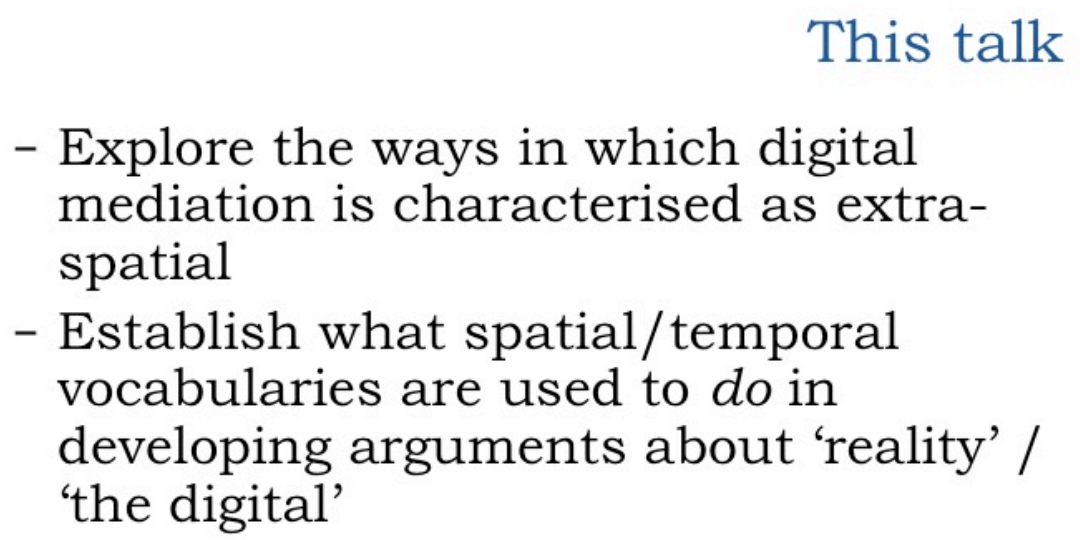
Worrying realities

Doing spatial theory for digital geographies

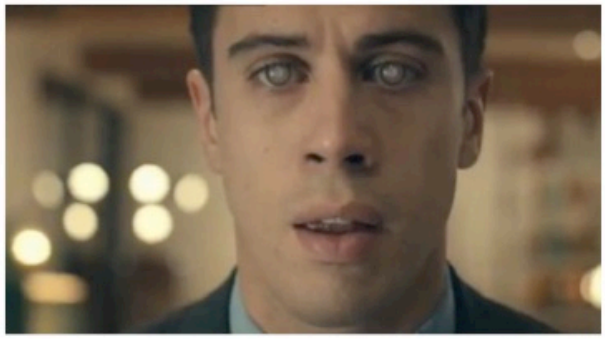
Leibniz Institute for Research on Society & Space / Weizenbaum Institute for the Networked Society, May 2018



In this lecture I focus on the ways in which digital mediation has been variously characterised as: outside of spatial understanding somehow; unreal or a sort of fantasy; a kind of split between two realms; and/or not subject to the rules by which we understand our 'normal' forms of spatial experience. In particular I want to talk through the ways of theorising spatial experience that emerge. These are mostly about how to understand how we use language to describe unfamiliar phenomena. So, a good deal of what we will explore is spatial metaphors and the ways in which they take on particular kinds of value or agency. Terms like 'cyberspace' which we might now find dated are an example often used but we might also think about the ways in which we are asked to believe in something called "the cloud", which more-or-less elides the messy and perhaps banal reality of systems of data centres, servers, cables and so on.

After Cyberspace?

'a plurality of clashing, resonating and shocking metaphors' – Steve Pile, 1994

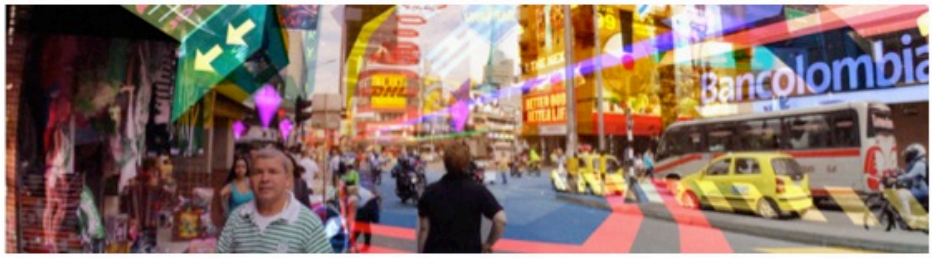


Discussions of alternative or transformed forms of spatiality constituted by computation have spawned a range of names and phrases for those spatial formations. As Pile argued, the descriptions of 'cyberspace' and 'the virtual' are 'a plurality of clashing, resonating and shocking metaphors' (Pile, 1994, page 1817). In lecture I want to discuss the malleable nature of our descriptions of computation, data and software. In particular it seems pertinent to examine the role of metaphors and how some geographers have addressed that role. Sawhney (1996) describes metaphors as 'midwives' that ease new conceptualisations of spatial experience into understanding. However, metaphors that constitute discourses are not politically neutral. If metaphors 'do things' as Lakoff and Johnson (2003) assert, what they 'do' needs to be explicitly examined.

Place metaphors

Adams (1997) identifies 3 fields of metaphors:

1. 'Virtual architecture'
2. 'Electronic frontier'
3. 'Cyberspace'



First, Adams' (1997) useful review of metaphors in literary treatments of computer mediation identifies three, overlapping, 'fields' of metaphors: 'virtual architecture', 'the electronic frontier' and 'cyberspace'. Adams argues that, despite fears concerning 'a metaphor's power to corrupt' (1997, page 167), such 'mythical geographies' fill in the spaces between established knowledge to form what Tuan calls the 'fuzzy area of defective knowledge' (Tuan, 1977, page 86).

'virtual architecture'

'The network is the urban site before us, an invitation to design and construct the City of Bits' (Mitchell 1995: 24)

Adams (1997) describes metaphors of 'virtual architecture' as the ways in which the language of urban development and city planning were brought to bear on the nascent world-wide web. The well-regarded MIT architecture scholar Prof. William Mitchell wrote a trilogy of books beginning in 1995 with 'City of Bits' which went a long way towards promoting this form of metaphor. In the wider world the language of the "information superhighway" used by Vice President Al Gore in the mid-1990s is an exemplar of the ways in which the apparently abstract and immaterial networks of digital media were lent some materiality and concreteness through a language of cities.

'Electronic Frontier'

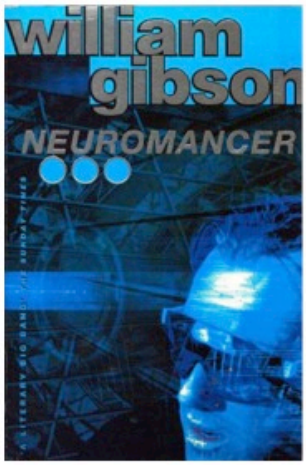
"Over the last 50 years, the people of the developed world have begun to cross into a landscape unlike any which humanity has experienced before. It is a region without physical shape or form. It exists, like a standing wave, in the vast web of our electronic communication systems. It consists of electron states, microwaves, magnetic fields, light pulses and thought itself" (Kapor & Barlow, 1990)

Also in the 1990s there was a push, based on a longer lineage of counter-cultural movements, towards thinking about electronic communications systems as opening out a space for radical action and for thinking the world otherwise. Adams (1997) points out that this draws significantly on the language of the 19th century movement into the Western states of America and the geographical imagination of the promise of new territories being explored by 'brave' settlers. A key point in the creation of the frontier narrative was the penning of a "declaration of the independence of cyberspace", in which former Grateful Dead musician John Perry Barlow imagined an alternate digital realm with a totally different mechanism of governance. This built on the earlier founding of the "Electronic Frontier Foundation" as an advocacy group for internet civil liberties / citizens rights to things like freedom of speech, privacy and others specifically in/through digital media. This is politically aligned with left-leaning libertarian and counter culture movements that grew up in the South Western USA (especially around San Francisco) and so needs to be understood in that context too (A great resource for this is the work of Stanford Professor – Fred Turner, especially his book: "From Counter Culture to Cyberculture", which focuses on the digital utopian and ideologue Stewart Brand).

'Cyberspace'

Neologisms and metaphors from fiction.

'Cyberpunk': 'cyberspace' conceived as a 'consensual hallucination' of an alternate dimension of space (William Gibson, *Neuromancer*)



Several geographers, including of course Adams (1997) have explored the ways in which the spatial metaphor of an alternate realm, an additional 'layer' of space or a 'consensual mass hallucination' (following author William Gibson) is distilled into the idea(s) of "cyberspace". Again this is a fairly America-centric phenomenon. Ken Hillis (1999) highlights a background of mysticism to metaphors utilised to describe and explore virtual reality as a 'cyberspace'. For Hillis, many of the metaphors draw upon understandings of light. Hillis (1999) offers three types of metaphor: virtual reality as a privileged position affording 'vision'; virtual environments as facsimiles or simulations represented through light, akin to Plato's shadows on the cave wall, and the virtual as an ability to inhabit images as such. Both Adams (1997) and Hillis (1999) postulate a link between the types of metaphors used and the desire to affirm an elevated or omniscient perspective, drawing upon the remote gaze as a tool of imperialism (akin to Virilio, 1984) or the near-omnipotent reach of light to illustrate that desire.

A key example of this kind of spatial metaphor in practice is the 1992 film "The Lawnmower Man" which draws significantly on the aesthetics of the cyberpunk movement.

Trailer for the 1992 film:
http://www.youtube.com/watch?v=YCxFGxqLsHE

If you are interested there's quite a few examples of this kind that draw, mostly, upon American science fiction, such as:

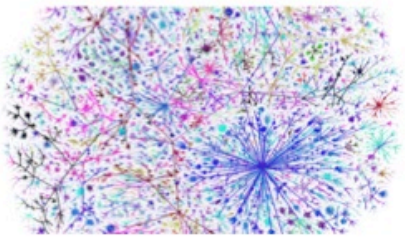
- Avatar (James Cameron special effects bonanza – first big budget film filmed in 3D) https://www.youtube.com/watch?v=5PSNL1qE6VY
- The Congress (base upon Stanislaw Lem's The Futurological Congress) https://www.youtube.com/watch?v=zkDyKWKNeaE
- Existenz (written & directed by David Cronenberg) https://www.youtube.com/watch?v=HAdbdUt_h9M
- Inception (written & directed by Christopher Nolan) https://www.youtube.com/watch?v=8hP9D6kZseM
- Jonny Mnemonic (based on a William Gibson short story) https://www.youtube.com/watch?v=Uwl5MBzTCRQ
- The Matrix https://www.youtube.com/watch?v=vKQi3bBA1y8
- Strange Days (derivative of Gibson's cyberpunk) https://www.youtube.com/watch?v=nceM0B0MGlA
- Tron & Tron Legacy (Disney) https://www.youtube.com/watch?v=3efV2wqEjEY https://www.youtube.com/watch?v=L9szn1QQfas
- Total Recall (based upon a Phillip K Dick story) https://www.youtube.com/watch?v=WFMLGEHdIjE

There are also films in which the protagonist retreats into what might be considered a 'virtual' world or they imagine inanimate things having agency that make for interesting comparisons, such as:

- Being John Malkovic https://www.youtube.com/watch?v=2UuRFr0GnHM
- Eternal Sunshine of the Spotless Mind https://www.youtube.com/watch?v=yE-f1alkq9I
- LA Story https://www.youtube.com/watch?v=0eCSmfP4g2c
- Ma Vie en Rose https://www.youtube.com/watch?v=8EfW77w9i9c

Mapping 'cyberspace'

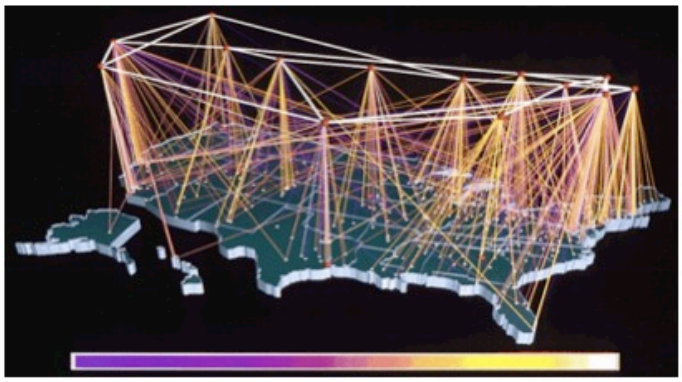
Creating maps of the spaces constituted by networks...



From the mid-1990s what emerges in geography is a desire to see the growth in digitally networked technologies as a phenomenon of study and to employ the techniques of research used to explore other kids of spatial phenomena. So, a significant early movement in the study of digital media was the development of mapping techniques for exploring the dimensions of 'cyberspace'. There was a short 1990s movement of "cybergeography" (we might ask how far we've moved on from this given the rediscovery of 'digital geographies' recently). This was focused in two ways.

Mapping 'cyberspace'

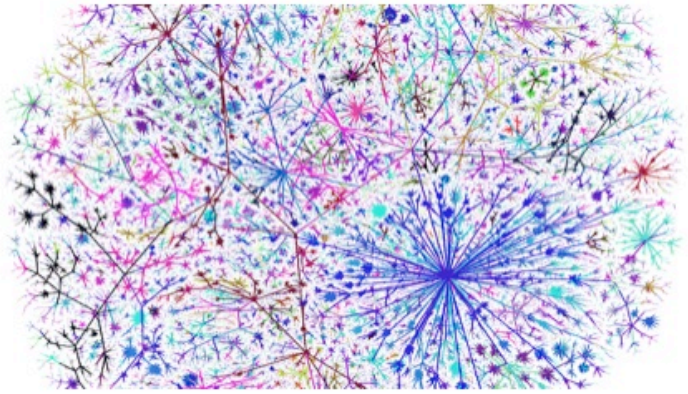
…topographically



First there was an attempt to measure and map the geographies of 'cyberspace' topographically – this meant establishing the topographical locations of key elements of the infrastructure and mapping them. A key reference here is Kitchin and Dodge's "Atlas of Cyberspace": http://www.kitchin.org/atlas/contents.html

Mapping 'cyberspace'

…topologically

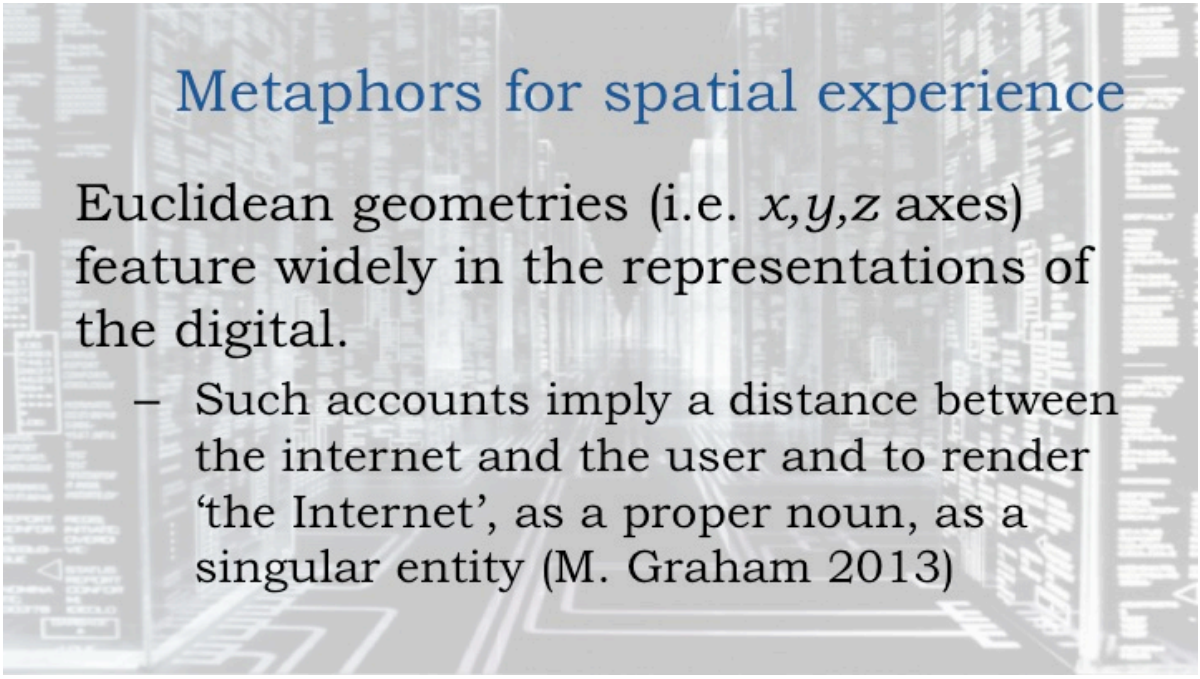


Second, there has been, more recently, a move towards mapping the different form of abstract connectivity that emerge from large data sets taken from different digital platforms, such as search and social media, topologically. These do not position the data topographically, because that is either meaningless to their context or too difficult to discern, but instead map the nature of the relationships between nodes in the data – such as between websites or social media users. These attempts at mapping, whether topographical or topological, mirror wider trends and frictions in geographical research.

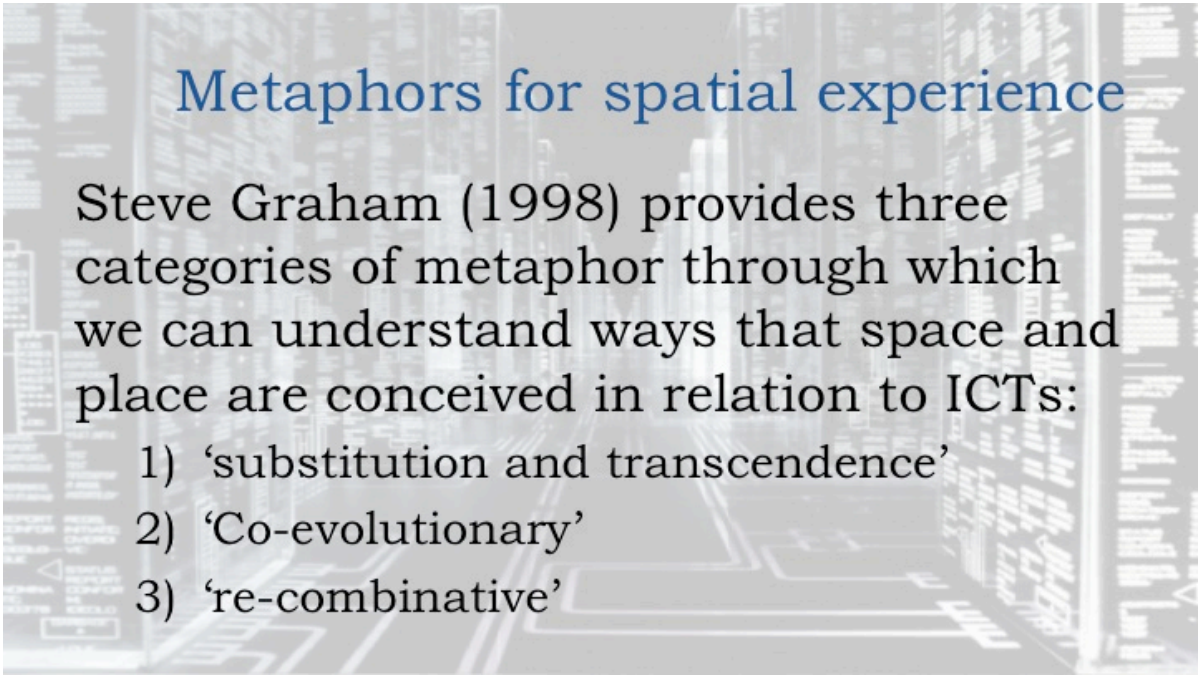
Reflecting on 'virtual' geographies

Discourses of the internet stabilised through 'powerful role of spatial and territorial metaphors' (Graham, 1998: 165).

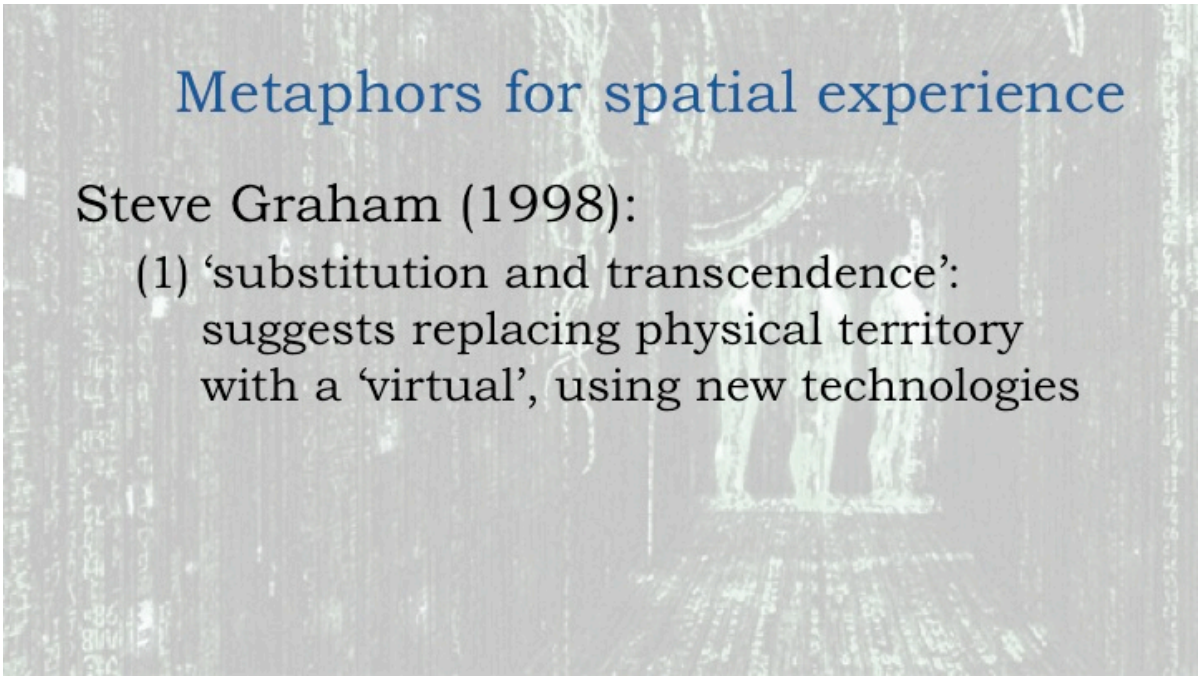
To reflect upon the turn towards 'cyberspace' or 'the virtual' in geography is therefore to reflect, as Stephen Graham (1998) asserts, on the power of spatial metaphors and the kinds of geographical imagination they afford. This has been variously satirised and propagated in popular culture as well as in academic research. The key point here is that it is not necessarily 'wrong', instead I'd argue that we should see this as a form of emergent spatial theory – what we're discussing is ways of understanding fairly abstract forms of spatial experience and people, not just academics, have been experimenting and struggling with trying to find ways to express that experience.



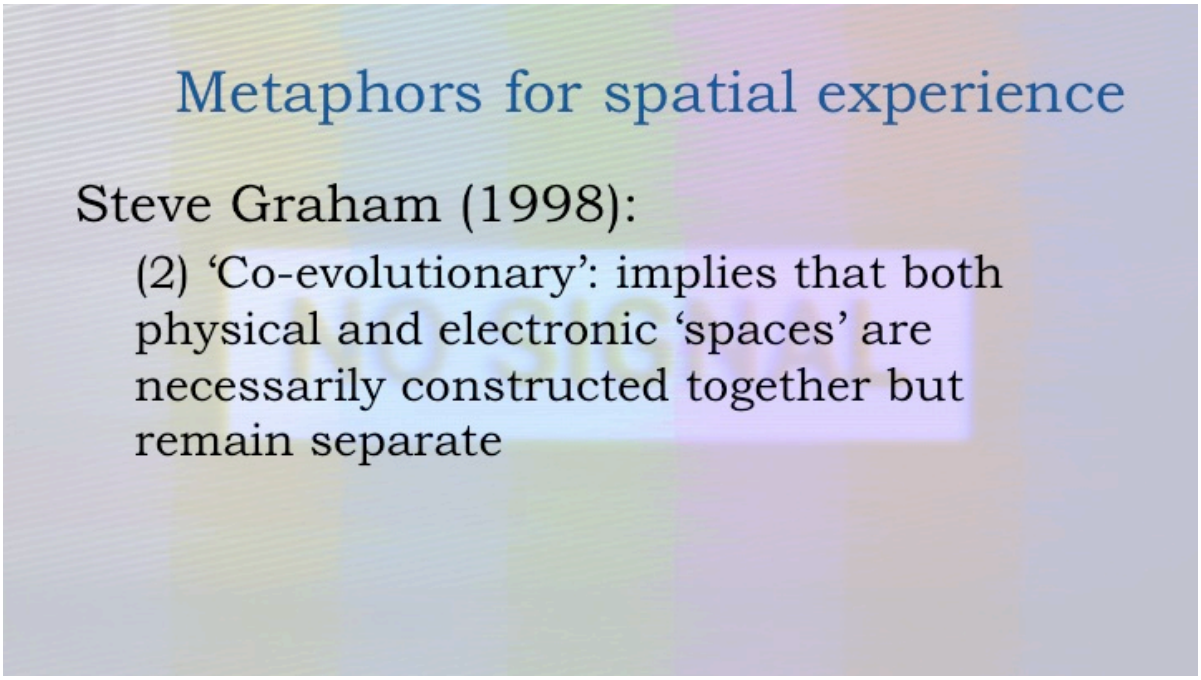
Of course, the power of pre-existing spatial metaphors, such as 'space as a box', means that these have had a significant sway on the discourses of digital mediation. As we saw through Paul Adams discussion of the kinds of spatial metaphor being used in the late 1990s, the kids of representation of 'the digital' or the 'virtual' often rely on a geometric model of space. Of course, one of the issues with this is that it can inherently distance the user from the apparent alternate realm of 'the Internet'. As Mark Graham (2013) notes – if we employ these kinds of geometric metaphor then it singularises that alternate realm as a coherent whole that is 'out there'. This can be problematic for a number of reasons, but in particular – it might be considered to give license to otherwise unacceptable behaviour because the 'out there' of the internet is separate and doesn't matter.



In moving on from the 'space as a box' simple geometries of a unified alternate realm, geographers have variously attempted to diagnose the different kinds or types of spatial metaphor being brought into play. Stephen Graham (1998) describes the 'powerful role of spatial and territorial metaphors' that anchors discourses of ICTs (Graham, 1998: 165). Graham (1998) identifies a typology of spatial metaphors through which space and place are conceptualised in relation to ICTs: 'substitution and transcendence', 'co-evolution', and 'recombination'



Metaphors of substitution and transcendence, echoing Hillis' (1999) critique, denote replacing physical territory with a 'virtual' using new technologies. This is perhaps the most 'science fiction' of the kinds of spatial metaphor. It is the ways in which films such as *The Matrix*, or *Lawnmower Man*, assume that conscious experience can be separated from the body and that separation can be enabled through digital mediation. So, its not only that a digital interface can mimic or simulate spatial experience for an embodied person but also that the body might somehow be less important or even left behind. The peculiarity of that vision is probably exemplified in the return to VR as a media technology. The Samsung Gear VR advert https://www.youtube.com/watch?v=rypjEnacvpQ humorously demonstrates some of the issues with thinking about spatial experiences being apparently decoupled from the body.



Graham (1998) goes on to suggest that a co-evolutionary perspective argues that, while remaining separate, both physical and electronic 'spaces' are necessarily produced together. This is the metaphors of a 'layered reality' that have taken on new meaning through the 'augmented reality' techniques of games like Pokemon Go or even through location-based services such as Facebook Places, or Foursquare. In this model of spatial experience while what is perceived as the digital is somewhat closer to our everyday spatial experience it is also definitively separate. This is very similar to the 'virtual architecture' paradigm of spatial metaphor proposed by Adams (1997).

Finally Graham (1998) posits a re-combinative, topological, understanding of socially constructed forms of spatiality that are 'sociotechnical' (i.e. linkages between 'heterogeneous' actors, including humans, technology and others, formulate spatial experience). Graham (1998), along with Adams and Hillis, identifies the problematic form of mind/body split implied by his first category, which also somewhat underlies the second, and the uncritical technological determinism that often accompanies this somewhat fanciful race away from our embodied existence. This social constructivist, or Actor-Network like, approach figures digital media as a range of different kinds of actors in the world and that to posit a 'hard' separation between the spatial experience of digital media devices and systems and other ways on interacting doesn't really make sense. This is a more pluralistic, perhaps less ontological' understanding of the spatialites of digital media.

Reflecting on 'virtual' geographies

Spatial experience and spatial knowledge of and through digital media is important.

Regardless of the apparently ephemeral character of the metaphorical 'virtual' or 'cyberspace', these descriptions or conceptualisations are still grounded in a resolutely material register. As Hillis (1999, pages 160-162) notes, language itself is profoundly spatial, and material, in its expression. Writing is the spatialisation of knowledge, what philosopher Bernard Stiegler calls the externalization of thought recorded as 'tertiary retentions' (Stiegler, 2007), most frequently orthographic writing (see: Stiegler, 1998), with different technologies of retention using space differently. The expression of 'virtual' spaces is, then, always already material in character. Hillis, in an argument similar to Stiegler (1998), presses further, highlighting the reciprocal, yet fragmented, relation between word and world:

> "language is not only a discrete, concrete thing. Neither is it ephemeral, language can be thought of as an "embodied prototechnology", both confirming us to ourselves existentially at the level of embodied voice and extending us to engage with the lived world through its symbolic affect" (Hillis, 1999, page 161).

Metaphors and neologisms are, of course, not the sole preserve of geographers or, indeed, academics. Of course, much of this work speaks to broader popular (Western), late 20th century interests in 'telematic culture' (Ascott, 1990), the creation of 'artificial experience' and 'virtual communities' (Rheingold, 1989, 1998), and the convergence of subaltern

cultures experimenting with drugs and computing (Rushkoff, 1994). Alternative, less dyadic, conceptualisations of a 'virtual' are also offered by geographers considering the growth of digital mediation. Although perhaps now considered somewhat dated, we might note that 'cyberspace' or 'virtual space' has not been solely evoked as an abstract alternative realm, as Kitchin (1998) has argued:

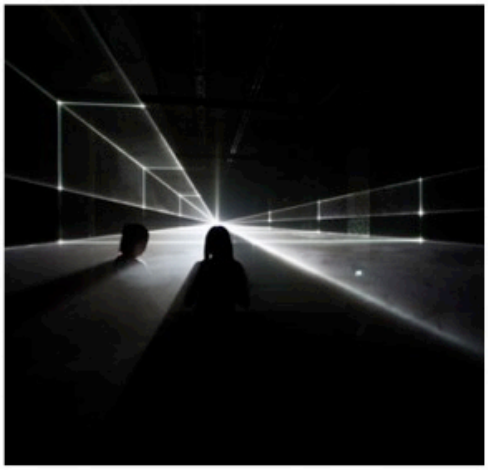
> Cyberspaces are dependent upon spatial fixity, they are embodied spaces and access is unevenly distributed- cyberspaces do not replace geographic spaces, nor do they destroy space and time (Kitchin 1998: 403).

Following Adams (1997, 2011), Graham (1998, 2005), Hillis (1999) and Kitchin (1998, 2011; Kitchin and Dodge, 2011) we can see how, and perhaps why, metaphors and neologisms are used to describe computer-mediated spatial experience and also how geographers have situated the agency of those terms. Earlier engagements with computation were necessarily speculative and concerned with formulating understandings of nascent or imagined technologies. However, in the last decade the growth in ownership of digital technologies has created case studies of widespread everyday use.

Some of these case studies are explored in my 2014 article 'The matter of 'virtual' geographies':
http://journals.sagepub.com/doi/abs/10.1177/0309132513506270

'The Virtual'

Shields (2003): the 'virtual' as a wider philosophical concept that widens our understanding of the ways spatial metaphors of the digital work.



There is another language of 'the digital' and mediation that is more prevalent in either technology development circles or certain debates in academia that positions mediation, or what was discussed as 'digitalisation' at various points during the spring academy, as 'virtual'. As those familiar with particular branches of European philosophy will know, 'the virtual' has a much longer and more varied series of conceptual debates attached to it as an idea. A really helpful discussion of these debates, especially in relation to the kinds of assumptions we are being invited to make when discussing 'the virtual' in relation to digital or electronic media, is Rob Shields' 2003 book "The Virtual". In the following slides I want to review some of the key ways in which Shields identifies meanings implied by our use of 'virtual' that we might consider relevant to discussions of theorising digital mediation in relation to spatial experience.

'The Virtual'

Memory
– 'Real but not concrete'

The Persistence of Memory, Salvadore Dali (1931)

In the work of a number of continental philosophers, especially Henri Bergson and Gilles Deleuze, memory is the principal register of 'the virtual'. Memory is 'real but not concrete' - it has a reality in our experience, insofar as it is essential (or rather 'immanent') to how we experience the world, but it doesn't necessarily have a concretely definable nature. The virtual as memory is therefore not static but always moving and always open to change, and in that sense memories are not hardened and immovable but malleable. If we think about this theorisation of the virtual in relation to the ideas or metaphors of digital mediation as 'virtual' then there is perhaps some sense in the crossover of the terminology. There is a sense, for some – especially those writing in the 1990s, that the abstract nature of data and digital communications is 'real but not concrete'. Nevertheless, the malleability of memory is perhaps qualitatively different from the malleability of digital media. Memory is slippery precisely because it is the foundation of experiences of reality. Digital media are not in the same ontological register – they are not of a kind with our experience of memory.

For further discussion of some of the issues associated with this you might consider reading my 2015 article "Memory Programmes":
http://dx.doi.org/10.1177/1474474014555658

'The Virtual'

Being 'almost-so', 'almost-there'
'Metaxis' / 'liminal'

As Shields (2003) observes, in English we often use the word virtually to imply a sense of being 'almost-so', or 'just about'. It might have either a spatial and/or temporal focus – we might say we are 'virtually at the door' to a room when we receive a phone call from someone inside asking where we are. Shields diagnoses this as being of a kind with other expressions of liminality that can be gathered together as 'virtual'. In this sense then the 'artist's impression' or these days the digital render of housing development or new office block, often displayed on hoardings outside, is 'virtual'. Again, this can be aligned with some of the ways we might think about digital mediation – just as we construct all sorts of idealised or 'blueprint' depictions of a desired state of affairs we also bring together the 'nearly there' of a Skype call that is close-at a distance and somehow between here and there.

Gillian Rose offers some interesting discussion of architectural visualisations and the ways in which we might consider them to be liminal/virtual:
http://journals.sagepub.com/doi/abs/10.1177/1469540515572238
https://anthrosource.onlinelibrary.wiley.com/doi/full/10.1111/ciso.12080

'The Virtual'

Simulation

The most obvious of Shields' explorations of the 'virtual' in wider conceptual work is simulation. Here, we might think of the flight simulator as the canonical digital example, but it seems worth remembering that there were simulators before the advent of the computer. Indeed, simulation has been used as a valuable means of preparation for crucial forms of activity. Surgeons have practised on cadavers for centuries, scientists have used laboratory animals as proxies for human biology for a long time too. These are both, in their own ways, simulations of the desired outcome in advance of the 'actual' realisation. We can also think about the ways in which this draws upon all sorts of conventions of fiction too in some circumstances – just as 'virtual' can be liminal, it can be fictional to 'try out' a particular state of affairs. Military manoeuvres and civil emergency drills sometimes have narratives that are carefully planned in advance in order to simulate a problem or desired outcome.

The role of simulation in particular forms of understandings of space has been variously discussed in relation to military technologies and videogames. Two interesting thinkers in this regard are: James Ash (see: *The Interface Envelope*) and Patrick Crogan (see: *Gameplay Mode*), but we might also return to the work of people like Janet Murray (see: *Hamlet on the Holodeck*).

Reflecting on 'virtual' geographies

'There is a mode of writing about electronic telecommunications technologies which is now becoming ubiquitous. According to this body of literature, what we are seeing is nothing less than a new dimension coming into existence'
(Thrift, 1996: 1465).

What we have seen throughout this conceptual exploration of the 'virtual' is that there are all sorts of ways in which particular forms of spatial metaphor have come into play but perhaps one of the most long-lived is the allusion to a new dimension of space. As Thrift diagnosed in 1996, there has been an ongoing move to posit digital media as another kind of space. We have seen through the discussion so far that this is not without its problems and the key here is to be critically reflective about how these spatial metaphors get used, what they allow different sorts of people to say or claim and what gets done in the world as a result.

Diagramming 'the Virtual'

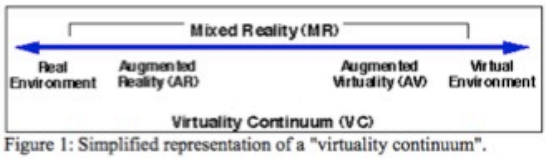


Figure 1: Simplified representation of a "virtuality continuum".

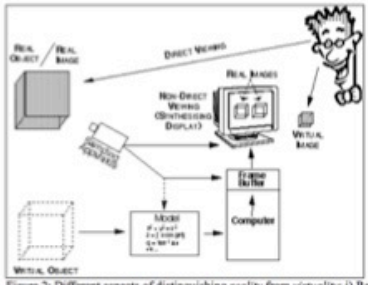


Figure 2: Different aspects of distinguishing *reality* from *virtuality*: i) Real vs Virtual Object; ii) Direct vs Non-direct viewing; iii) Real vs Virtual Image.

Milgram & Kishino (1994) A taxonomy of mixed reality visual displays

A dominant representation of the 'alternate realm' to which Thrift alludes is a 'spectrum' of 'mixing' appearances of reality or of the realms of the 'real' and the 'virtual'. A key reference here is the paper "A taxonomy of mixed reality visual displays" from which the first figure (on the left of this slide), the one-dimensional 'continuum' of 'virtuality', is often extracted and used to describe the character of mediation or 'the virtual'. We can perhaps see this as an example of what Steve Graham calls the 'co-evolutionary' metaphor – the apparently 'real' or physical 'blended' yet also held distinct from mediated forms of experience. It is perhaps important to note that this is not without underlying ontological and perhaps aesthetic assumptions about the nature of 'reality' as it appears to us. This is more or less an existential-psychological model of consciousness, as illustrated by the second figure (on the right of this slide). Such a model is, perhaps, peculiarly disciplinary in nature – if we take this model of 'reality' as a starting point for the design and making of technologies then those assumptions become embedded into the operating principles of that technology. This is, of course, a fairly well-rehearsed Science and Technology Studies argument but merits restating (see, for example, Langdon Winner's classic 1980 article: *Do artefacts have politics?*)

I am not interested here in refuting the theories of spatial experience that underlie these diagrams (you might wish to analyse the kinds of spatial

metaphor being used here by employing the ideas discussed in the preceding slides). I am interested in the use of the diagrams on this slide to represent forms of spatial experience in relation to the perceived abstract qualities of mediation. Regardless of suggestions of 'mixing', an axis of the kind used in figure one imposes a binary. Diagrams representing qualities of spatial experience in relation to whatever we call the forms of mediation we are discussing – digital, virtual and so on – seem to be fairly persistent and they clearly do some analytical work that I argue needs to be examined.

Diagramming 'The Virtual'

Table 2.2 Figures of speech and movement between categories of the real and possible

	Real (existing)			*Possible (not existing)*
Ideal	virtual (past)	*Symbols*	*Myth*	abstract
	Déjà vu	*Premonition*	*Abstraction*	*Chance*
	Ritual	*Miracles*	*Foretelling*	*Prediction*
Actual	concrete (present)	*Risk*	*Fate*	probable (future)

(Shields 2003)

We can see that there is a means of beginning to chart out apparent dimensions of spatial experience. In the diagram on this slide Rob Shields offers two more-or-less metaphysical dimensions of experience that articulate something of degrees of abstraction that are implied by the various meanings discussed in the preceding slides. We can see a range of abstractions in terms of spatial and temporal extension, from the temporal present into the past or future or from the material present into representational abstraction. These are plotted along axes of paired binaries, a common tactic, that open out a potential of variety but at the same bound the register of experience or perception – the qualities of a phenomenon and their appearance, the form of a phenomenon and it's matter. Indeed, these diagrammatic representations of possible/material spatial experience speak to long-standing debates over the ways social divisions and cultural classifications are spatialised as imaginary geographies, e.g. nationalism, or the recoding of topographic spaces with particular values, events or feelings (e.g. the terrorist attacks of 11/09/01 in NYC and the site of "ground zero", or the status of Tibet), which Yi-Fu Tuan discussed as 'topophilia'.

Of course, by diagramming these 'dimensions' we are also invited to consider the conceptual understandings through the lens of the prevalent spatial metaphor of the graph – of two dimensional extension and geometric

forms of spatial logic. Indeed, the rationale of diagramming (and I just mean drawing diagrams here, not the Deleuzian register – on which see John Mullarkey's *Post-Continental Philosophy*) is an interesting form of norm-setting practice for proposing, sharing and validating metaphors and conceptualisations of space. Perhaps there is something about what is perceived as the 'immateriality', the hard-to-see qualities of digital mediation that invites visualisation in the form of diagrams.

Diagramming

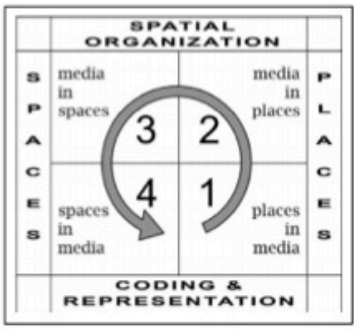


Figure 1. The quadrant diagram demonstrating the dialectics of space/place and content/context. The numbers in the quadrants indicate the order in which topics are introduced in the body of this paper.
Source: Author's diagram, after Adams (2009: 4)

(Adams 2010)

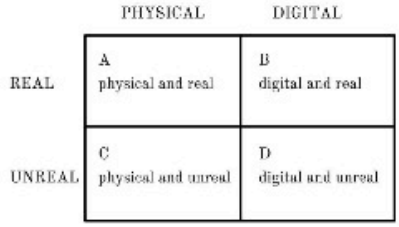
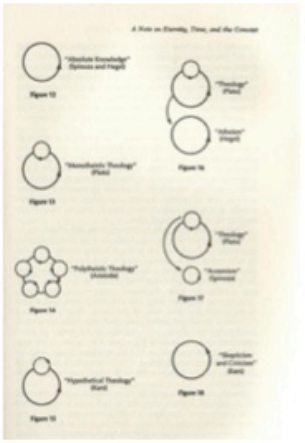


Figure 1. The digital reality matrix.

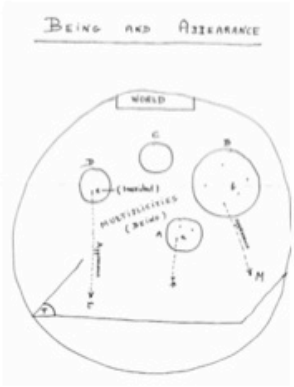
(Boellestorf 2016)

I suggest we ought to both take seriously the meanings that diagrams freight and (reflexively) attend to the practices of diagramming. Diagrams can perform some valuable and important explanatory and analytical work but they can also assert authority, as can any discursive formation (following Foucault). Indeed, many of the frameworks articulated in these diagrams are precisely the wrangling with what non-representational theory in geography, and structuralism/post-structuralism more broadly, has articulated as the gap between word and world, between representations of space and spatial experiences (for more on this you might find Rob Shields' chapter "Alternative Geographies of Modernity" in his book *Places on the Margin*). One way to simplify the argument is, of course, to suggest that the abstraction of mediation more-or-less corresponds to the abstraction of language, collapsing the argument into one about representation – this might be one way to read Adams' diagram on this slide and a way to understand arguments about the agencies of 'code'. Another, as discussed in previous slides, is to more-or-less essentialise what is seen as the difference between different qualities of spatial experience as 'real' or not, or 'physical' or not – the two axes of Boellestorf's diagram on this slide. In both cases, and for different purposes, the diagrams assert the bifurcation of qualities or categories of spatial experience.

an aside on diagrams



Alexandre Kojeve, *Introduction to the Reading of Hegel*, 1947/1969



Alain Badiou "Art's Imperative", Talk in NYC, 2006.

As a brief aside amongst this more-or-less 'social theory' exploration of how people like geographers use diagrams, and as John Mullarkey explores in his book *Post-Continental Philosophy*, diagrams are widely deployed as a means articulating abstract, more-or-less metaphysical, forms of thought about weighty ideas such as 'being', 'time', 'experience' and 'truth'. Some philosophers, such as Gilles Deleuze, attempt to use this as a method for philosophical thought – and you can make of that what you will (to do this we would enter into debates about what structures reality and how language functions in relation to thought and experience – debates between and after phenomenology and structuralism and the various "post–" movements) Other philosophers, such as Alexandre Kojeve (the left-hand figure on this slide), use diagrams in the more traditional explanatory mode – they are about somehow representing, in this case, the relationship between being and time. Still other philosophers, such as Alain Badiou, seem to me to blend these two tasks – to describe abstract thought, in his case mostly derived from mathematics, in order to attempt to open up 'new' ways of thinking – in the case of the diagram on this slide it is about representing the ways Badiou's thought (what is often described as a 'subtractive' ontology – see Peter Hallward's *A Subject to Truth*) might be compared (perhaps implicitly here) to Hegel's phenomenology of the appearance of the world.

So, I argue, we can see that there is a significant tradition of using diagrams, in different kinds of ways, in order to evoke the abstract elements of experience and how we come to understand the world. As I will suggest later, this is, and perhaps has been for some time, a kind of norm for particular kinds of theorising and therefore is perhaps worthy of scrutiny.

Diagramming

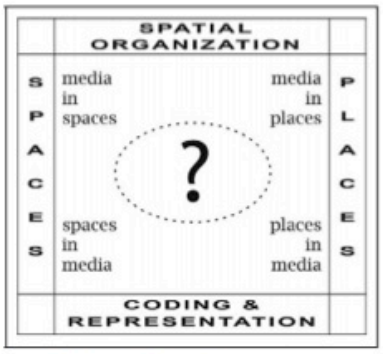
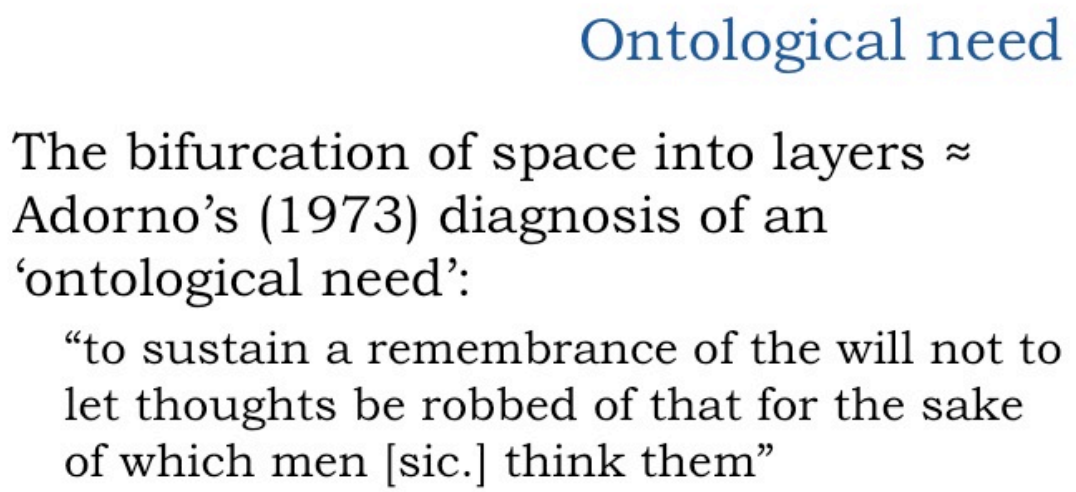


Figure 2. The quadrant diagram opened up to investigations between the polar oppositions
Source: Author's diagram

(Adams 2010)

Returning to the social theory uses of diagrams, it would be unfair to caricature all of the uses of diagrams to explore the spatial qualities of mediation as clunky and static – there are, of course, attempts to problematise the categorisations and to experiment with how these dimensions of spatial experience might be rethought or 'done' differently. For example: Adams, in his 2010 paper, amends his diagram, on this slide, as he explicitly looks at the ways we might 'transcend dichotomies', pointing to work by Bruno Latour on 'mediators', Sarah Whatmore's work on the hybridisation of inter-species experiences of space in relation to the presence of animal bodies and Donna Harraway's material semiotics of hybridity. Nevertheless, while those thinkers themselves and some of the debates around them may resist essentialising categories, when they are used within sociological or geographical work we are more often than not asked to retain the norms of talking/theorising with ontology, of metaphysical categories that perhaps outweigh 'ordinary' epistemological analysis.



How might we reflect upon our predilection for ontology? One way is to understand the ways in which this is perhaps a more widespread habit of thought. The systematic bifurcation of space into layers of 'virtual'/'real' or 'digital'/'physical', and as Clive Barnett (most recently in his book *The Priority of Injustice*, 2017) argues the delineation of 'politics' and 'the political', is what Theodore Adorno diagnosed (specifically in a critiques of the work of Martin Heidegger) as an 'ontological need' – a worthy desire to address relevant issues that are present in contemporary experience that collapses or, as Adorno has it, 'relapses into abstraction'. Clive Barnett (2017) has referred to this 'need', expressed in contemporary research publications in geography as form of "ontological trumping" – the sense that one can be authoritative by drawing out the 'big' concept or theory – as somehow superior to other apparently lesser forms of analysis, description or explanation. Doing this tends to impose requirements on what and how particular phenomena should appear and how they should be apprehended in order for them to qualify as 'real', or 'digital' or 'virtual' and so on. This is not, as Barnett (2018) argues, to argue for a prioritisation of 'practice' over 'theory', rather to attend to the forms of difference that doing ontology makes and maybe to 'adjust the normative assumptions through which geographical thought continues to apprehend the spatialities…' of digital mediation.

The difference that ontology makes

Widely shared habit presuming concepts formed in opposing pairs.

	PHYSICAL	DIGITAL
REAL	A physical and real	B digital and real
UNREAL	C physical and unreal	D digital and unreal

What differences does using ontology make in attempting to discern the spatial experiences of digital mediation or 'the virtual'? First and foremost, I argue, following Barnett (2017: 91), that ontology often presumes opposing pairs of concepts. At the risk of being overly-reductive, I think we can see there are, broadly, two ideal types of quality of space are proposed: on the one hand there is a version of an opposition between the material and the immaterial, and on the other hand there is something like an opposition between the authentic and inauthentic. This is most clearly demonstrated by Boellestorf's diagram on this slide, in which he is critically reflecting upon these kinds of opposition – the phsyical and the digital are opposed, as are the real and unreal. The form of categorical division that defines this kind of theory has different sources but we might see resonances with Platonic metaphysical differences between things and their ideal types (what some refer to as a kind of "hylomorphism"), a (simplistic version of) Cartesian delineation between the flesh of the body and ideas of the mind, or apparently authentic objects and free-floating simulacra. This is two-step manoeuvre, as Barnett (2017: 81) suggest: first spatial experience is bifurcated and then a "fundamental ontological priority is ascribed to a layer of being that in some way both forms and unsettles more routine orders of action".

The difference that ontology makes

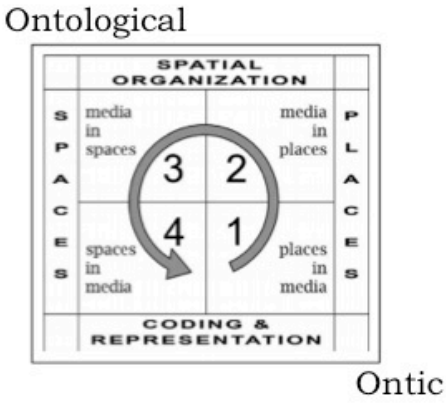
Key reference – Heidegger's analysis of ontological difference:

being vs. Being

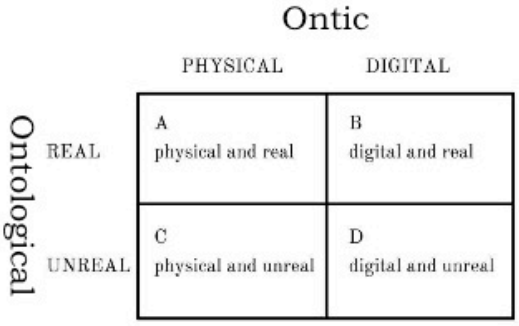
'Ontic' vs. 'Ontological'

In order to think about the ways that phenomena appear to us also has something to do with the ways in which ideas about ontology have been received in parts of the social sciences that have erred on the side of importing theory. A key influence in this regard is the ontological (or metaphysical) difference insisted upon by the philosopher Martin Heidegger between what there is and the essential nature of what there is, between being and Being, or between the ontic and the ontological. As Clive Barnett (2017: 91) argues: "the distinction has become the source of the idea that the ontological is a kind of layer that in some sense has priority over the merely ontic". This is akin, perhaps, to the argument that the philosopher Gilbert Simondon makes around 'hylomorphism' – distinction between form and it's matter, which he argues is erroneous. As Barnett (2017) argues, there are various ways in which the 'double inscription' of the political that perhaps derives from a similar source is often employed as a means of performing a kind of theoretical trumping manoeuvre – to do or think politics is merely ontic, whereas to do or think the political is ontological. We might not see a direct corollary in the supposed splits between the physical/real and digital/virtual but there is a perhaps a sense in which one side of that equation is persistently thought of as more 'real', or to 'matter' (in al of the meanings of that word) more.

The difference that ontology makes



(Adams 2010)

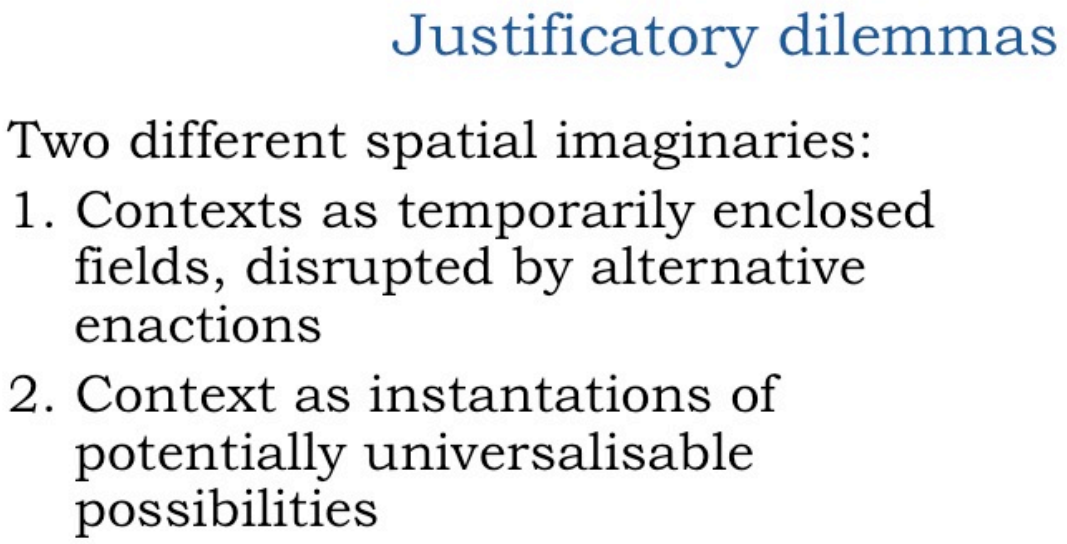


(Boellestorf 2016)

We can begin to look for the trend in delineating between ontological and ontic understandings of space in the diagrams of spatial experience we've already been talking about. In Paul Adams' work we might think about the ways in which space and it's organisation are ontological whereas place and its representation or encoding/mediation are ontic. In Boellestorf's table critically reflecting upon the apparent 'ontological turn' in 'digital' anthropology there are ontolpogical qualities of space – it is real or unreal – and there are ontic qualities of spatial experience – it can be physical or digital'.

Furthermore we might look at the ways in which the sorts of organising concepts we variously use to interrogate digital mediation are more or less ontological, or more or less ontic. I would also argue that those we consider, in this framework, to be ontic might also, or otherwise, be considered to be 'epistemic' – they are to a certain extent about a particular moment, a particular *dispositif* as Michel Foucault might say. To pursue this investigation, I suggest that to diagnose a phenomena, such as "cyberspace", tends to imply an ontological entity. Whereas, to discuss the various kinds of qualities of otherwise-ordinary phenomena might be to discuss ontic or epistemic attributes. In this way it is possible to see how some analyses of 'digital' spatial experience or mediation might more-or-less avoid any form of ontological underpinning and attempt to think in 'ordinary' terms about the kinds of bases for the phenomena we're interested in. Using ordinary terminology we can discuss the ways in which phenomena have observable qualities that can be described and perhaps charted without necessarily abstracting them to an authoritative or essential Being. I find it interesting that there is perhaps a little blurring here in the ways in which some words are used. For example, "digital" might be used to describe particular characteristics of a mediation – a descritised form of communication, as binary (0s and 1s) information, or media that utilise packet switching networks. Likewise, we can talk in terms of abstract networks (in the mode of Actor-Network Theory) but we

can also talk about networked infrastructures such as the undersea cables, relays and cell towers that all variously contribute to the ways in which our contemporary experience of using “smart” phones and other “connected” devices ‘normally’ happens, on an everyday basis.

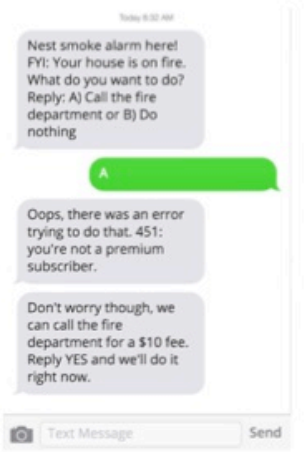


I suggest that we can see then how there might be two different kinds of spatial imagination that sit behind the delineation between an ontological theory of the qualities of space – that more-or-less delineate between the kinds of claims that may or may not be made by using approaches that are more ontological than ontic and vice versa. So, on the one hand a less-ontological more-epistemic description and theorisation of 'the digital' or 'virtual' may take a given context of inquiry, the investigation of a particular phenomena, as a temporarily enclosed field – we can only assume that is a settled state of affairs for the period of investigation – and that it is open to disruption by alternative ways of performing that context. In some ways, this is similar to what the philosopher Gilbert Simondon refers to as "metastability" – a particular state of affairs is stable for it's present period but that equilibrium is more or less open to change that might come at any time. In such a form of spatial imagination we are asked not to think in terms of universal qualities but perhaps always partial and more specific states of affairs. On the other hand, a more-ontological less-ontic theorisation of the 'digital' or 'virtual' may take a given context of inquiry as an instantiation of potentially universalisable traits of experience. In this form of spatial imagination we are asked to think of essential categories of spatial experience.

Relations

A 'transductive' (epistemological) approach:

> 'thinking processes in which the terms of a relation cannot be understood as preceding the relation itself.'
>
> (Footnote in Daniel Ross' "Introduction" in Stiegler, 2018 p 271)



There is a danger with much ontology talk we encounter, especially in anglophone debates within geography, for the ontological category of the thing to stand, almost static, in place of the necessary engagement with what is encountered in the world. In this sense, to think 'transductively', I suggest, is to follow a counter-flow to the somewhat monolithic ontology talk that, for all of the post-structuralist/post-phenomenological appeals to vitality and the lively effervescence of the world, tends to fix things in catch-all concepts (such as 'affect' or 'neoliberalism') without getting into the messy work of engaging with the peculiar relations of the stuff of/under study. This is not to say those concepts are wrong per se, just that in relying upon the short-hand they afford we might actually ossify them – make the use of the concept inflexible and close down rather than open up lines of inquiry. To 'do' transduction then might involve more than merely pointing it out (of which I am rather guilty). I believe there is a way forward in this kind of deconstructive thinking not as yet another ontological manoeuvre of authority claims but precisely as an opening up, of critique/to critique. This requires us all (me included) to think about the kinds of norms of 'doing theory' that we assume and reproduce. Thinking relationally, unpicking the discursive connections, tracing the political-economic chains are all long-standing methods proposed across the social sciences, yet many of us still seem to revert to the normative authority of ontology – which, of course, grants us the ability to generalise.

Conceptual norms

We are negotiating understandings of how to 'go on' with concepts (Barnett 2017)

There is an ordinary politics to how we discuss and share our spatial imagination

"On the Internet, nobody knows you're a dog."

To think about and wrestle with our norms of doing theory does not mean to point out who is 'wrong' and 'right', I am certainly not arguing for the policing of theory, quite the opposite in fact. Following Barnett (2017) we can see how 'normative' is often thought of as a dirty word – denoting prescription and so treated as a synonym for power… but as Barnett (2017: 40) argues "Life is unavoidably fraught with ought". What I advocate, following Barnett, is that we should rather understand "norms" as implicit properties of practice. Thinking of norms of practice as ordinary features of everyday life shifts the meaning of 'normative' away from anti-normative approaches Barnett sees as prevalent in cultural theory. To negotiate our academic and non-academic normative practises of theorising spatial experience in relation to digital mediation, "the virtual" (and so on), is to work out how we might go on with concepts – how we might actively think with ideas in order to analyse and describe, to ask questions and theorise, about spatial experience.

Theorising

NOT about 'correct' theory
Rather: how to 'go on' with particular theories

I am not arguing that we should privilege one set of ideas over another. However I am arguing that we should take care over the concepts we use in order to analyse and ask questions about our spatial experience in relation to the complicated mix of technologies, infrastructures, policies, institutions and so on that we call media, 'the digital', or 'the virtual'.

There has been a trend to rotate through nouns, even proper nouns (e.g. 'the Internet' or 'the virtual'), to distinguish mediated experience. In part this is an understandable reaction to the rapid shift in the ways these devices and systems have changed and even been replaced. It might also be a case of claiming an authoritative understanding of these wide-reaching and transformative technologies – an example might be the current predilection to describe so much of the workings of digital media platforms as 'algorithms'.

(For further discussion see: http://www.samkinsley.com/2015/08/19/some-thoughts-about-how-algorithms-are-talked-about-what-it-might-mean-to-study-them/ https://www.researchgate.net/publication/320902874_The_Algorithmic_Imaginary_-_automation_and_stupidity).

It is not then a case of deciding which is the correct idea – whether we should prefer one of: 'mediation', 'digitisation', 'the virtual' over the others. Rather we should be asking ourselves – which of these ideas does some

work for me? Which ideas allows us to ask questions that reveal and not close off understandings of what is commonly understood as a fast changing and very diverse and complex set of sociotechnical policies, practices and politics? How can we 'go on' with ideas in order to reveal rather than close down the opportunities for analysis and discussion? This necessarily implies a more hesitant, perhaps more 'humble', way of theorising. Theories and understandings of space, I argue – as I think Doreen Massey did, should emerge from the midst of analysis and debate not be imposed as some kind of authoritative or 'authentic' shibboleth. As with any science, the theory we *work* with is (probably) our best current theory, not the theory for all-time. As Barnett (2017: 270) argues:

> "we should [also] avoid the temptation of thinking that following the train of thought that reject ideal theories … in favour of attending to expressions [of a phenomenon/context] is just a matter of declaring the priority of practice over theory."

What is at stake is "a shift in the understanding of the vocation of critical theory" (ibid.). We need not denounce one theory, as 'inauthentic', in favour of another (more authoritative theory), rather the task might be to attend to the conditions of reasoning and debate, in the widest possible sense (this is, of course, inclusive of 'non-verbal' modes of reasoning), through which forms of spatial understanding emerge and/or are addressed (or not).

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