DIGITISATION AND MATERIALITY FORUM

Material Object, Virtual Spaces

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To the question, 'What happens to the properties of the material object in a virtual space?' one has to reply, 'Why nothing, of course', because properties of the material object can never literally, physically, enter a virtual space; by definition they're material (physical, hard), and virtual space — if it is in fact best described as a *space* in the way we usually use that term — is virtual, a matter of what Diane Balestri called softmedia, a matter of 'as if'. I begin with this act of pedantry because to do so reminds us of how language — with its built-in assumptions about the nature of reality — often leads us astray when we come to discuss computer-based digital text, sound and images.

Of course, we've been living with the virtual for a very long time — long, long before Babbage. The *Oxford English Dictionary* defines *virtual* as 'that [which] is so in essence or effect, although not formally or actually; admitting of being called by the name so far as the effect or result is concerned', and in terms of computers it means 'not physically existing as such but made by software to appear to do so from the point of view of the program or the user.' Our uses of the term *virtual* and *virtuality* derive from optics, in particular from the distinction between real and virtual images. The *Encyclopaedia Britannica* article on optics explains that 'virtual images are made by rays that do not actually come from where the image seems to be', so virtuality, in other words, is independent of place, location independent (which should make it, by definition, independent of *space*).

It should, perhaps, be independent, but in fact we have long created impossible spaces (and lived with them) because they serve a purpose — that is, they serve a particular ideology or echo conscious and unconscious assumptions about the way the world should be. Take for example, Raphael's *The Madonna and Child with Saint John the Baptist and Saint Nicholas of Bari* (c. 1505), which depicts three adult figures and the child Jesus in a physical space that not only obeys the laws of perspective but also deploys cast shadows, anatomical correctness, and other details that are realistic in the

narrow sense that they could be empirically verified. This painting therefore offers a representation of physical space that could exist, but the entire image, which is just as manipulated as any Photoshop or Gimp retouching, represents something that could not exist, at least not in this world, because Saint Nicholas of Bari, lived half a millennium after the others with whom he shares this picture space. Here intellectual (or ideological) relationships predominate over physical ones. So this painting, like all Virtual Reality technology, figures forth an image, a visual embodiment, of ideology and belief. Taking a Neoplatonic or Christian view of the subject, Raphael would have argued that if these figures did not exist historically in the same place, they exist and must be represented in the imaginary space of ideas because they *should* be together.

So perhaps the answer to 'what is the nature of a virtual collection?' should be, 'Take a look at all the virtual collections from the Parthenon frieze to *sacra conversazione* like this Raphael painting and see what they suggest'. Ideologies and interests organize virtual collections. But because they are virtual they can take the form of as many approaches, interests, and needs that those who encounter them have. In other words, using the Vannevar Bush model — or Brown's Intermedia[1] and Southampton's Mirco/Multicosm[2] instantiation of it in hypermedia environments — one should conceive the virtual collection as an overlay of networks of connections and paths through them that exist independently of the virtual objects in that collection. Virtual on top of virtual.

As someone who spends time studying sculpture, I know from experience that 'digital referents and virtual spaces provide a new material encounter with the object and the object's material qualities'. Take a QuickTime VR representation of a sculpture or some other object.[3] Such interactive visual representation permits rotating the image, thus enabling viewers to observe how the represented object looks on all sides; one can have the image rotate or pause it and move it back and forth slowly, and of course one can zoom in. Anyone who's visited a museum knows that one can rarely see the back (and often the sides) of objects when, that is, they appear on public display and do not reside hidden away deep in storage rooms. Cool, huh? But then Landow's Law of Media pushes its nose into the conversation, intoning 'No Free Lunch'! Every

information technology involves loss and gain: if you have the immediacy of speech, you don't have the asynchronicity of writing, which allows and encourages greater opportunity for reflection and abstraction plus time — and space-independent communication. If you have virtual representations like my QTVR example, you don't have the real object nor, at least for the moment, its weight, feel, smell. Moreover, you don't have a sense of scale, a phenomenological experience of how large the object is in relation to you. Of course, ever since slide projectors, which instructors of art history generally use paired side by side, have presented a three- or four-inch woodblock engraving by Dürer the same size as large altarpieces by van Eyck, we have visually homogenized art objects.

Do the advantages of this virtual object, however, 'lead to a loss of [Benjaminian] "aura"'? Hard to answer in part because 'aura' is, after all, such a weasel word. According to Benjamin's 'The Work of Art in the Age of Mechanical Reproduction' (1936), loss of aura does not necessarily derive from any lack of physical qualities but rather from an object's loss of uniqueness. Come now, Mr. Benjamin, can this *really be true* Anyone who has encountered art of the last two centuries knows that multiples also have special (and commercially valuable) auras: rare books, art glass and bronzes in large editions, reductions of a larger original series of bronzes, etchings, engravings, and, yes, even photographs have their aura. One could object, arguing say that to an important extent at least *some* photographic prints can claim uniqueness. Ansel Adams, for example, frequently printed the same negative very differently in the latter part of his career, but many times one encounters multiple examples of his photographs as well multiple examples of engravings, books, and statues indistinguishable from one another.[4] So perhaps loss of aura derives not from the existence of a few multiples but rather from massive reproduction. As someone (either Etienne Gilson or Jacques Maritain) pointed out more than half a century ago, there's never been an age in which the image has been so cheap. And digital images, which can be copied so easily and at essentially no discernible cost per copy, may make the image even cheaper.

One certainly can't blame any changed intellectual, artistic, personal, or even economic value of the digital image, whether representation or not, on the claim that 'the processes of digitisation (photographing, scanning) are predicated on deferral and absences', since language and artistic representations from cave painting to cinema are predicated on precisely those same absences. It's not so much, as Derrida would remind us, that digital infotech has destroyed authorship, creativity, authenticity, and any exact mimetic relation of the representation to the represented object; it's just that it has made us aware of the way all media, all representations work, and have *always* worked. In fact, Derrida and other poststructuralists have simply returned to pre-romantic notions of creativity and representation found from the Renaissance to Pope's 'Essay on Criticism' (1711): producing visual and verbal art is not a matter of inventing something *ex nihilo* but of combining and recombining things in new ways — 'what has often thought but n'er so well expressed'. Similarly, artistic representation in whatever medium re-presents not what's out there but what we wish would be out there – what the Augustans termed heightened nature or *la belle nature*. Way back in the 1850s John Ruskin dismissed mimesis when he formulated his semiotic theory of pictorial representation that emphasized not only what it can convey but also how much the inherent flaws in representational technique and media force one to leave out.[5] Representation = selection and omission.

No representation and no information technology, be they digital or otherwise, can have an effect on the material object, though they certainly may have on the way we perceive and relate to it. Perhaps the best way to begin is with the photograph, particularly since the capturing and preservation of photographic images has moved so far from the chemical to the digital than many forms of photography threaten soon to become unavailable as manufacturers cease creating film and chemicals necessary to process them. Comparing the photographs of, say, Ansel Adams to their digital reproduction, one can observe some obvious changes, some for the worse, a few for the better. First of all, someone who has intellectual property rights for a particular Adams photographic print can share via the World Wide Web a digital image of that photographic physical object with enormous numbers of viewers in an equally large

number of places — but, of course, at a cost, though not a financial one. At the moment display technology presents images at a coarse 72 dots per inch (dpi), whereas printing at its crudest probably never falls beneath 300 dpi. But computer displays have come so far in the past few decades, progressing from black-and-white, then to grayscale, next to hundreds of colors, and now to millions of them. Equally important, computer screens have increasingly changed from flickering, eye-fatiguing cathode ray tube (CRT) displays to liquid crystal displays (LCDs). One can reasonably expect that fairly soon computer displays will rival the printed page in its capacity for detail. (Which means, too, that all the thousands of images I've included on my academic websites will then look absolutely awful).

Because image and texts alike take the form of codes, one can also change the photographic image by changing the code. This capacity to change the code has already had obvious cultural and other effects. The most obvious being that we no longer see photographic or other images existing in a one-to-one relation with what they supposedly capture or represent. Image manipulation — what used to be called photo retouching — has become extraordinarily easy, indeed matter of fact, which means in practice that digital photographs or digital versions of non-digital photographs, which now have decidedly less sharpness that the chemical process image, may soon rival it. Ease of reproducing and sending images across the internet may of course dilute the power of any single image, no matter how masterfully created, so that photographs will suffer what Victorian authors like John Henry Newman thought would happen with cheap books: mass culture will prevail.

What will happen to three-dimensional arts, such as sculpture? First of all, sculpture will, and indeed has, taken on virtual forms, by which I mean that this art of shaping space, particularly the space around objects, can use digital tools to create new forms. New possibilities, again relating to the idea of uniqueness, will also allow different relations to older objects. Here I am thinking of a presentation I heard almost a decade ago at a Museums on the Web conference in Seattle. There, the Canadian researcher explained how using laser technology, his team had scanned Inuit sculpture and produced a computer record of finer detail than the human eye could see, after

which they used another laser to cut a three-dimensional replica or simulacrum that museum visitors could handle while the original object remained safely protected in its case. What I like about this approach is the way it reintroduces tactility into the experience of fragile art objects. But it also raises the question how can we, and should we, distinguish the original from its copy, and if not what has happened to that Inuit carved vessel? So one preliminary, if obvious, conclusion must be that different arts will find themselves affected in different ways: some will be extended gaining new tools and consequently new forms; others may be cheapened.

Endnotes:

[1] Nicole Yankelovich, Norman Meyrowitz, and Stephen Drucker, 'Intermedia: The Concept and the Construction of a Seamless Information Environment', *IEEE Computer*, 21 (1988), 81-96; and Bernard J. Haan, Paul Kahn, Victor A. Riley, James H. Coombs, Norman K. Meyrowitz, 'IRIS Hypermedia Services', *Communications of the ACM*, 35 (1992), 36-51.

[2] Wendy Hall, Hugh Davis, and Gerard Hutchings (eds.), *Rethinking Hypermedia: The Microcosm Approach* (Boston, MA; Kluwer, 1996).

[3] See <Hhttp://www.landow.com/qtvr/giles.htmlH> and <Hhttp://www.landow.com/qtvr/copper.htmlH>

[4] Karen E. Haas and Rebecca A. Senf (eds.), *Ansel Adams* (Boston, MA: Museum of Fine Arts, 2005).

[5] George P. Landow, 'HJ. D. Harding and John Ruskin on Nature's Infinite VarietyH', *Journal of Aesthetics and Art Criticism*, 28 (1970), 369-80.