Who's Afraid of Integrationist Signs? Writing, Digital Art, Interactivity and Integrationism.

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Abstract

The author describes the seminal influence that Roy Harris has had on the creation of her interactive digital artworks about writing. Broadly speaking, Harris's integrationist theory of writing separates writing from speech and (re)aligns it with spatial configurations. This approach offered robust solutions to the author's creative struggle. The author's resulting artworks express Harris's theory in a manner that is impossible with written words on paper, such as the idea that no fixed boundary can be erected between language and the non-linguistic. The artworks also require Harris's theory in order to explain the new kinds of signs that are actually created by human–computer interaction with the works, such as dynamic, reflexive and multidimensional written Arabic signs that show in writing, but not in words, how the user is to read them. A brief discussion of the challenges of integrationist theory for non-linguists concludes the paper.

Many artists are fascinated by language and writing. I am certainly not alone in this, even amongst artists like myself who work with computers. However, I might just be one of the luckiest. At an early stage in my investigations I had the tremendous good fortune to discover Professor Roy Harris's work on the origin of writing (Harris, 1986). I can't say that I understood it straight away — that probably took years. And in that time Harris considerably developed his analysis of writing, framing it within integrationism, a groundbreaking theory of language and communication, (Harris, 1995; Harris, 2000). The outcome for me was that this theory of writing helped me avoid spending too much time down the various unproductive, theoretical dead-ends found in so many other accounts of writing, particularly discussions of non-glottic writing and so-called "picture writing". Instead I was able to start creating new kinds of interactive and multidimensional signs, signs that not only required integrationism in order to explain them but also articulated integrationism's contextualized integration of activities in a manner that is impossible with written words on paper. In the process I was privileged to get to know both Roy and his wife Rita. I will forever be grateful for the intellectual and hospitable generosity they showed me. This made it possible for me to create innovative interactive artworks and to write about them with some insight. This also made it possible for me to think about future innovation in communication and human-computer interaction, equipped now with a powerful (although somewhat terrifying) theory of language and communication.

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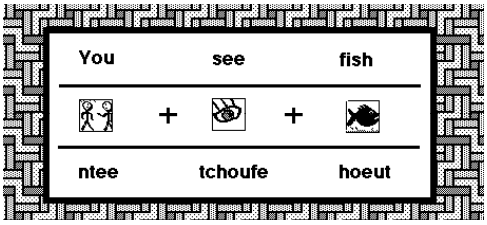
I was an Australian artist/programmer living in Tunis in 1992 with an early Macintosh laptop running one of the first authoring programs, Hypercard. Communicating in multi-lingual, multi-scriptorial Tunis (with varying degrees of success) made me aware for the first time of the power, complexity and beauty of language and writing. Few Tunisians spoke English then and I spoke little Arabic. So for my postgraduate studies, I decided to create a computer game for two players that would teach one player Arabic while the other learned English (Pryor, 2003).

My plan was to use simple animated pictures to represent words that would be simultaneously displayed as written English words and phonetically-rendered Arabic words and then concatenated into simple sentences. Today I am horrified at the many ignorant assumptions made in this design. Sadly, such hubris is not uncommon, particularly in the world of technology. Too many of us think that we understand language just because we consider ourselves functionally literate.



The image above shows a screen shot of one of the few “successful” screens. Of course this game was a foolhardy idea, a fool’s plan actually. My background had been in science, computing and digital art; I had no linguistic training. In my ignorance, I started with what I thought was a simple, atomistic model of language and writing, the kind of model that literate non-linguists often think is simply commonsense. Naturally the model rapidly revealed limitations and it became clear that my presuppositions about what words actually were, the question of *representation*, the equivalence of spoken and written language(s), etc, etc, required serious examination. It also became clear that this particular game was actually impossible to produce.

Nevetheless, I did learn something from the struggle. In trying to create imagery that was expected to “represent” words visually, I began to notice a fundamental asymmetry between visual and verbal modes of communication. Wondering if I was re-tracing some of the steps in the historical development of writing, I went to the British Council library in Tunis. I was very lucky that I found “The Origin of Writing” (Harris, 1986). Harris’s analysis was not the conventional view of the evolution of writing from pictures, but instead a radically different way of conceptualizing the origin and nature of writing itself. It drew attention to the similarities between writing and pictures, something that was easier to understand while in a country inscribed by many ancient and modern scripts that I could not read. Ultimately Harris’s seminal view was to form the foundation of my subsequent engagement with writing and human–computer interaction, although I clung to the concept of “picture writing” for far too long. Once again, I was not alone in this weakness. At the human-computer interfaces of computers, web sites and portable devices we see verbal text increasingly joined by graphics of various kinds. So-called “picture writing” continues to be offered as part of a theoretical model for understanding such interfaces, for example in Bolter, 2001, which is widely quoted.

Traditional accounts of writing contain much that is at best misleading and at worst useless, particularly when discussing non-glottic writing and so-called “picture writing”. The assumption, whether stated or unstated, that *real* writing represents speech leads to serious confusion when discussing writing that does not represent speech. In such cases, the search for exactly what those forms of writing *do* represent is problematic. In the conventional literature, I found that the most widely used terms for such writing were logograms, pictograms and ideograms. This terminology seemed logical at first until I actually tried to apply it (Pryor, 2007).

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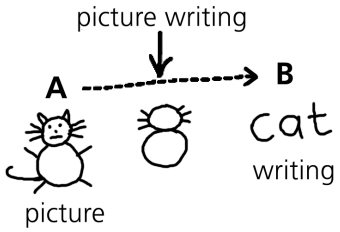
Let us consider the graphic sign at the beginning of the line above? Does it represent:

- a word: telephone (in English), téléphone (in French), هاتف (in Arabic), and so on, thus classifying it as a logogram?
- a simplified picture of a represented thing (an old-fashioned telephone), thus classifying it as a pictogram?
- the idea of telephoning in general, thus classifying it as an ideogram?

It was then that the ground under my feet started to shake. This terminology had not offered me any insights at all. And yet I didnt have any trouble understanding what the graphic sign *meant*. Its proximity to the adjacent integers suggested I interpret them as a sequence of keys to press rather than a number close to four hundred and twenty two million. Spatial relationships were clearly very important here but how to theorize this from the perspective that real writing represents speech?

Harris's integrational approach to writing starts from first principles and he looks for activities that are contextually integrated by writing rather than things that are represented. Thus, he is able to (almost surgically) dissect out the unstated assumptions others have been blinded by, the assumptions that make speech the archetype of communication, that couple writing with speech rather than with space, that try not to notice that there do not actually seem to be any fixed boundaries between writing and pictures at all, and so on.

Harris is equally penetrating in his analysis of "picture writing". For Harris, picture writing is a concept with a very dubious theoretical foundation as it is based on the traditional ethnocentric view of the evolution of writing (Harris, 2001) in which writing evolved from pictures by becoming less pictorial and more communicationally sophisticated. In this view, the process progressed from pictures through "picture writing" to word writing and finally to the triumph of the alphabet. According to Harris, "picture writing" is explained by locating the mid-point on this journey between pictures and writing. And as is clear from its name, the new term is framed as the intermediate state between the two extremes that also has to explain how the first transformed into the second.



In other words, this account is completely circular: "picture writing" is something that's got somehow or other to link pictures to writing and that job is given to it in advance of anybody's understanding how the process could possibly have happened (Harris, 2001). Clearly this circular reasoning does not create an actual theoretical explanation of "picture writing". I have to admit that I was devastated when it was clear to me that there was no basis for continuing to use the term. However, I was thrilled to at last find in Roy Harris a theorist of writing who made sense no matter what kind of writing was being discussed.

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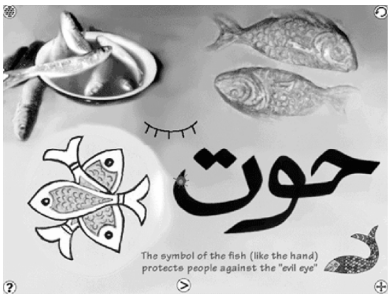
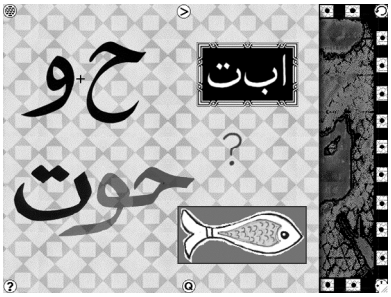
I substantially reduced the scope of my language game and instead created an interactive artwork, a personal portrait of Tunis that teaches the viewer/user some written and spoken Arabic words as they interact with the work (Pryor, 1997).



Postcard From Tunis was very successful and was exhibited and won awards in a number of countries. It is entirely likely that most of its audience did not consciously perceive its relationship with integrationism. However, the work creatively demonstrates that dynamic, multidimensional and reflexive signs can be created through human-computer interaction, particularly rollover interaction. These signs combine auditory, pictorial and scriptorial forms of communication and cannot actually be theorized by a bipartite theory of signs. They transcend a distinction between the verbal and the non-verbal altogether. And they cannot be considered to be signs already created and ready in advance before an actual, material episode of communication (Pryor, 2009). These signs include kinetic and dynamically reflexive written Arabic signs that indicate in writing, but not in words, how the user is to read them.



Pictures are not dominated by writing, as is so often the case in language learning and teaching, but instead the two are treated as complementary facets of one integrated form of communication, that is, spatial communication.

Postcard is thus an integrationist exploration of writing and its transformation at the human–computer interface. **Postcard** offers users who are not Arabic-literate the perception that there are actually no fixed boundaries between writing and pictures and it suggests that the question of what is writing will differ from person to person (and moment to moment), depending on the macrosocial, biomechanical and circumstantial aspects of the activities integrated. Postcard both extends integrationist theory into writing and human–computer interaction and also uniquely articulates this integration of activities in a way that is not possible with written words on paper.

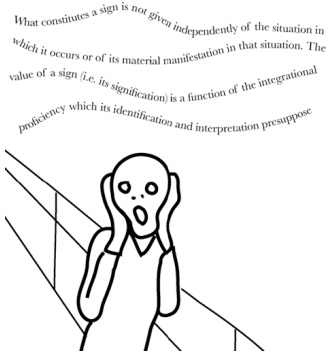
In a subsequent artwork, **Postcards From Writing** (Pryor, 2004), I presented postcards from a different kind of journey and I was a much more explicit about integrationism. The work is presented as a kind of intellectual road movie where I artistically expressed my encounter

with integrationism, its view of writing, and the fiction of "picture writing". I then explore the implications for new media writing and interfaces.

Reading about writing is rather reflexive anyway and integrationism can be difficult to understand when expressed as written and spoken words. **Postcards** supplements these forms of communication with the kinds of signs described previously. Like **Postcard From Tunis**, the intent is creative expression rather than instructional design. Thus, on offer is an experience that is as playful, interactive, kinaesthetic and as audiovisually pleasurable as possible. The work offers users an interactive experience, rather than simply an illustrated lecture. User interaction creates dynamic and multidimensional signs that offer an experience of integrationism and its view of writing, rather than simply information about it. Despite being expressed in a familiar script, the work offers users an experience of the view of writing as spatial configurations and of no fixed boundaries existing between writing and pictures. The visual style is also playful and features writing and drawing by young children, suggesting a reconsideration of conventions of literacy.

As part of the production process, I traveled to Oxford and interviewed Professor Harris at length about these topics. Some of the audio recordings form part of the work. Professor Harris was enormously generous and patient. For example, when it was clear that I needed help in order to think about an integrationist analysis of the human-computer interface, he led me patiently through a series of analyses of the communicational presuppositions in a particular cereal packet, newspaper page, pocket calculator, and so on. This series of audio recordings did not form part of **Postcards From Writing**. It may be possible to edit and release them later on.

Postcards From Writing had some success. It very much required users to wrestle with integrationist theory, although I made every effort to make this "easier" for the user. The fashion for CD-ROMs had passed however and the work was released as a web site, with a CD-ROM option. Unfortunately this time I had backed the wrong technology-horse and users must download a non-standard plug-in in order to view the work online. This is known to be off-putting and the work also runs a bit sluggishly online, compared to on a CD-ROM, because of the generous use of audio and visuals. I am considering lifting excerpts from the interactive work, particularly interviews, and making them available online as simple, easily viewable videos.



It's time to address the question posed at the very beginning. Who's afraid of integrationist signs? How can anyone be afraid of a theory of language and communication? How can it hurt? Well, of course theory links to practice, but that is too large a topic for a short paper like this. I will speak only for myself and as someone who is not a communication expert, so has nothing to lose by adopting a communication theory that destabilizes so many other theories. Integrationism can hurt because it is so difficult to really understand that it makes the mind hurt. I am sure this issue affected the audience of **Postcards From Writing**, despite my best efforts. More accurately, integrationism makes my mind *throb*. As a non-linguist, I am robbed of past assumptions about communication at the same time as being filled with immense awe at the clarity of the analysis of communication and the detection of what Australians call "bullshit" about it. As an artist/programmer, I can sense that integrationism has many useful applications, from interfaces to autism (Harris, 2007) and well beyond that. However, as much as I am thrilled, I am afraid too. As someone who is not, as Owen put it, a "battle-hardened" integrationist (Owen, 2009) the old "commonsense" assumptions and ways of thinking sneak back imperceptibly and it is an ongoing struggle…

Nevertheless, thanks to Harris's work, I think that I am intellectually fortunate amongst my fellow artists and technologists, because many others never seem to have thought outside the 'writing represents speech' paradigm at all. A classic example was the issue of the Australian art journal Artlink (2007) on artists who incorporate various kinds of writing in their work. The volume was titled "the word as art" which is a much broader topic indeed. Writing seems to be something that literate non-linguists feel quite qualified to discuss and yet many times I have observed discussions about writing that have slithered between *writing* and *written words* with no one seeming to notice that the topic has changed.

Professor Harris's work on writing is groundbreaking, to use a clichéd word that is actually quite justified here. To read his work is to meet crystal-clear writing with a very dry sense of humour. It is a joy to read and so different from the impenetrable, nonsensical and/or fruitless alternatives too often on offer. I started with trying to understand writing and in the process have learned an approach to communication that is now a primary source of inspiration for me whenever I am thinking about communication. I am truly grateful to have had my life and career influenced by Professor Harris.

I return to a prescient assertion by Professor Harris that thrilled me when I first read it and continues to do so today: "… the origin of writing must be linked to the future of writing in ways that bypass speech altogether "(Harris, 1986, Epilogue). One future of writing is surely at human-computer interfaces of various kinds. Perhaps as people come to accept that every view of a web site is unique, whether it appears on an Apple computer or a mobile phone, and

that this is one of the web's strengths (not weaknesses), they might perhaps loosen their grip on fixed code, sender-receiver hypotheses just a little…? Only time will tell.

I will close with a story. I was in a shop that was having a summer sale and I selected an item hanging immediately under a large white piece of card with "$10" written on it. When I took the item to the cash register, the saleswoman rejected the ten dollar note that I offered and said that the item in fact cost $30. I pointed out the item's former location under the $10 sign and she replied, "It's just a *sign*, dude!!!"

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