

# Cyborg literacies and the posthuman text

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**Abstract**—The exponential increase in the use of digitally-mediated technologies in higher education has led to a need for new repertoires of engagement, involving the mobilisation of a range of multimodal semiotic resources. As a result, attention has been paid to innovative forms of meaning-making, and the new ways in which the subject might create meaning and constitute identities in these contexts. However, the impact of widespread digitisation of higher education on ‘traditional’ practices has received less attention. Drawing on posthuman and actor-network theory (ANT), the paper will argue that the academy has become saturated by technologies to the point that there can be no meaningful distinction made between digital and analogue, embodied and virtual, ‘face-to-face’ and ‘online’. It considers how this analysis might disrupt the notion of authorship and the resultant ontologies of the reading and writing subject in higher education.

**Index Terms**—New literacies, technologies, posthumanism, actor-network theory.

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## INTRODUCTION

In the contemporary university, new technologies have enabled new possibilities for meaning-making across a range of contexts. Clearly, from the standpoint of New Literacy Studies (e.g. Barton 2001), these contexts should be seen not only as a technological means by which to relay information, but as a complex set of social practices in which identities are expressed and created in a reflexive relationship between communicative practices and the subject. This paper will argue that this has also led to a radical disruption of taken-for-granted binaries across digital and embodied practice. It will propose the notion of ‘posthuman literacies’—drawing on Haraway’s cyborg (1991) and Hayles’s (1999, 2006) conceptions of embodied virtuality - to examine practices of meaning-making in a context where the boundaries between analogue and digital, ‘human’ and ‘machine’ are ambiguous and problematic. It will then go on to discuss the implications of this analysis in the context of higher education, where digital media are widely used in the production of seemingly traditional texts. The paper will examine the implications of this analysis for the reading and writing subject in particular, arguing that the multiple, partial nature of engagement in digital literacies renders practices and ontologies complex, hybridised and multivoiced.

## MEANING-MAKING IN THE DIGITAL UNIVERSITY

The field of literacy studies in education has responded to the shift towards digital practices with variously: a recognition of the increasingly multimodal and visual nature of meaning making practices in 'the digital age' (e.g. Kress 2003); critical examination of the concept of 'elearning' (Lea & Goodfellow 2007); investigations into Web 2.0 digital technologies and pedagogies (e.g. Carrington & Robinson 2009); and analyses of virtual worlds and gaming; requiring what Steinkueler has called a 'constellation of literacy practices' (2007: 297). Across these studies and beyond, technologies are recognised in this conception not as 'tools', but as sites of social practice, moving us away from the sterile, techno-rationalist discourses which have tended to dominate 'elearning'. However, less attention has been paid to the effect of digital technologies on apparently 'traditional' literacy practices, such as academic writing.

Despite a great deal of innovation, the text-based essay remains the dominant means of assessment in higher education. The practice appears superficially untouched by increased use of digital technologies, and is often critiqued on that basis as limited or retrograde. This interpretation is understandable when the essay-as-finished-text is considered – appearing today very much as it would have done thirty years ago. However, in terms of the practices engaged in by students in the production of these texts, the essay-as-social-practice has been utterly transformed by the digital.

Focusing on reading practices, one striking difference is that instead of engaging with print-based resources in the physical form of books and photocopied papers, students are now expected to also conduct reading in digitally-mediated environments using online journals and other sources of information, with their course materials also likely to be digitally-mediated. In this respect, what was once material is now a hybrid mix, with textual artefacts constantly circulating between material and virtual networks, requiring the reader / author to respond to this in fundamental ways in terms of literacy practices. This has practical implications, as these networks and domains require the student to adapt and combine networks of practices, physical and virtual domains and subjectivities in order to access, select and engage with texts in new ways. Additionally, internet research yields a vast number and variety of potential sources, as opposed to the relatively small number of approved print reading material used by students in the pre-digital university. As a result, the relationship between the source material and the author has also been fundamentally altered. Students seek to build arguments drawing from a field of cultural production which is enormous, radically distributed, fragmented, and multivoiced. As Williams (2009) points out, reading online is ephemeral, fragmented, intertextual – demanding what he terms 'shimmering literacies'.

The relationship between reading and writing practices are tightly intertwined, and from this kaleidos-

cope of texts, voices and images, students are still expected to produce what must effectively masquerade as an analogue text, conforming to the conventions of print literacies in terms of its appearance as a product, as the writer seeks to render a cacophony of online textual voices into the impression of a text written by a stable and singular author. It unsurprising that this tension leads to 'plagiarism' - a transgressive and troubled area of practice and identity arising in part from this blurring of sites of analogue and digital meaning-making practice. A 'flashpoint' seems to have erupted where a practice which is officially still posited as analogue has in fact become blurred and hybridized; where practice and text, material and virtual, human and nonhuman, have become completely interwoven and indistinguishable.

### **CYBORG LITERACIES**

If we accept this analysis of contemporary communicative practice as distributed and hybridised, then a further theoretical strand of work may also help us to understand these educational contexts more fully. The notion of posthumanism (e.g. Badminton 2000, Wolfe 2010) is often associated with Haraway, in particular her 'cyborg manifesto'(1991), through which she introduces the metaphor of the cyborg as a challenge to essentialism in the feminism of the time, but also as a wider metaphor for the hybrid, blurred nature of identities in general. Haraway's cyborg challenges boundaries and ways of organising the world and categorising human and nonhuman subjects, such as human / animal, organism / machine, physical / non-physical (Bell 2009), arguing that post-war developments in science and technology have ruptured these taken-for-granted divisions. The prototypical notion of the cyborg is often associated with a form of literal hybrid materiality involving non-biological features such as implants. However, the notion of the cyborg can also be applied to practices and the subjectivities constituted by these, leading to what might be termed a cyborg ontology – or what Gough (2004) refers to as 'becoming-cyborg' in his discussion of posthuman pedagogies.

As Hayles (1999) states: 'In the posthuman, there are no essential differences or absolute demarcations between bodily existence and computer simulation, cybernetic mechanism and biological organism, robot teleology and human goals' (2009: 3). Hayles also challenges the notion that information and embodiment can be meaningfully separated, stating that '...it is important to recognise that the construction of the posthuman does not require the subject to be a literal cyborg... the defining characteristics involve the construction of subjectivity, not the presence of nonbiological components' (1999:4). She goes on to explore the notion of *embodied virtuality*, defined as: '...the cultural perception that material objects are interpenetrated by information patterns' (1999: 13/14). Applying Hayles's concept of embodied virtuality

may give us some purchase in our consideration of the status of the essay, seeing it essentially hybrid, liminal text arising from a combination of the student as individual, embodied author entirely enmeshed in multivoiced, fragmented networks of digital texts and practices.

A further related theoretic framework may also be of utility here - Actor-Network Theory (ANT). ANT consists of loosely configured ideas which have emerged from science and technology studies (Callon 1986, Law & Hassard 1999, Latour 2005), and have been applied to a range of educational contexts (e.g. Clarke 2002, Fenwick & Edwards 2010, Fenwick 2010, Fox, 2010, Tummons 2010). Like posthumanism, one of its notable features is its refusal to accept seemingly natural binaries such as human / nonhuman and nature / society (Murdoch 1997). An ANT analysis of student writing would see it taking place in networks consisting of human and nonhuman actors such as: students, keyboards, VLEs, libraries, assessment criteria, search engines, dropboxes, paper and pens, and so on. A JISC-funded research project at the Institute of Education, University of London has recently begun to explore student digital literacy practices (JISC 2011), and will be using longitudinal multimodal journaling to explore these networks and domains of practice – and the repertoires of identities mobilised in them – in order to gain a fine-grained understanding of student practices in this hybrid, posthuman setting.

## **CONCLUSIONS**

This paper has argued that the contemporary university has become permeated by networks of digital mediation as a hybridised site of cultural practice. Teaching, research and reading technologies supporting essay writing are largely digital and multivoiced, but the end-product text is still expected to conform to the conventions of analogue, print literacies. In an attempt to gain some theoretical purchase, some key aspects of posthuman theory and ANT were discussed in terms of this context. It was argued that Hayles' notion of embodied virtuality may be a useful heuristic in seeking to understand the practices generated by the hybrid digital / analogue essay-as-social-practice, and also to conceptualise the student reader/writer who occupies an indeterminate space between digital and analogue meaning-making. This analysis demands ethnographically-influenced research approaches, using perspectives such as ANT which allow the hybrid, sociomaterial nature of digital literacies to be explored. The paper concluded by pointing to a new research project which aims to apply these perspectives, hoping to gain a more nuanced understanding of what might be called 'cyborg literacies'.

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