



Thousand Pound Bend café is situated on Little Lonsdale Street just off Elizabeth Street in Melbourne's CBD. It is one of the more established cafés in the city quarter that eschews that makeshift retro-tech vibe while also championing weekend rag swap meets and event space hire. The Pound Bend Tunnel from which the café takes its name refers to a section of the Yarra River that was dramatically altered in 1870 by employing an old mining practice of diverting the flow of a waterway through an artificial cavity, effectively cutting off a significant section of the water course to mine the river bed for alluvial gold.



In this case the mining company tunneled directly through solid rock, quite an undertaking for 1870. Then again, the things we do for gold.

The café itself sits above the lower reaches of a major ancient waterway known to the Wurundjeri – the original Indigenous people of the area - as Birrarung. It was formerly made of considerable stretches of swamp, undulating land and wide waterways. The land protected and nourished the Indigenous people of the area and performed an intrinsic function in what was a shared relationship between the environment and its caretakers. Today it is mapped as the Yarra River a name derived from an aboriginal term 'yarra-yarro' meaning 'ever flowing'.



Water has always been a strong spiritual force for Australia's First Nations People. For the Wurundjeri it is a vital signifier for not only how Birrarung came to be but also how they managed and lived by the land.

(CLICK) It informed when they sowed their crops of yams, hunted wildfowl and fished for eel. It also governed when and where they conducted business between family groups and organized their seasonal migratory patterns.



A waterway still runs beneath Elizabeth Street, flowing out into the present day Yarra River's drastically altered configuration via a large cement drain below Flinders Street. When the wet really comes to this place they now call Melbourne – a stone and metallic grid overlaid upon the landscape – the water returns to the surface.



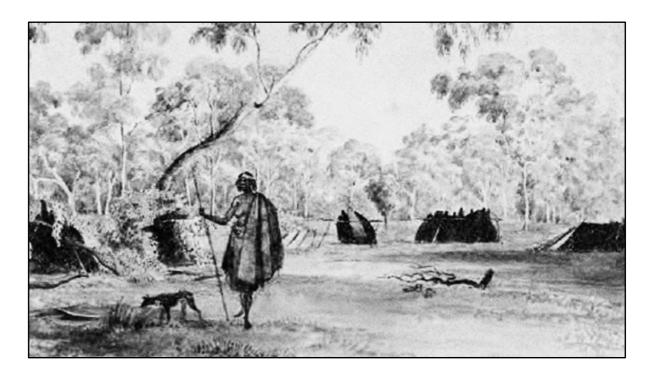
The historical sequence of events that lead to this other worldly configuration are largely invisible. The Melbourne Walks Guide for instance, developed by the Melbourne City Council, possibly one of the few texts a visiting guest might read when coming to the city, says glibly: "In 1835 John Pascoe Fawkner's 'Enterprize' sailed up the Yarra from Van Diemen's Land (Tasmania) to create a commercial settlement." The guide then concludes without acknowledging either the colonial agency of this change or the associated displacement of the First Nations People simply saying: "For the Indigenous people who had lived along the river for thousands of years the landscape would change forever."



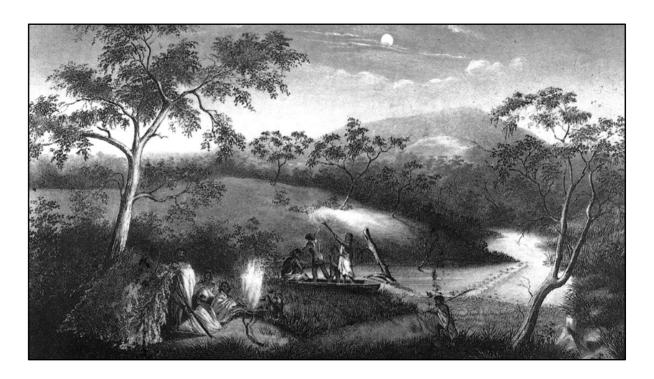
The Elizabeth Street waterway observed by Fawkner and his crew has indeed been dramatically altered, yet acknowledgement of its pre-contact history is rarely mentioned. Take this from The Argus newspaper in 1884 in which all Indigeneity and geological history has been erased:

"The creek was formed by a cattle track breaking the surface of the ground, and then floods flowing down the natural valley from the high ground on either side washing away the subsoil. The filling up of this gully was one of the earliest works of the City Council ... That was about 40 years ago. In those 40 years not only has the time come for the old watercourse, which used to be a danger to life and limb, to be replaced by an underground culvert of the most approved kind, but the land adjacent to it has in some cases been sold for a thousand times its original price." (The Argus, 1884)

Colonization not only negates the history, language and enterprise of the people whose land is colonized but the history and meaning of the landscape itself. It is a totalizing act.



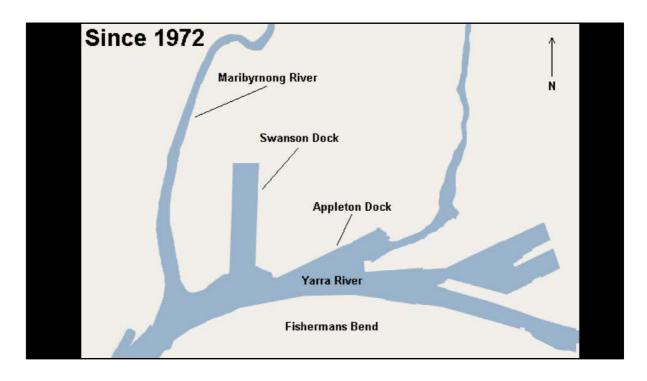
In terms of the waterways now consumed by the industrial intervention of modern Melbourne we can tell a very different story to the one that was published in the pages of the Argus in the 1880s. This is a narrative of community / of agriculture / of migration and of shared responsibility. The natural history of the area is one of human and ecological flows and exchange. The convergent flow of water is dictated by the seasons and the geography and therefore the migratory flows of its people by an intimate understanding of the relationship between the two.



Ten kilometres upstream from the mouth of Birrarung, far from the fingers of the subsidiary creeks fanning beneath Elizabeth, Swanston and Bouvarie streets, the river was divided by short rock shelf and a stretch of gentle, shallow rapids. The small falls divided the river into two sections: fresh water above, and salt water below. At low tide, there was a drop of around one meter. Here the fresh would cascade into the brine, forming a natural, reflective screen that the local Boonwurrung and Woiwurrung people routinely camped and met beside. Here was the boundary line of the two Kulin tribes, where a natural water feature constituted, in a contemporary sense, a vital public amenity. Here was the crossing-point between the BALLUCK country of the south side and the higher ground on the north. A feature that would come to determine the very site of the establishment of the colony of Melbourne.



The march of colonization across the Australian landscape changed much of this. The brutal treatment of the Indigenous peoples that had occupied and cared for these territories for tens of thousands of years, is only matched by the devastation wrought upon their ancestral homelands by the machinations of western Modernity. A landscape "forever changed" by the pillaging of the sub-surface for minerals, the exploitation of the surface layers via industrial agriculture and of course the permanent imprint of urban habitation and transportation infrastructure.



The reconfiguration of the lower reaches of Birrarung at Port Phillip Bay is indicative of this transformation in a manner that is comparable to the blasting of Pound Bend a century before yet on a hitherto unimaginable scale.

(CLICK) Here the re-shaping of the Yarra River is as dramatic as the emergent forms transportation and information exchange it was designed to support.



Swanson and Appleton Docks now carve large formal shapes into the landscape. Waterways become highways of capital, the shallows removed provide depth for product volume, the softness of the water's edge firmed up with concrete and steel. Life in the muddy flats and the tidal foreshore neutered by the mega-trends in global trade.



Containerization arrived in Melbourne in 1968, timed to facilitate the new standards adopted by the forebears of globalization and multinational corporate expansion. This was barely a year after the Australian referendum of 1967 to amend the constitution to formally count Indigenous Australians as part of the population. This successful amendment carried by 90% of the vote, gave the First Nations people citizenry rights in their own country, something denied to them during some 180 years of subjugation and erasure.

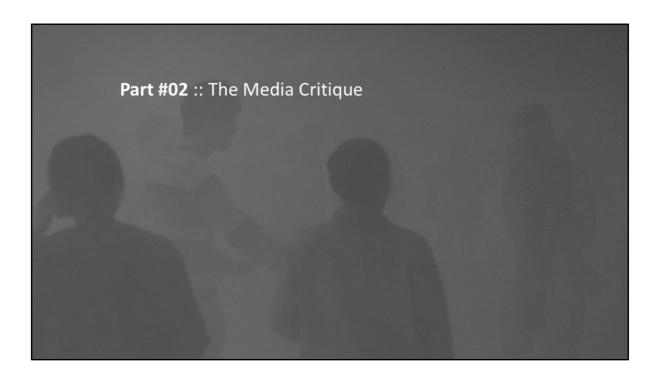
The consolidation of container shipping coincided with the emergent protocols of networked communications in the continental United States, however it would be another twenty years before a connection was established between the University of Melbourne and the University of Hawaii. Today virtual and physical information packets arrive and circulate in tandem.



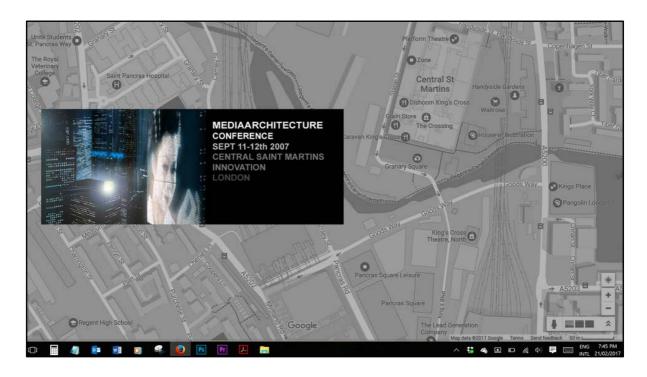
Federation Square, Melbourne's modern meeting place, is situated on the north bank on the upper side of the Birrarung falls, at the eastern end of where the rocky stretch with the gentle, shallow rapids ended. It is a public space defined by a large screen and the location where thousands of Melbourne's public assembled on February 2008 to witness the Australian government deliver a national apology for former assimilation policies that forcibly removed Indigenous children from their families to place them in the care of the state.

Of course, Federation Square is so named as a celebration of the establishment of the Federation in 1901 which was formed with a constitution that excluded Aboriginal people and which, by the end of the Federal Labor Party's brief period of administration in 2010, would be the subject of amendment proposals that would divide both broad public sentiment, and Indigenous communities across the continent to this very day.

While the screen at Federation Square is an obvious touchstone, this is indicative of several urban sites with difficult and ironic links to and power struggles between Indigenous communities and the "nation building" activities of Empire.



At the Media Architecture Summit in London in 2007, Malcolm McCullough gave one of those withering attacks on the concept of media facades not as a glorious progression of media architecture design but as another invasive form of visual noise in the urban space. Given the context it was quite a brave presentation, but he was invited and I guess he decided to let them have it. I did wonder after the fact whether the semiotics of the conference web banner had fuelled his dystopian vision.



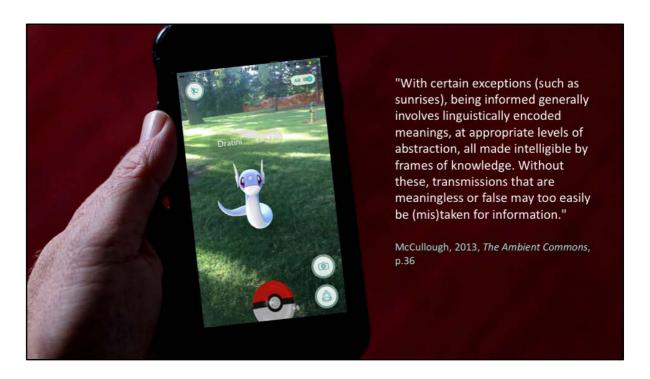
I certainly don't plan to be anywhere near as abrasive as McCullough but there was something that stayed with me from that paper – this notion of "perpetual overload". To avoid the city becoming a 404 page of dead links and dead media requires an acknowledgement of not only history but also the signification of place, image and text within new contextual spheres and new media platforms.

We must do this while resisting the temptation to overload new spatial territories with meaningless digital ephemera. Instead, we need to build a diverse set of community values into the virtual and physical ambience of the public commons. A media ecology of sorts that makes ethical use of lively data and gives meaning and value to the inhabitants of the land upon which urban spaces are situated - past and present.



We also have to be cognisant of the power relationships within emergent virtual platforms, such as those promised by Augmented Reality, and how we might resist them becoming yet another layer of colonisation and commodification. Device culture of course is a sensuous accessory to contemporary life and the allure of highend VR design practices will be the new providence of the commercial entities who have the means to invest in their design and development.

This repeats the cycle of exclusivity afforded design agencies who since the 1950s have aestheticized advertising media through their expert mastery of cinematography, graphic design and audio composition super-charging consumer culture in the process. Today we recognise this practice in the doctrine of 360 degree product marketing by hardware and software corporations who are designing interfaces, apps and devices that are addictive audio-visual objects. In (Re)Designing Affect Space Eric Kluitenberg shares McCullough's critique that this only serves to perpetuate "the incessant drive for continuous and repetitive intoxication 'by design'". (Kluitenberg, 2017)



McCullough felt strongly of course that information should be designed but that it should have an intrinsic value. It should have context and meaning and not act merely as a seduction or curio. He would later reference the information ethicist Luciano Floridi's definition of information as being 'true semantic content.' (Floridi, 2007). McCullough writes:

(CLICK) "With certain exceptions (such as sunrises), being informed generally involves linguistically encoded meanings, at appropriate levels of abstraction, all made intelligible by frames of knowledge. Without these, transmissions that are meaningless or false may too easily be (mis)taken for information." (McCcullogh, 2013 p.36)

These frames of knowledge and the value systems that organize them are changing, as network theorist Geert Lovink has pointed out, the 'social media abyss' does not create meaning but dilutes meaning (Lovink 2016) and in certain scenarios can create a net-negative knowledge space. (Allcott and Gentzkow 2017)



McCullough introduced the idea of 'intrinsic information' and its relationship to learned surroundings and our ability – or inability as it may be – to transmute meaning from mediated objects. There are lessons to be learned here, not only in terms of our cultural experience of intrinsic information, but also in terms of our ability to identify and adapt to changing digital literacy requirements. His fear is of an increasingly mediated urban environment that is substituting intrinsic informational structures that rely on knowledge and context – what he calls 'embodied information' – with an information space that lacks this symbolic interface. He writes:



"As new forms of packaged information arise, in ways that reduce cognitive load and that appeal to the senses, it seems important to uphold the importance of the intrinsic structure, and to find fascination with it. The unmediated world would suffice as the ambient, but only to those whose culture provided ample experience with intrinsic information, as reflected in street sense or traditional folklore ... Pervasive media could assume its form as a double, but in doing so it might mask it. Technologically dependent sensibilities become less inclined to notice much else." (McCcullogh, 2013 p.39)



Advances in media content authorship and modes of media production demand affordable spaces from which the sector can pursue innovation. Local governments need to see the potential of media production as a nexus of interdisciplinary practice that fosters new cultural forms, new zones of production and – if we consider the 'maker space' model – new mixed-use sites of manufacturing and habitation. These zones should be put in place for generations, if not indefinitely, to avoid the gentrification that has plagued parts of Melbourne, Brooklyn and elsewhere.

Understanding the maker narrative and how this might sustain an evolving creative media sector and the communities that support them should be a core component of the media literacy agenda. In a creative industries context, Carl Grodach has done some valuable work assessing arts clusters noting that while they "exhibit unique industry, scale and place-specific attributes," there is also evidence that they "cluster in 'innovation districts', suggesting they can play a larger role in economic development." (Grodach, Currid-Halkett et al. 2014) I would further posit that this extends to developing capacity within the community itself to effectively engage with emergent forms of media and culture. As media innovates so too must its audience.



Within the urban and information space in which we transit, work and gather it is the ritual of capital exchange that presents the biggest ethical challenge to the cultural atmospherics of the public commons. The current malaise of mostly semantic and predominately situationist screen-based media augmentation is a primitive biproduct of this exchange and the forces that continue to drive it. In this clash of media objects the economics of old media – advertising, data acquisition and content consumption – leak into new technological forms, themselves extensions of traditional media systems. This has created a base line that is at once impermanent and exploitative but can also lack imagination and resist democratization.



In this seductive hybrid screen space, Paul Virilio's notion of the broadcast 'image loop' becomes a hyper-loop of reflexivity: communication, commerce, navigation, documentation, worship, mourning, intimacy and surveillance become one. This screen dance is difficult to escape as nearly all of these modes are accompanied by forms of commercial broadcasting inserted into everyday activities and transposed upon everyday digital objects. And yet while such content has the perception of being intensely intimate it is interfaced – and often modified – by a rigid corporate aesthetic.

Ruppert, Isin and Bigo have noted this is producing a "reconfiguration of a series of fields of power and knowledge in the public and private accumulation of data" that are informed by our relationship to the technology of the networks." In this new framework of mediated power structures the "possibility of data that involve things (infrastructures of servers, devices, and cables), language (code, programming, and algorithms), and people (scientists, entrepreneurs, engineers, information technologists, designers)" when taken together are in the process of creating "new worlds." (Ruppert, E., Isin, E, & Bigo, D. (2017). Data politics. *Big Data & Society*, 4(2).)



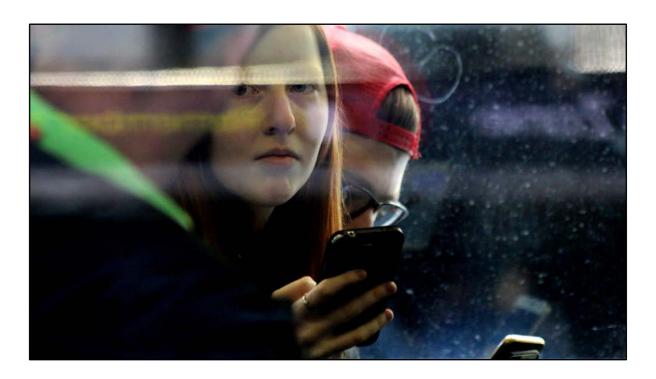
Obviously, in terms of basic functionality, this scaffolded interface - "planetary computation" as observed by Benjamin Bratton — is resetting the geopolitical architecture of the contemporary urban space and the role and reach of the State. This is also reconfiguring power dynamics within media production and media markets by providing new levels of agency at the extremes of platform tech: creator/maker communities at one end and traditional broadcasting and publishing at the other.

By superimposing new layers of culture, technology and economics upon the urban space will inevitably create new platforms and new paradigms. Bratton again:

(CLICK) "Cities become hardware/software platforms organized by physical and virtual interfaces, and strange new political subjects (some not even human) gain unforeseen sovereignties as the users of those interfaces." (Bratton, 2016, *The Stack*)



Of course this is extremely helpful for the core activities that we may conduct on any given day, such as communication and wayfinding, but in its current emergent form the pay-off of "the stack" firmly favours the service provider. The social then, in the "social media" lexicon at least is illusionary, it is an imaginary "freedom" feeding a global information grab for more and more data and cheaper content. It is this misreading of the media-loop that poses the biggest threat in the form of spatial, political and social disconnect. As Bratton warns, "how the Stack-we-have becomes the Stack-to-come depends on how well we understand it as a totality. By seeing the whole we stand a better chance of designing a system we will want to inhabit." (Bratton, 2016, *The Stack*)



Australians – like all urban dwellers built on colonial foundations – need to become more literate about Big Data and the interconnectedness of corporate information management and its disregard for both the agency of the past and the implications of present behavious. To peer out from under the stack would be to recognise that the corruption of power and the inequality of wealth and resource management making global headlines is not just someone else's problem. Isolation is no longer an option as the practices that are fuelling all manner of political shapeshifting around the world is fast becoming a local reality too. Indeed, our most shameful – and ongoing – policy of forced indefinite detention of refugees on remote Pacific Islands is a direct result of many of these inequalities and political and environmental conflicts.



Being globally conscious can help to create local awareness and to understand how political systems function at different times within different cultures. This can only hold true however if we have the tools and the awareness to validate the information, fact-check its origin and build an empathetic relationship with emergent narratives and new histories. This must be linked to an understanding of the interconnectedness of culture and community across time. Through technology augmentation and convergent data we can draw an intimate history of any given site – a meeting place, a waterway, a dip in the landscape. How these sites change over time through environmental, human and industrial forces is knowledge that can become part of a more nuanced form of urban media literacy. It may well be that virtual augmentation, new layers, new stacks can play a part in this recognition.



In Phil Gochenour's reading of Vilem Flusser's essay, *The City as Wave-Trough in the Image-Flood*, he notes that Flusser sees urban citizens in the information space not as "autonomous subjects who emerge into the public sphere in order to engage in a process of consensus; rather, Flusser sees systems of relations functioning to allow participants to discover the manifold subjects within themselves, the city as a dance of masks rather than as a parliamentary proceeding." Flusser's essay, written in 1988 well before Castells, describes the affect of the coming technological network as a relationship between the subject as a "knot" of interrelated "channels" of information that in turn facilitate the mapping of the network, not the other way around.

(Flusser, V. (2005). The City as Wave-Trough in the Image-Flood. *Critical Inquiry, 31*(2), 320-328.)



In *The City as Interface* Martijn de Waal poses a critical question: How does 'urban media' influence the way that the city functions as a community? We might find the answer in the notion of a collective narrative, one that shares the responsibility of engagement with media in a contextual space that is informed by local urban ecologies. This of course is in contrast to the commercial interface of new media networks and the logic of the neo-liberal project.



Currently, many augmented media object proposals are designed to perform the function of generating and maintaining the flow of capital (and by its nature the interplay and consequence of credit and debt). Through this proposed new interface, software applications and data analytics connect to and respond to the physical environment in the background - and the foreground – on our behalf in the service of capital. This is the hidden and relatively autonomous data layer of the new screen dance - a dance that is both seductive and distracting, that provides opportunities for access but also, when the credit runs out, a denial of service.

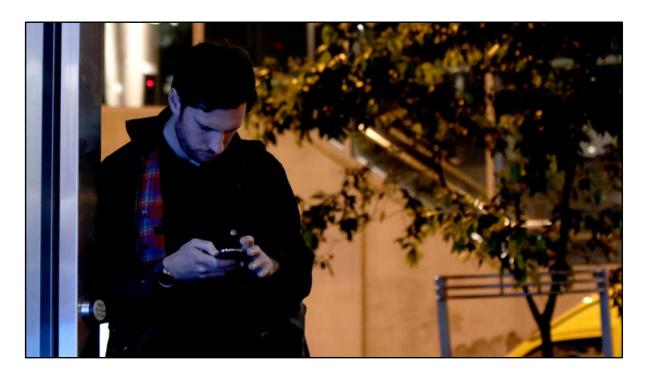


To avoid McCullough's dystopian vision we need to move away from this interplay of capital and information to something more intrinsic and more personal than the current confections packaged by Facebook, Google, Twitter and YouTube. Deborah Lupton describes the possibility of personal data assemblages, digital objects that can be useful for the identity and health of our urban communities:



"Human fleshly bodies interact with digital technologies and lively data to produce personal digital data assemblages (Lupton, 2016b, 2016c). These assemblages should be understood not simply as 'data doubles' (Haggerty and Ericson, 2000), which suggests a 2D shadow of an individual, but as 3D configurations. Rather than a static 'data double', these assemblages are constantly changing as new forms of data are generated and incorporated."

Lupton's intent is clear, to make "personal digital data and their circulations" and the context and use value of that circulation "more perceptible and, therefore, interpretable" to the citizens who generate that data. This will produce a more "lively data-set" that is dynamic, multimodal and dependent on streams that may be impermanent but can also become foundational.



We must recognise then this emergent complexity of place-making and identity marking both in terms of the active operant of screen design and the augmentation within the frame of that screen. This in turn demands a negotiation of individual context through the design of a more holistic virtual environments that are inclusive yet not exploitative that can, by design, resist the organisational networking influences of corporation and government.



The confluence of a lack of media literacy and the manipulation of media by invisible actors is putting into question the very nature of information authorship and exchange and the validity of the political process. Nowhere is this dichotomy playing out more starkly than below the surfaces of the screens we hold in our hands and in the augmented atmospherics of the publics.



Of course, this is indicative of the primacy of the device and our perception of screen media as a tangible knowable thing – after all it has been shared / curated / searched – but, as Nake notes, it is in fact algorithmic and a sub-surface construct from the network but lacking network protocols. Maurice Merleau-Ponty's writings on perception tell us that our experience of the instrument and – in this case, the illusion of – our manipulation of its internal structures makes the mobile screen a part of our physical sensibilities and by extension the digital a part of a conscious exchange. (Ponty, 1945) We see this everywhere, as the digital image as delivered by the screen becomes the referent rather than the sign that informs the narrative.



Early digital art pioneer, Frieder Nake, speaking at xCoAx16 in Bergamo, Italy addresses this idea of identity and masking by examining our relationship with the analogue of the device surface and the duality of digital media file beneath it. He describes this as a "surface-and-subface" relationship. Here the digital file is a shadow of the algorithmic structure it is based upon. Rather than providing clarity the data obscures. This not only scrambles the reality – indeed the origin – of the image from its context but strips it of its legitimacy further inhibiting our meaningful and ongoing relationship with the image.

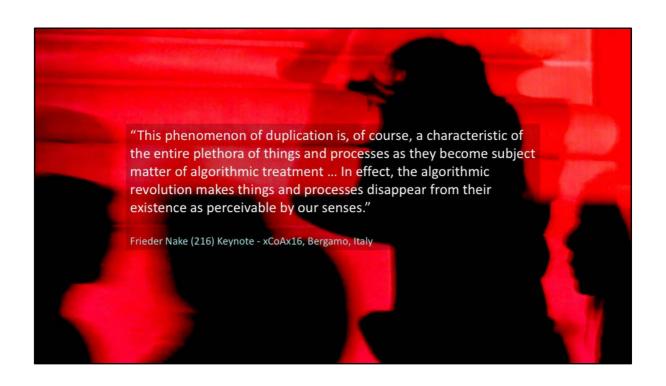


"Images as digital images are not visible... The image in postmodern times, in times of algorithms and computations exist in a double mode. I usually call it, algorithmic sign... We can deal with it as a digital image only if we consider it to be a pair of a visible surface and a manipulated sub-face. The surface is analogue, the sub-face is digital." (Nake, 2016)



The repackaging of information is not only a question of aesthetic manipulation and embellishment it is also one of verifiable data as media appropriated and repurposed for device consumption literally becomes a shadow of its former self.

As Sherry Turkle has observed, we "fall into" the simulation the screen becoming a vital reflexive space, a socio-cultural mirror that is at once personal and global – however flawed its semiotics maybe. The question is how do we overcome this perception and begin to understand that this is not a cybernetic connection with the source but a seduction by a duplication? (Turkle, 2009 p.50)



Frieder Nake (216) Keynote - xCoAx16, Bergamo, Italy



Within this double mode of the analogue and the digital, we have what some might call an evolved intimacy. Friends and family traverse time and space, presence exists as a luminescent - if shadowy - embodiment of a surface physicality somewhere close yet also somewhere far away. Networked media is a reflection of this virtualised evolution of the human condition. Donna Harraway's "data doubles" are now building communities of knowledge and associations of emotional trust that oscillate between platforms, knots and pathways. All the while we crave digital intimacy accepting the inadequacies of the systems we find ourselves wedded to yet somehow grateful for the convenience it affords us.

How can we create the conditions for the emergence of new ethically and civically minded systems, platforms, and producers?





Perhaps the technical and cultural foundations of the answer to that may already be emerging:

- Traditional owners at Anthwerrke, also known as Emily Gap, in the East MacDonnell Ranges of Central Australia are using an interactive visitor app to teach tourists about their culture.
- Layers of London is a mapping project that will bring together digitised heritage assets provided by key partners across London and the public to create an navigable look back into time.
- Kaiadilt elders in Australia's far north are working with a linguist on Mornington Island to develop a language app to preserve their culture and help educate younger generations of Indigenous children about their language.
- The Centre for 21<sup>st</sup> Century Humanities is developing the Colonial Frontier Massacres in Eastern Australia 1788-1872, which maps the brutal murders of thousands of Indigenous people across Australia since the arrival of the English.

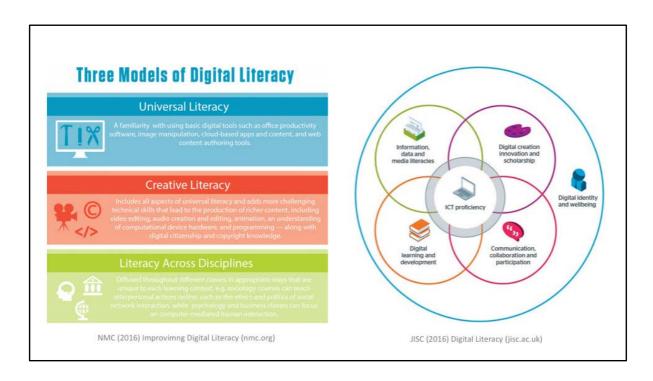
- Montreal's Citi Memoire project blends augmented reality with situational large scale projections to tell the story of the city's 375 year history (http://www.montrealenhistoires.com/en/cite-memoire/)
- Museums and galleries are becoming increasingly sophisticated in the way they provide expert guidance and supplementary content to visitors and to create virtual off site experiences of their collections for students and scholars.



What we also need to think about is how can we design experiences that build digital literacy for the citizen user in situ with apps, with AR, with contextual audio-visual ephemera. This really should be a component of community and civic engagement.

We especially need to give more thought to the plight of students in our colleges and universities, who in many ways are emergent experience designers and manipulators of data.

We need to think hard about their role in the mediated publics in terms of the governance of urban space and the mediated environment when everything – for everyone – is potentially a screen space. What does this future look like and how will our graduates navigate it and help define it?



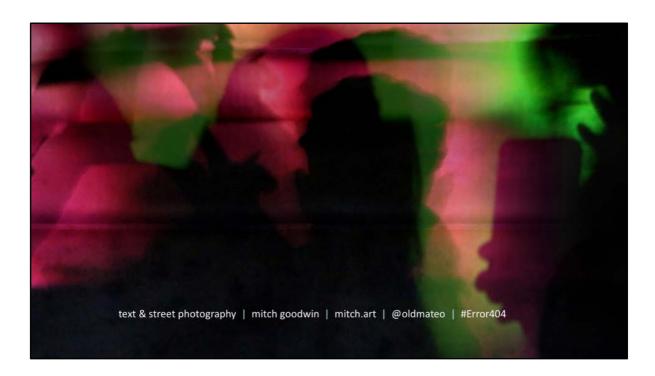
There are many programs underway at universities that look at digital scholarship and emergent forms of digital humanities research yet implementation of media literacy in the digital literacy context has been slow - especially at larger more traditional institutions.

- How are we inserting media literacy the production of media into forms of digital scholarship, especially in the humanities and social sciences?
- How are our higher education systems teaching data research, data literacy and data ethics?
- How are we preparing students to be entrepreneurial and sophisticated users, developers and critics of media environments?
- What are the new communication design methodologies appropriate as a base line for graduates?
- What is happening with our assessment design and how does this look against an evolving work place?
- How do students interface with industry and community to bring to bear critical thinking skills, ethical approaches to data and notions of equality and civil responsibility for an intensely mediated future?

We need to ask ourselves, as educators and as researchers, some hard questions of our teaching practice and the disciplines into which we teach:

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Digital media literacy skills are therefore not just the business of media and communication studies, or cultural studies, or the political sciences. The new normal of digital media literacy has relevance beyond the humanities and is applicable in medicine, law and education.

As an educator who has taught for nearly twenty years across many disciplines from the creative arts to communication design and now the humanities, I have very real concerns for the adequacy of the provision of education in this area. Students coming into the University system expect more and our graduates deserve better.

We have to ask ourselves, how well are we preparing the contemporary student who is facing a very volatile employment market during times of extreme political and environmental uncertainty?

After all, this is – as Benjamin Bratton would say – the "new normal". Shifting layers of power jostling against one another for ascendency and legitimacy upon a shifting media stack – a planetary game of shadows.

(CLICK)