



An Interview with John Cayley on Torus

By Rita Raley

RR: How would you characterize your current work with three-dimensional text and/or spatial writing? What is the significance of the word or letter's becoming three dimensional? What difference does it make for poetry, current paradigms of reading, our understanding of text, etc.? What do you find yourself able to achieve with the Cave that was not possible with QT, HyperTalk et al?

JC: To date, I've written about my work in the Cave at Brown University in two essays, one already web-accessible and the other soon to be so: "Writing on complex surfaces." *dichtung-digital* (2005) and "Lens: the practice and poetics of writing in immersive VR," *Leonardo Electronic Almanac* (forthcoming). In "Lens," I make an attempt to engage with what I call the phenomenology of text in space. At Brown, for one of the few times in my life, I felt that I had made a discovery. Experimenting with these media led me to insights concerning linguistic materiality and space that I had not previously encountered or considered and that I believe are still not generally appreciated.

I went into the Cave skeptical. Immersive VR is still a long way from being an accessible medium and presents an intensified version of the problematic relationship between creative practice and technology, between creative practice and what might, at the very least, be characterized as culturally non-progressive or de-generate social practices. Still, we are all implicated with technology and its reproduction, even if all we pick up to write with is a pencil, and we will all have to debate, continually, the point at which our involvement with technology becomes quantitatively if not qualitatively untenable. Here, I must leave that debate for another forum.

In terms of poetics, I was skeptical about the cultural and social meanings of text in space. As pointed out in "Lens: the practice and poetics of writing in immersive VR," historically, the spatiality of (written) text has been constrained to two dimensions and to conceptually 3rd-dimensionless planes (signs, inscribed surfaces) in the space that we inhabit.^[1] To place atomized text in space, for whatever purpose, including the aesthetic, is a novelty of uncertain significance and possibly so strange as to be senseless.

Despite these reservations, in the Cave, it is manifestly possible to render text in space. Moreover, there is an immediate, appreciable pleasure in making this happen. For me, there is at least as much pleasure in navigating a spatial structure composed of literal forms as there is in navigating the virtual surfaces of "architecture" or simulations of "landscape." It is, arguably, just as natural and pleasurable, phenomenologically, to navigate Jeffrey's Shaw's "The Legible City" as some virtual Venice like the one imagined in William Gibson's *Idoru*. However, as a poetic practitioner, what I would like to

discover is some non-contingent relationship between existing language forms and the space within which they find themselves dwelling.

I am still a little uncertain about such a relationship at the level of the "word" (or rather, lexical item, the point at which semantics takes hold *explicitly* in linguistic structure) and above. In my own work, I do not balk at (paraphrasable) meaning, but I also concern myself closely with the realm of the letter, with sub-lexical linguistic structure – letter replacement, transliteral morphing, literal form – and it was

with sub-lexical linguistic structure – letter replacement, transliteral morphing, literal form – and it was in this area that I made what I pretend as “discovery.”

Letters are very good at defining space for literate humans. Letter forms give excellent visual clues concerning relative distance. It would require experimentation in perception and cognition to verify this empirically, but my hypothesis is that, because letter shapes are *both* complex and familiar (to their readers, to the literate), they are highly suitable as reference shapes for spatiality. Unlike abstract shapes, letters possess an intrinsic scale. They should, by definition, be of a size that allows legibility, enabling, precisely, their recognition as letters. This does not, of course, imply an *absolute* size or scale but it does constrain these properties (and thus the relative distance) of letter-objects; whereas, for example, a rectangular or circular shape is “legible” *as such* at almost *any* size. The implication is that virtual 3D structures made from letter forms will have, as it were, an appreciably enhanced spatial structure for literate readers. Moreover, because of the expectations (of legibility) that these forms bear, it should be possible to “play” – affectively, viscerally – with their form and arrangement in ways that are likely to have aesthetic significance, and some bearing – potentially, ultimately – on literary practice.[2]

RR: One question that Mark Hansen and I debated at the MLA (2005) had to do with the place of “Torus” in your oeuvre. Mark reads it as an extension of “overboard” and “translation” whereas I read it as more than that - I do see something conceptually new here, which has to do with the letter becoming its own complex surface. Does this accord with your thinking?

JC: In the course of work in the Cave at Brown, I had decided to try and make “Torus” before the moment of discovery referred to above. From one point of view, “Torus,” is, in fact, a revisiting of work that *precedes* “overboard” and “translation.” It is a 3D instantiation of a textual environment piece like “riverIsland,” and it emerges directly from a less well-known HyperCard-based work I made entitled “noth’rs.” (“Torus” uses, for example, a selection of the Proustian content from “noth’rs.”) A more complete realized version of “Torus” could certainly be seen as a development of textual environments that are implicit in both “noth’rs” and also “riverIsland.”

In the production and performance of all of this work, complex surfaces do come to the surface of attention (also see “Writing on complex surfaces”). But “overboard” and “translation” are themselves, in one aspect of their entirety, appreciable as particular types of complex literal surfaces. This is what they are; this is what they explore in very specific ways. For example, “overboard” offers a complex surface with variable legibility; “translation” offers a complex transliteral surface generated by transliteration. “Torus” is, as it were, aware of the complexities of literal and symbolic surfaces, but it contains varieties of such surfaces within itself and uses them, rather, to build up a structure, a textual environment.

The structure and surfaces of “Torus” do consciously engage with the problematic phenomenology of text in space. The shape itself is composed from what I have come to call vanes of text radiating out from the empty centre of the implied torus. On these vanes the legible text is suspended in a way that both suggests and subverts the surfaces of inscription that exist in our habitual space-time. I decided, based on their current phenomenology, that my letter-objects in immersive VR should have no thickness and that they would always turn to face the VR users’ primary point of view (and so always present themselves as what they are: letters).[3] This was in response to what I considered to be the

defining properties of letter-objects. Note, however, that such behaviour subverts and complicates the inscribed surfaces on which the letters are suspended because, for example, the letters will pivot on the (invisible) surface of the plane, both respecting its existence and, literally, turning away from it. Moreover, if the reader controlling the space’s primary point of view is “behind” one of the vane’s surfaces, the letters of the text inscribed on it will all be right-reading, but the order of those letters in the words and lines of the text will be reversed. These new spatio-textual phenomena clearly emerge from simple rules built into the programmatological world of “Torus.” Some yield aesthetic significance in this context, some are simply part of “how things are” in this world. However, it is clear that in other pieces, such phenomena could be consciously exploited for aesthetic affect.

My experimental piece, “Lens,” took on precisely such a phenomenon, a specific aspect of the complex surface of the letter itself in immersive VR (or screen-simulated 3D). “Lens” appeared after, and in direct response to, my moment of discovery. It plays, in an extreme form, with precisely our

expectations of the legibility of letters. In the QuickTime piece, "distant" texts, two dark- and two light-coloured, drift in the screen's blackness. There is also the word "lens" rendered in larger white letters. The reader can move this "lens" by dragging and scaling it using command keys. If the lens itself is zoomed-in so as to become illegibly large, the surfaces of one or other of its constituent letters can then be used as a reading surface for the more distant darker texts and this makes them suddenly legible, as well as subverting our assumptions about their relative distance. In the Cave version of "Lens," the effects are far more striking, disturbing and spectacular. Because of the immersive characteristics of the Cave system, the literal surface of the "lens" letters can be, as it were, moved so close as to touch or pass "behind" the reader's body/point of view. The surface light of a "lens" letter can even be brought into the very eyes of the reader. When this happens, the reader's vision seems to be flooded with the white light of this literal surface and the most spectacular spatial inversion/subversion occurs. The whiteness becomes a 3D space. In fact it becomes *the enclosing 3D space of the Cave*, taking the place of the dark space previously inhabited by both reader and the various textual objects only a moment before. The distant dark blue texts still drift in this space, but now they do so, distinct and legible, in a space of light and clarity. If the reader then moves the surface-literal lens-light "out" of her eyes, the enclosing space, as suddenly, reverts back to darkness.

In the maquette version of "Lens" some sense of these phenomena are, I hope, conveyed, directly addressing questions of, for example, our expectations in relation to letters, literal surfaces, inscribed surfaces – hinting at their potentialities and complexities. In the maquette, moreover, the brief texts composed for the literal objects comment explicitly on other – cultural, linguistic – meanings for such phenomena. When I have a better command of a programmable 3D textual world, I would like to produce a "Lens"-like "reader" for more extensive texts or perhaps even for any and all text that could be brought into a "Lens"-like system.

NOTES

[1] The situation is complicated in a grammatological context by speech-as-inscription which does manifest itself in 3-dimensional space but which, as object, has no extension of its own. Another direction of enquiry would be – and in a sense "Torus" is already an exploration of this – to investigate the consonance and interaction of structures of spoken language (manifested as spatial audio) with structures of literal text in an immersive 3D space.

[2] In the world of film and film titling – 2D generating a representation of 3D – I would point to Saul Bass as an artist who made good use of graphic phenomena closely related to my Cave discoveries, e.g. aesthetic moves in an art of language (film titling) back and forth between graphic (design) abstractions and letter forms themselves. I have written about Saul Bass' work, especially his film titles, in "Bass Resonance." *Mute*, Winter/Spring 2005, 22-24 (now also available on the *Electronic*

Book Review).

[3] The point from which the system renders the image globally. Note that, if other readers are in the space in different positions or looking in different directions relative to the reader who controls the primary point of view, they may be able to see the world in a different way. For example, they may see the letter surfaces obliquely or even witness their disappearance when they are edge-on and "revealing" the fact that they have no thickness (no 3rd dimension).