An Anomalous End-maker Conversation:  
Foreword for Digital Humanities  
and the Networked Citizen

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Abstract
In this Foreword to the collection of essays originating from the 2005 COCH/COSH conference, I reflect on that conference, on Canadian humanities computing and my own intellectual history since then. Key arguments from Humanities Computing are here, but the primary intention is to look past its limitations to ways of computing texts as we ourselves engage with them. To see that far, I argue, we require a discourse to be drawn from the most adventurous outposts of several disciplines, some of which are indicated. We also need considerable courage in attempting to speak it.

KEYWORDS: Canadian humanities computing, language of inquiry, end-maker, modeling, problematic, knowledge, epistemology, mathesis, poiesis, conversation

“A letter doesn’t communicate by words alone. A letter, just like a book, can be read by smelling it, touching it and fondling it. Thereby, intelligent folk will say, ‘Go on then, and read what the letter tells you!’ whereas the dull witted will say, ‘Go on then, read what he’s written!’”….  

Esther, in Orhan Pamuk, My Name is Red 44

For Johanna Drucker

1. COCH/COSH 2005 and Canadian humanities computing

For the expatriot visitor at least, the conference at which the articles in this collection had their genesis foregrounded the question of citizenship and technology implicitly. I found myself wondering once again how the development of our inventions is shaped by the societies that adopt them.
For Canada perhaps the best known response is Northrop Frye’s, in “The Critical Path” and elsewhere. For North America and Europe, Asa Briggs, in the centenary volume The Social Impact of the Telephone, explores the very different ways in which various societies understood that device (with its strong though brief Canadian connections). One is tempted to think that the Bell Northern engineer Gordon B. Thompson, “a man of wit and original mind” (Thompson iii), was in the late 1970s able to imagine the basic idea that surfaced much later in Google and continues in the dream of a semantic Web in part because he was Canadian. There’s much more, of course, in both directions, from culture to technology and technology to culture: Harold Innis, Marshall McLuhan and George Grant, for example, discussed in Arthur Kroker’s Technology and the Canadian Mind and in Bart Testa’s “Technology’s Body.” But here I trespass on turf not my own and so leave the theoretical question of the Canadian genius for communication technologies to others.

The evidence from humanities computing for that genius is, however, something that two decades of experience in North America and more than residual interest since then qualifies me to dwell on.

The 2005 conference had it in abundance—intelligence, energy, imagination, and reassuring youth. In March 1997, at a special Roundtable Meeting convened by the U.S. Computer Science and Telecommunications Board to discuss “Computing and the Humanities” (Katz and Wulf), co-chair Stan Katz remarked on the extreme fragility of the humanities computing community—how so much depended on so few hearts continuing to beat. Although there is still a demographic problem, it is now shifting from the mortality of ageing job-holders to the paucity of suitably qualified applicants, especially for the senior jobs. Academic positions giving any recognition at all to humanities computing—even those tolerating it—were close to nil when I left Toronto for London in 1996, for the only such job anywhere as far as I knew. Since then Canadians have taken a remarkable lead through the Canada Research Chair scheme, by which more academic jobs in the field have been created and filled per capita than in any other country of which I am aware. Now the American giant is awakening.

Especially in Canada, with its thin-and-long demographics, much attention must be given to internal matters of trans-national coordination and infrastructure. In a field where institution-building seems the first priority of most positions if not their sole purpose, it is remarkable that practitioners are able to do as much seriously reflective work as has appeared,
for example in this collection and in another recent one, *Mind Technologies: Humanities Computing and the Canadian Academic Community*, edited by Ray Siemens and David Moorman. When they are able to turn their minds to reflection, to the larger questions emergent on the horizon, they have double the work of those in older disciplines to do—not only to engage in the discourse of the field but also to help invent it. In order to do so, they must not only keep their connections with their disciplines-of-origin alive, they must also become conversant to some degree with all the other disciplines. This means more than simply acquiring facts and names; it means developing the ethnographer’s skill of engaging sympathetically in the discourses of these other disciplines, as a *participant-observer*. It means seeing one’s discipline-of-origin not as a comfortable end-point but as a challenging entry-point. A practitioner who remains content with mere project-reporting or who takes flight into unexperienced, unanchored, data-free theorizing, as in the sort of cultural studies which discredits the study of culture, is responding understandably though regrettably to unusually heavy intellectual and professional demands. The response is particularly regrettable because fulfilling these demands brings rewards all out of proportion to the effort. Clearly, however, one cannot (or cannot easily) go it alone. Strong support from the administrative Above is vital. So the situation also places unusual demands on department chairs, deans and other colleagues. But again, the rewards are all out of proportion to the effort.

2. Epistemic soap-bubble blowing

I began my acceptance speech for the COCH/COSH Award, given at the event in question, by quoting one of Alan Perlis’ delightful epigrams: “Is it possible,” he asks, “that software is not like anything else, that it is meant to be discarded: that the whole point is to see it as a soap bubble?” (Perlis 74). The conclusion I have come to, after decades in and around computing, is a qualified YES—but qualified only by the fact that to support better and better epistemic soap-bubble blowing one needs to have robust tools that are not so rapidly discarded. The historical development of software from monolithic to component design and the layering characteristic of its architecture, both made possible by exponential improvement in hardware, plus the increasing technical sophistication of its communities, all support this answer. Elsewhere I have expanded on it under the rubric of *modelling*, i.e. the perfective iteration of necessarily crude digital representations of knowledge, arguing that it is the fundamental operation of
analytic computing for the humanities (Humanities 20-72). More recently I have been struggling toward what might be called a language of synthetic inquiry, or a way of talking and thinking about modelling how literary works co-create their own contexts (“Beyond the Word”). In both cases the constructive mutability of computing is crucial.

Reflecting this point, and long overdue, is the upgrading of our own self-conception as digital craftsmen and -women: hardly passive “end-users,” rather vigorous “end-makers.” This means more than to call ourselves children of homo faber; it means an attitude toward life that reflects current knowledge of living systems. It is what being alive means.

The end-maker’s modelling as the norm of research in the digital humanities also helps by opposing the pernicious notion that computing is directed to problem-solving simpliciter—that it is a mission-oriented activity whose success is measured by its deliverables. Here we must revive the older understanding of humanistic research as the kind which in the social sciences is often called “wicked,” i.e. ongoing, with no single or final solution, because the object studied transcends anything we may ever say about it. It is for this reason that, for example, even in the factual realm of history, even if no new facts are uncovered, the scholar’s work can never be done. What we learn from history, Dame Averil Cameron has said, “depends on what questions we need to be answered at any particular time.” The contrary rhetoric would have us engaged in systematic exploration of a “problem space” whose paths are expressed mathematically, hence allowing the success of exploration to be calculated (Newell). In typical problems of the wicked kind, however, it is often the small details or residue of problem-solving that matter most. My favourite visual example is Pieter Bruegel the Elder’s Fall of Icarus (1558), in which the transforming detail of the drowning Icarus takes less than 4% of the visual space (I measured it). A solution procedure that failed to find this detail could thus be judged better than 96% successful—and 100% wrong.

3. Being observant

Thus a moral for the story I am telling: that the bits which escape ordinary constructions of the world (including the constructions of computing) may open out into another order of reality altogether. What is required of us as researchers—in the sciences, please note, as well as in the humanities—is watchfulness. Speaking about work in the sciences, Ian Hacking argues strongly against the popular notion that observations are crucial. Actually,
he points out, what we usually mean by this, “observation-as-reporting-what-one-sees […] plays a relatively minor role.” It is not very important. What is important, and what links scientific research to all other forms, is being observant, being at the ready to see “the instructive quirks or unexpected outcomes” (167). The crucial sensitivity is to the anomalies, the misfits, the stubborn residue left over after our schemes have done their best. The Icarus Result!

Hence, again, the point: thanks to Mr Turing’s design, we now have the ability to devise, generate and endlessly modify schemes of perfect rigour and precision. With work these schemes can be improved. But for the humanities, what gives them meaning, and us jobs, is their interplay with the transcendence of the world they help us to see—to echo Louis MacNeice’s poem “Snow” (1935), the incorrigibly plural, drunken, various and always more than. Jerome McGann has called such residue of computation “the hem of a quantum garment” (“Marking Texts of Many Dimensions” 201). I have been reaching out to touch this hem since the early 1980s, when my part of our common story began. I’ve managed to reach it now and again.

The part of our story relevant here concerns my first confrontations with the misconstructions of computing in the mid 1980s, a story which I tell at the beginning of Humanities Computing so won’t repeat here in detail. Suffice it to say that a numbing combination of hype (that computers would almost by themselves solve our problems “real soon now”) and of colleagues’ inability to see how a computing of as well as in the humanities could form a scholarly practice had the contrary effect of alerting me to a very old problem in new guise. This is the belief that the goal of our work, like Morris Zapp’s in David Lodge’s Changing Places, is in effect to end debate rather than to stir it up. Like everyone else who does anything at all, we have problems best solved, but unlike many we have, if we are awake as well as fortunate, problems of a very different kind. The point as stated in Humanities Computing bears repeating. When knowledge is the goal of work, the classicist Don Fowler wrote, the point is to make such problems worse, to multiply them. Hence the fundamental question to which my experience led me: what precisely does computing itself have to do with rendering knowledge problematic? If it is to serve the humanities as they deserve, it must do that.

I just implied that the situation into which computing places us is in respect of fundamental goals no different from that of the traditional scholar working in traditional ways. While the details show differences,
the continuity is crucial to recognize, since the argument for a computing of the humanities is based on it. If all the problems with which computing can be concerned are the kind that are best solved (so that we can impatiently get on with it, whatever it is), then what the humanities require, all that they require, is dedicated technical help of a generic kind. The blindness to more is, of course, to the potential of computing, but prior to that it is a blind rush toward the illusion of oblivion promised by solved problems, definitive studies, lifetime achievements and the like. If whatever problem doesn’t unsolve itself, if the study does not serve to illumine its own limits, if the lifetime achievement doesn’t mark the beginning of the next phase and give the achiever a good push into it, then one is in Marvell’s “fine and private place” for sure.

Another form of the solved-problem problem swirls around the notion of the digital “resource.” The prevalent point-click-download mentality is apt for the manufacture of what I have called the “knowledge jukebox,” which plays whatever pre-recorded script has been selected. Making jukeboxes is not a completely unworthy activity, nor is using them. My point, rather, is that the future of humanities computing lies beyond the manufacture of scholarly end-products. The future is in the devising of scholarly processes instantiated in modular designs—Tinker Toys, if you will, or Mechnno sets, or Lego, rather than fire engines, pre-fabricated doll houses, or Transformers. But the ends to which the toolbox is put needs a closer look.

4. Mathetic to poietic

The intellectual space described in *Humanities Computing* and sketched briefly to this point turned claustrophic not long after the book’s publication—simultaneously a happy and an uncomfortable result. It is a happy result because, as I just suggested, there could be no better symptom of intellectual health. The reason for discomfort should be obvious, but without it would anyone ever move on?

Positive motivation came, however, in due course, in the form of Johanna Drucker’s fine review of the book in *Digital Humanities Quarterly* 1.1 (2007). In the review, her argument orbits a fundamental distinction between *mathesis* and poiesis, between a Foucauldian “science or practice of establishing a systematic order of things” (*OED*), and the imaginative creation of new unities. Once we have this distinction in mind, it seems obvious that the cultural artefacts we study are not mathetic...
to begin with but clearly poietic, and so need to be studied that way. The mathetic approach, which in effect *Humanities Computing* is dedicated to exploring, is highly productive for the reasons I have briefly sketched. But it runs aground on its own assumptions, as all modelling does. Take, for example, the problem of determining the context of a specific literary phenomenon—my current research interest, with a focus on personification. This simply cannot be approached mathetically without introducing so much arbitrariness that the results become a clumsy mirror of the maker, and more work than they are worth. Drucker’s review pointed me to the possibility of a poietic approach—toward the synthetic side of humanities computing, which the *Ivanhoe Game* and the leading edges of VR simulation inhabit.

Where Drucker’s pointing led me is a story told elsewhere (“Beyond the Word”). For now I return to my earlier, larger question: what does computing have itself to do with rendering knowledge problematic? If that computing is poietic, i.e. concerned with modelling the process(es) by which a poetic work comes into being, then it would seem to bring into question the way of doing criticism that lies behind much of the analytic approach our text-analysis software has been instantiating.

6. Conversation

Somewhere in *Readings / Writings*, Greg Dening’s curiously powerful meditations on a life as an ethnographic historian, he says that, in writing a book, what the author should aim for is one sentence, or perhaps two, that the reader will remember and that somehow capture its essence. In this brief coda, I should perhaps hope for no more than a single word. But I will be ambitious and go for three, and one of them a compound! The first is *anomalous* (the quality we seek). The second is *end-maker* (what we centrally are). The third is *conversation* (what we must learn ever so much better to do). Together they make, as you’ve likely already noticed, the handy noun-phrase that comprises my title. Why end with “conversation”?

Two reasons. The first is to pay my respects to *Humanist*, which has been my main cornucopia and a voice of the world-wide community for more than 20 years—and which was a Canadian invention! Its importance for the Canadian academic community was wonderfully marked by the SDH/SEMI (then COCH/COSH) 2005 Award for Outstanding Achievement that I shared with Jean-Claude Guédon.
The second reason is that conversation is the key without which we are, as Peter Wegner says, as dumb and blind to the world as algorithms are (82). I referred a moment ago to our intellectual debts, many yet to be acquired. Acquiring them is how we as scholars learn to talk intelligibly. Those of us who have spent time on the ground, helping others with their research, know from experience that disciplines are social systems, or “epistemic cultures,” as Karin Knorr Cetina calls them. We know from experience that to collaborate across the disciplines, as our work often directs us, means, as I said earlier, crossing what Dening calls “the beaches of the mind” and learning the vocabulary of those who see things differently as well as teaching them ours (85-145). We know from ethnographers such as Clifford Geertz that disciplines reveal themselves in their “tropes and imageries of explanation” (22), giving us the beginnings of a philological-literary method for thinking our way into the otherness of these other points of view. We sense that to make humanities computing what it is in potentia we, like so many others in upstart disciplines, must poach from older fields, finding what help we can where we can. Here lies the core problematic of the field.

I am persuaded that the only way possible for us to respond to the dilemma of competence into which our wonderful interdisciplinary situation places us is to take seriously the idea of competence as a virtue distributed across the community of practitioners. This is an old ideal. But in an important respect it has had a hard go against the uses to which we have put the primary technology of expressing knowledge, the codex book. These uses have tended too much to monumentalizing isolation—to the deadening notion of the definitive study. You may recall that Frye, in a prescient anecdote about his childhood encounter with “portly theological tomes in black bindings,” calls them “coffins of dead knowledge” and goes on to celebrate the paperback as a vehicle fitter for the speed of scholarship (“Renaissance” 49f). Thankfully the design of computing and the history of its development push us toward nimble, interactive, conversational scholarly exchange and give us emphatically conversational tools, such as Humanist.

I believe very strongly that for scholars, conversation, in its many registers, is crucial. Unlike “being definitive” or “taking a position” (expressions that make me very sad) conversation puts all at risk, invites response, leaves us open and quite vulnerable. But it thereby grants us keen sensitivity and agile responsiveness to the supple, shifting, polymorphic world of thought. “It is thus,” Marcel Detienne and Jean-Pierre Vernant
write in their study of wily intelligence in Greek culture, “that the helmsman pits his cunning against the wind so as to bring the ship safely to harbour despite it. Victory over a shifting reality whose continuous metamorphoses make it almost impossible to grasp can only be won through a greater degree of mobility, an even greater power of transformation” (20).

We demand as much of our tools. Let us demand as much of ourselves.

Notes

1 See, for example, <http://commons.wikimedia.org/wiki/Image:Pieter_Brueghel_de_Oude_-_De_val_van_Icarus.jpg> (September 2007).
2 Permission to quote this poem comes at a prohibitive cost. It is, however, easily located online.

Works Cited


Cameron, Dame Averil. “Learning from History.” Lecture given at King’s College, London. 1 October 2002.


