<sup>st</sup> 2014) titled “Indoctrinating Religious Warriors”, in which he indicts the radical Republicans’ use of religion to confuse opinion on matters of fact and their success in doing so. He used a survey report from the Pew Research Center’s Religion & Public Life Project (30 December, 2013) to provide this disheartening statistic:

Last year ... the percentage of Democrats who believed in evolution inched up to 67 percent, the percentage of Republicans believing so plummeted to 43 percent. Now, more Republicans believe that “humans and other living things have existed in their present form since the beginning of time” than believe in evolution.

Le Guin (2017, p. 132, *her italics*) adds that Blow’s choice of words here worries her:

Four times in this paragraph he uses the verb believe in a way that implies that the credibility of a scientific theory and the credibility of a religious scripture are comparable. I don’t think they are ... I agree with him that issues of factual plausibility and spiritual belief or faith are being—cynically or innocently—confused, and need to be disentangled. I wasn’t able to find the exact wording of the questions asked in the Pew survey. Their report uses the word think more often than believe—people “think” that human and other beings have evolved over time, or “reject the idea.” This language reassures me somewhat. For if a poll-taker asked me, “Do you believe in evolution?” my answer would have to be “No” ... The problem here is our use of the word evolution to signify the theory of evolution. This shorthand causes a mental short circuit: it sets up a false parallel between a hypothesis (concerning observed fact) and a revelation (from God, as recorded in the Hebrew Bible)—which is then reinforced by our loose use of the word believe. I don’t believe in Darwin’s theory of evolution. I accept it. It isn’t a matter of faith, but of evidence.

If I were still a practicing science teacher educator, I would see Le Guin’s essay as a very useful starting point for exploring problems and issues of teaching evolution in the circumstances to which Blow’s editorial refers. However, I would not leave it at that.

Darwin’s (1872) concept of evolution via natural selection has become normalized and naturalized to the extent that it has eluded socio-political critique in the course of its translation for public digestion and its deployment to serve militaristic and capitalistic means and ends. In the wake of the “modern synthesis” proposed by Julian Huxley (1936) and others in the early 20<sup>th</sup> Century—which unified Darwin’s theory of natural selection with Mendelian genetics via mathematical advances in population genetics—evolution became determinable, genes became selfish, and competition became the name of the game. At the time I wrote my first academic journal article (Gough, 1978), in which I argued for the necessity of accepting Darwin’s explanation, neo-Darwinian interpretations of evolution dominated the natural sciences and science education textbooks. However, new scientific research, in fields such as microbiology and genomics, is driving new formulations, such as the “postmodern synthesis” offered by Margaret McFall-Ngai (2017) based on concepts of horizontal transference and co-species evolution (see also Chessa Adsit-Morris, 2018).

### Le Guin on the “science” in SF

Some of Le Guin’s best-known (and most applauded) SF stories exemplify the technique that scientists call a “thought experiment.” As she explains in her introduction to one of my personal favorites, *The Left Hand of Darkness* (Le Guin, 1979b, p. 160, her italics):

This book is not extrapolative ... you can read it, and a lot of other science fiction, as a thought-experiment. Let's say (says Mary Shelley) that a young doctor creates a human being in his laboratory; let's say (says Philip K. Dick) that the Allies lost the second world war ... In a story so conceived, the moral complexity proper to the modern novel need not be sacrificed, nor is there any built-in dead end; thought and intuition can move freely within bounds set only by the terms of the experiment, which may be very large indeed. The purpose of a thought-experiment, as the term was used by Schrodinger and other physicists, is not to predict the future—indeed Schrodinger's most famous thought-experiment goes to show that the "future," on the quantum level, *cannot* be predicted—but to describe reality, the present world ... Science fiction is not predictive; it is descriptive.

Le Guin performs two thought experiments in each of her so-called Hainish stories. In the background is the idea of a common background, loss of contact, and reunification. In the foreground is an idea that is unique to each story. Her thought experiment for the common background of the Hainish series supposes that, at least half a million years ago, intelligent humanoids from the planet Hain spread across the galaxy and settled on nearly a hundred habitable worlds, including Terra (Earth), that were then left alone for many millennia. Le Guin’s stories imagine that communication and travel between the worlds has resumed and that a loose interplanetary federation, the Ekumen, coordinates the exchange of goods and knowledge among the myriad of diverse cultures, religions, philosophies, sciences and forms of governance that have evolved separately on the various planets. Representatives of the Ekumen travel to each planet when it is rediscovered and invite peoples of Hainish descent to participate in the federation, if they wish.

The unique thought experiment for *The Left Hand of Darkness* supposes that an Ekumen envoy from a world where humans are either male or female is sent to a planet on which the inhabitants are androgynous. Furthermore when the envoy from Terra brings the invitation to join the other eighty-three Hainish worlds, the two major countries of the planet are approaching war. Retrospectively, Le Guin (1989, p. 8) comments that the themes of the novel are “betrayal and fidelity” and, further (Le Guin, 1989, p. 10, “I eliminated gender, to find out what was left.”

Despite the ubiquity and utility of thought experiments in the history and philosophy of science, science education textbooks and curricula rarely foreground their significance and, where they do, tend to diminish their imaginative dimensions. Recent studies in the UK (see,

for example, Gilbert & Reiner, 2000; Reiner, 1998; Reiner & Gilbert, 2000) suggest that school and university physics textbooks tend to conflate thought experiments with thought simulations. In simulations, the behavior of a physical phenomenon is illustrated rather than tested, theory is taken for granted and embedded rather than being tentative and emergent, and the outcome is assumed rather than anticipated (this distortion of an important concept in science is similar to the distortion that many science teachers and textbooks reproduce by persistently representing *demonstrations* of physical phenomena—such as heating a bimetallic strip until it bends—as “experiments” (see Gough, 2010).

Le Guin (1979a, p. 203) is adroit in clarifying the relations of mainstream science and science fiction: In science fiction “you get to make up the rules, but within limits. A science fiction story must not flout the evidence of science, must not ... deny what is known to be known. Or if it does, the writer must know it, and defend the liberty taken, either with a genuine hypothesis or with a sound, convincing fake.” Le Guin (1979a, p. 206) elaborates:

If science fiction has a major gift to offer literature, I think it is just this: the capacity to face an open universe. Physically open, psychically open. No doors shut.

What science, from physics to astronomy to history and psychology, has given us is the open universe: a cosmos that is not a simple, fixed hierarchy but an immensely complex process in time. All the doors stand open, from the prehuman past through the incredible present to the terrible and hopeful future. All connections are possible. All alternatives are thinkable. It is not a comfortable, reassuring place. It's a very large house, a very drafty house. But it's the house we live in ... and science fiction seems to be the modern literary art which is capable of living in that huge and drafty house, and feeling at home there, and playing games up and down the stairs, from basement to attic.

SF often displays explicit continuities with scientific discourses, especially among those authors who foreground the current truth claims of the natural sciences in their depictions of the earth and other worlds. Some writers represent these claims faithfully and work within their limitations, whereas others question their narrative authority and adequacy. For example, in such stories as Arthur C. Clarke's (1972b) “The shining ones”, which speculates on the life that might be found at extreme depths in the world's oceans, and “A meeting with medusa” (Clarke, 1972a), which speculates on the life that might be found in Jupiter's atmosphere, the author appears to accept without question that the discourse of western biological science provides an appropriate language for representing both terrestrial and extraterrestrial organisms. Le Guin is more suspicious of such assumptions. For example, in “The author of the Acacia seeds and other extracts from the Journal of the Association of Therolinguistics” Le Guin (1976) satirizes reductionist ethological constructions of animal behavior, and in “She unnames them” (Le Guin, 1987), she draws attention to the ways in

which our cultural practices of naming might erode our sense of community with other organisms.

Le Guin is adept at weaving complex threads of science, ethics, language, and feminist critique into deceptively simple narratives. For example, her short story, “Sur: a summary report of the Yelcho expedition to the Antarctic, 1909-1910” (Le Guin, 1984b), is an apparently straightforward recollection by one member of a group of South American women who explore the Antarctic, and reach the South Pole, several years before Amundsen’s and Scott’s all-male expeditions. But as Marlene Barr (1993) demonstrates in her reading of “Sur” as an exemplary humanist and antihumanist text, the story also offers readers the opportunity to explore new articulations of the contradictory positions to be found within and between liberal (modernist) and postmodernist discourses of identity, gender, science, nature, and narrative. Through an accretion of small incidents, rather than the heroic gestures of androcentric adventure stories, Le Guin imagines women of color attending to nature in very different ways from European (and predominantly white) men—whether this be in terms of their treatment of penguins, their approaches to driving sleds and making camps, or the naming of topographical features.

### **Postscript**

The conference at which I made this presentation was attended by Karen Barad, who has been labelled as a “new materialist” by many authors. For this reason, I could not resist concluding my presentation by voicing some reservations (see also Gough, 2016) about the sweep of her much-quoted assertion that “language has been granted too much power” (Barad, 2007, p. 207), which can be interpreted as occluding the “use value” of language (and literature) in fostering imagination, a position that Le Guin (2016a, p. 4) eloquently explains:

The imagination is an essential tool of the mind...

We have to learn to use it, and how to use it ... Young human beings need exercises in imagination as they need exercise in all the basic skills of life ...

When children are taught to hear and learn the central literature of their people, or, in literate cultures, to read and understand it, their imagination is getting a very large part of the exercise it needs.

Nothing else does quite as much for most people, not even the other arts. We are a wordy species. Words are the wings both intellect and imagination fly on... no art or skill is ever useless learning: but to train the mind to take off from immediate reality and return to it with new understanding and new strength, nothing quite equals poem and story.

And with respect to exercising the scientific imagination, nothing quite equals SF.

**Speaking of nature: generating ecocritical questions from  
Ursula Le Guin's (1929-2018) speculative fictions**

A second opportunity to acknowledge and celebrate Le Guin's work came with the call for papers to be presented at the 8th International Outdoor Education Research Conference to be held at the University of Sunshine Coast (Queensland, Australia) 19<sup>th</sup> – 23<sup>rd</sup> November 2018. In this instance I focus on the unique contributions her SF stories have made to ecocriticism, the literature that, as Cheryll Glotfelty (1996, p. xix) writes, explores "the interconnections between nature and culture."

When we engage learners in outdoor activities, and invite them to reflect on their experiences of the material worlds they encounter, we are in effect inviting them to provide us with intertextual readings of the world-as-text, because the ways in which they encode their interpretations will reflect their prior readings of other texts. This raises significant questions for outdoor education research and pedagogy. What readings should we encourage (or discourage)? Which texts should we deliberately place in the intertextual milieu within which learners read the world-as-text? Travelers' tales? Natural history documentaries? Naturalist diaries? Field guides?

I argue that stories such as *The Word for World is Forest* (Le Guin, 1976), *Always Coming Home* (Le Guin, 1986), and "The eye altering" (Le Guin, 1984a), offer examples of ecocritical writing that generate questions for outdoor education researchers exploring the nature/culture interrelations represented by the cultural artefacts of language and literature.

The setting for *Always Coming Home* is "the Valley," an imagined version of California's Napa Valley about 2600 years hence. The cities of the US West Coast have sunk beneath the Pacific or been destroyed by nuclear upheaval. Le Guin does not tell just one story but evokes the complex culture of the Valley by providing samples of its narratives, myths, poetry, ceremonies, medical practices, arts and crafts, music, and so on (the first editions of the novel were profusely illustrated and accompanied by a cassette tape of music and poetry). Le Guin herself, as "Pandora," sometimes enters the text by simply "being there" in the Valley while simultaneously maintaining the perspective of her late twentieth century present. Le Guin does not explain how the world of *Always Coming Home* comes about. But she gives the reader clues, bits and hints—an archeology of an imagined future in which industrial sciences and technologies have faded. These are, however, accessed by a vast computer network, the "City of the Mind," which is peripheral to life in the Valley, being used chiefly for agricultural improvements, weather forecasting and historical study. The Valley dwellers do not value the machine world and have simply turned their backs on it without violence or anger (they are not, in our terms, Luddites). Science and technology as we now know them are not gone from this world view: they are just not seen as important or central to fulfilled human lives.



One particular passage in *Always Coming Home* resembles a naturalist's diary and is titled "Pandora, worrying about what she is doing, finds a way into the Valley through the scrub oak" (Le Guin, 1986, pp. 239-241). It begins:

Look how messy this wilderness is. Look at this scrub oak, chaparro, the chaparral was named for it and consists of it mixed up with a lot of other things, but look at this shrub of it right here now ... A lot of the smaller branch-ends look broken or bitten off. Maybe deer browse the leafbuds.

The passage concludes:

It [scrub oak] is casting a shadow across the page of this notebook in the weak sunshine of three-thirty of a February afternoon in Northern California. When I close the book and go, the shadow will not be on the page, though I have drawn a line around it; only the pencil line will be on the page. The shadow will then be on the dead-leaf-thick messy ground or on the mossy rock ... and the shadow will move lawfully and with great majesty as the earth turns. The mind can imagine that shadow of a few leaves falling in the wilderness; the mind is a wonderful thing. But what about all the shadows of all the other leaves on all the other branches on all the other scrub oaks on all the other ridges of all the wilderness? If you could imagine those even for a moment, what good would it do? Infinite good.

In her meditation on scrub oak, Le Guin captures some differences between the imagined worldviews of the Valley people and presently dominant ways of apprehending nature. A number of statements in this passage ("You don't count scrub oaks. When you count them, something has gone wrong"; "This thing is wilderness. The civilized human mind's relation to it is imprecise, fortuitous, and full of risk. There are no shortcuts") offer critical perspectives on modern scientific techniques of observing and interpreting nature.

Throughout her long career as an author, critic and teacher (see, e.g. Lee Harding, 1978), Le Guin consistently exemplified Brian Aldiss and David Wingrove's (1986, p. 14) assertion that "good SF does not necessarily traffic in reality; but it makes reality clearer to us." For example, "The eye altering" (Le Guin, 1984a, p. 166) begins with a woman, Miriam, standing at the window of an infirmary ward morosely contemplating the view she has looked at for twenty-five years. She contrasts the "sunlight, the orchards, the white cities" of her homeland with the dull and colorless vistas of New Zion, the perpetually haze-smothered planet on which she now resides: "through the haze the sun, no, not the sun, but NSC641 (Class G) burned swollen and vaporous ... NSC641 stared, like a bleary eye. You could stare back at it. No glory of gold to blind you."

This story clearly demonstrates how the invention of alternative worlds enables SF to be, as Le Guin (1970) writes elsewhere, “a way of seeing” our own worlds. At first Miriam’s judgments about the qualities in nature that delight or displease the human eye, such as her preference for the golden glory of Old Earth’s blinding sun over the swollen and bleary eye of NSC641, seem eminently reasonable—indeed, a “natural” choice. But as the story unfolds, we become aware of other ways of seeing. Genya, a “sickly” young man born on New Zion (and Miriam’s patient since birth), paints the view from the ward window. To Miriam his painting is “all too realistic, a ‘hideously recognizable’ depiction of ‘the mud-colored trees and fields, the hazy sky,” but she also overhears another young patient ask Genya, “how do you make it so pretty?” It is only when Miriam sees Genya’s painting quite literally in a different light that she realizes that to his “altered eye” New Zion is truly beautiful. This realization is metaphorically tied to the resolution of the central human problem that provides the story’s narrative tension, which in broad terms concerns the fate of the “sicklies”; Miriam’s “correct” diagnosis is enabled by a crucial perceptual shift, that is, by seeing the medical problem differently. Le Guin’s story not only embellishes the maxim that “beauty is in the eye of the beholder” but also suggests that Miriam’s aesthetic and scientific judgments are based on similar presuppositions—that in the episteme of Old Earth, isomorphic assumptions guide both aesthetic responses to nature and the production of knowledge about its workings.

### **Remembering Ursula Le Guin (1929-2018):**

#### **Transnational curriculum inquiry and the speculative imagination**

My third opportunity to honor Le Guin’s legacy was afforded by the call for papers to be presented at the 6th World Curriculum Studies Conference (IAACS 2018), to be held in Melbourne, Australia, 9-12 December 2018. The theme of the conference was “Transnational Curriculum Inquiry: Challenges and Opportunities in a Changing World,” and one of the sub-themes was “curriculum inquiry and the historical imagination.”

Joseph Schwab (1969, p. 315) argues persuasively that one facet of effective deliberation is “the anticipatory generation of alternatives,” a corollary of which is that the speculative imagination is no less significant for curriculum inquiry than the historical imagination. Schwab reasons that “[e]ffective decision ... requires that there be available to practical deliberation the greatest possible number and fresh diversity of alternative solutions to problems, and it is in the arts of anticipation that Le Guin excels.

This paper extends and amplifies my previous demonstrations of the generativity of Le Guin’s SF for transnational curriculum inquiry (see Gough, 2007; Gough & Sellers, 2016). These essays juxtapose concepts created by Gilles Deleuze and Félix Guattari (1987, p. 4) with worlds imagined by Le Guin to explore ways of generating and sustaining “complicated conversation” within the regime of signs that now constitutes an increasingly internationalized curriculum field. These essays also enact Deleuze’s (1994, p. xx) contention

that a work of philosophy “should be ... in part, a kind of science fiction” and take inspiration from Le Guin’s (2004) stories of “changing planes” to generate productive (and disruptive) transnational agendas in curriculum inquiry.

Le Guin’s (2016b, 2017b) most recent (and final) publications engage the relatively recent “materialist turn” in social and educational inquiry and the popularization of “new materialism” among curriculum scholars. Taking Le Guin’s insistence on the materiality of words and imagination to heart, this paper explores the generative possibilities of SF for anticipating genuinely “new” materialisms, on the assumption that curriculum inquiry in times to come will require apprehension and comprehension of as-yet-unanticipated material-semiotic nodes.

This paper explores approaches to transnational curriculum inquiry informed by Nick Fox and Pam Alldred’s (2015, p. 399) conceptualization of social inquiry as a performative “materialist notion of a ‘research-assemblage’ comprising researcher, data, methods and contexts” to which I add an anticipatory dimension. Like Fox and Alldred, my understanding of assemblage derives from Deleuze and Guattari (1987, p. 4), whose work can be understood as a collection of machinic concepts that can be plugged into other machines or concepts and made to work, as they demonstrate with respect to their understanding of a book:

As an assemblage, a book has only itself, in connection with other assemblages and in relation to other bodies without organs. We will never ask what a book means, as signified or signifier; we will not look for anything to understand in it. We will ask what it functions with, in connection with what other things it does or does not transmit intensities, in which other multiplicities its own are inserted and metamorphosed, and with what bodies without organs it makes its own converge. A book exists only through the outside and on the outside. A book itself is a little machine ... We have been criticized for overquoting literary authors. But when one writes, the only question is which other machine the literary machine can be plugged into, must be plugged into in order to work.

I suspect that I might be criticized for overquoting Le Guin, to which my response parallels Deleuze and Guattari’s: when I write, the question is which other machines the SF machine can be plugged into in order to work. I offer Le Guin’s SF stories as “little machines” than can be plugged into a curriculum inquiry assemblage to produce new material-semiotic conjunctions and configurations of researchers, data, methods and contexts.

### References

(NB. In regard to the use of full names in this reference list, I depart from the *Publication Manual of the American Psychological Association* to facilitate reading the gender politics of my

sources. I also believe that it is discourteous to authors to arbitrarily truncate the ways in which they prefer to identify themselves.)

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