Introduction to Visual Networking

The visual is becoming increasingly central to thinking across a range of disciplines. Our awareness of the impact of the image in thinking, communicating and being is increasing as theoretical positions on the role of the visual in a range of areas become increasingly sophisticated. In research, the visual is emerging as central to a variety of methodologies dealing with ethnographies, with spatial relations, with capture of environments, and with cognition.

Russell Tytler, Professor of Science Education, Deakin University (2012)

Why ‘visual networking’?

Imagine this information future. You are sitting on your couch in your home. In front of you is a blank white wall. There is no flat-screen television on the wall. There is neither an iPod docking station nor surround-sound speakers. There is no art on your walls around you. This is not, however, sensory deprivation. Implanted into your retina is a microchip that allows for ‘big data’ processing. At your voice command, you pull up an interactive television program that you see as a holographic image in front of your eyes. Simultaneously, you open both your Facebook and Twitter feeds. You multitask across all three ‘screens’ while using apps to decide what clothes you should wear on your date tonight and to search for a good place to eat. You don’t need a real screen because it is all there in front of you—seen by the eye and processed in your mind. This scenario is no longer the storyline for science fiction novels: the technological capacity to realise this networking potential is rapidly developing. Smaller chips, big data, cloud storage and user familiarity with multitasking across screens is making this a possibility. This is not sensory deprivation—this is visual networking.
Russell Tytler believes that visual images are increasingly central to thought and communication in our lives generally (Tytler, 2012). Tytler argues that the central place of the visual is confirmed by increasing access at an early age to online images:

Vision is the sense that we most use. We live in a world of light. Along with speech/language (not discounting haptic ways of knowing), the visual is the major mode through which we think and communicate. Many of our metaphors for cognizing are visually based.

Recent research by Australian artist and Professor of Cultural Studies, Helen Grace (2014), suggests that ubiquitous media (YouTube, Flickr, Twitter, Instagram, online news via mobile media, and films on demand, among multiple others)—together with user-created content (UCC)—launch a new perception of the world that can be called ‘particulate vision’. This involves a different relation to reality that better represents the atomisation or fragmentation of contemporary experience especially apparent in social media. For Grace, when spontaneous decisions are made to capture objects and events deemed worthy of attention as a visual image (via camera phone or the like), a certain everydayness is produced that is far from meaningless or shallow. The author argues against the negative proposition that random picture taking and sharing are no more than forms of attention-seeking. Instead, Grace poetically presents the captured digital image as the user’s thought or impression of a feeling at a particular moment in time, from which a more meaningful world might be imagined if our thoughts are able to ‘wander’ (or circulate) far enough.

Many years earlier, James Jerome Gibson, best known for his theory of visual perception in his classic work *The Perception of the Visual World* (1950), presented a view on the central role our senses play in helping us perceive the world around us—that we might possess an immediate awareness of the possibilities afforded by environmental objects (Gibson, 1950: 198):

Our own experience of the visual world can be described as extended in distance and modelled in depth; as upright, motion-less as a whole, and unbounded; as colored, textured, shadowed, and illuminated; as filled with surfaces, edges, shapes, and interspaces. But this description leaves out the fact that the surfaces are familiar and the shapes are useful. No less than our primitive ancestor, we apprehend their uses and dangers, their satisfying or annoying possibilities, and the consequences of action centering on them.

Importantly, both haptic sense (touch) and speech/sound are accorded significance, but more and more visual media—such as digital television, cinema, the internet including social media, surfaces such as iPads and iPhones, games, other virtual worlds and advertising—come with an increasingly sophisticated language of the visual.¹ It is the act of pursuing the visual that is at the heart of visual networking, and how the visual affords thinking beyond a
single image to imagine or do something else. Indeed, we are in the middle of a digital visual revolution.

The concepts and terms used in this area are frequently contentious. Establishing a precise definition of reality is a case in point. The notion of ‘reality’ (and what is real and what is not) has multiple meanings and understandings based on one’s upbringing, culture and other psycho-social factors. That is, individuals interpret the world around them using their own unique understanding of the world or schema. Therefore, it is reasonable to argue that the notion of the visual sense being supreme might be contested, along with the ideas presented here as visual networking. Loader (2007), for example, has pointed to media theorists Neil Postman and Jürgen Habermas, who have argued that ‘the televisual media have a negative impact upon the democratic sphere by privileging the visual image over text’ (see Loader, 2007: 9). Whether or not this is a fair claim, this book will further the debate on the centrality of ‘the visual’ and ask critical questions about:

- What constitutes ‘new media’?
- What are the purposes to which they are put?
- What effects follow and for whom?

This work uses the term ‘visual networking’ to describe and critically discuss contemporary use of digital, screen and communication technologies in society, as well as the effects and affects. It moves away, however, from terms like ‘new media’ or ‘new, new media’ (for how long does or can new media stay ‘new’?) because the terms do little to convey a consideration of how the technologies are new. In Kember and Zylinska’s (2012: xv) work, Life after New Media: Mediation as a Vital Process, the authors emphasise that they were less motivated to move the debate on new media, but rather ‘in moving on from the debate on new media’. And in doing so, they argue that the better focus is on the process of mediation, where:

Mediation does not serve as a translational or transparent layer or intermediary between independently existing entities (say, between producer or consumer of a film or TV program). It is a complex hybrid process, which is simultaneously economic, social, cultural, psychological and technical. Mediation, we suggest, is all-encompassing and indivisible.

Mediation is a respected theory advanced by numerous scholars with the intention of ‘capturing’ our wider engagement with media forms (see Altheide and Snow, 1979; Silverstone, 2005; and discussion of the term by Nick Couldry, 2012: 134–7). For Couldry (2012: 134), the better term is ‘mediatization’:

Since the term ‘mediation’ has many meanings ... (from the act of something being shown in media, to the intermediary role that money and transport, for example, play in society), there is a clear advantage in agreeing on a more distinctive term for use [and] ‘Mediatization’ has emerged as that term.²
Andreas Hepp (2013: 38) argues that the terms ‘mediation’ and ‘mediatization’ do capture different aspects of media use in everyday life, but need to be used together for a greater, holistic understanding of attitudes and beliefs surrounding media reception and use:

While mediation is suited to describing the general characteristics of any process of media communication, mediatization describes and theorizes something rather different, something that is based on the mediation of media communication: mediatization seeks to capture the nature of the interrelationship between historical changes in media communication and other transformational processes. Hence mediatization presumes mediation through media communication. Consideration of processes of mediatization is conducted at the level of ongoing processes of transformation which, in each particular instance, are associated with a variety of specific mediations through media communication. Hence it is not a question of whether we need to use ‘mediatization’ or ‘mediation’ in our approach to contemporary media cultures. Instead, we need both of them, since they relate to different things.

At an earlier point, Nick Couldry introduced the term ‘media manifold’ (2011: 220) to describe the expanding media environment. Like Ien Ang, who explored the notion of ‘what it means, or what it is like, to live in a media-saturated world’ (1996: 72), Couldry (2012: 16) outlined what he perceives as ‘waves of media saturation’ in society—the unsatisfactory precursor for the term ‘media manifold’:

These recent waves of media saturation are cumulative, making the term ‘saturation’ inadequate. Media has the type of sedimented complexity that a landscape does. But how saturated by media each person’s world is—how actively people select from the media landscape available to them—remains uncertain.

Select from or use what exactly? Built on top of what Henry Jenkins [2006] notes is a still limited range of basic media, we now experience a media manifold, comprising a complex web of delivery platforms, behind which lies the effectively infinite reserve of the internet. The media manifold is something we can all imagine, even if it actuality is uneven, because all media are already—or are on the way to becoming—digital, convertible into information bits of basically the same type. The installation of internet access as a basic capacity of many devices (fixed and portable) means that we increasingly use a connected range of media rather than single media in isolation.

Other theorists continue to grapple with finding an appropriate term. The most suitable for anthropologists like Mirca Madianou and Daniel Miller (2013) is ‘polymedia’, used to define the ways that interpersonal relationships are experienced and managed through different digital media. Through a comparative ethnographic study of how Filipino and Caribbean transnational families purposefully use digital media for communication, Madianou and Miller (2013: 170) argue that ‘the profound transformations in the usage of increasingly
converged communication technologies has implications for the ways interpersonal communication is enacted and experienced’. This term is, however, inadequate for Couldry (2012: 16), who sees ‘polymedia’ as running the risk of ‘signifying a mere plurality’ as opposed to engaging with the necessary ‘linked configuration of media that is crucial’. In other words, media practices depend on the complex competencies and arrangements of human bodies, technologies, non-human organisms and other material things that afford opportunities for (among other activities and understanding) work, learning, information creation and retrieval, entertainment and socialising (on the reconfigured understandings of mediation, see also Rodgers, Barnett and Cochrane, 2009; Shove et al., 2007; Reckwitz, 2002).

Returning to the notion of visual networking in this book, it can be argued that it has the same provenance as ‘mediatization’ and is situated in the context of ongoing vibrant mediation; however, ‘visual networking’ as a term also expresses pleasurable and functional activities across social, cultural and technical environments (including our social networks and other interpersonal communication at the level of the individual, as well as more broadly in ‘smart homes’, the management of transport, ‘smartgrids’ for power, e-government and the like). Common to terms outlined above, however, is the focus on media: new media, media manifold, media ecologies, mediation and mediatization, among others, clearly demarking ‘media’ as the focal point and thus seeming to render the important role of the individual as secondary. Manuel Castells’ (2000) broad term ‘network society’ is better, but it does not encapsulate the personal–human element that largely drives us—and that is our visual sense (see also Castells & Cardoso, 2005). Moreover, while we might be part of a ‘digital network’ for social reasons, we are not predominantly connecting to people we don’t know in cyberspace as cyber-libertarians predicted we would.

The early technological utopianism (techno-utopianism) saw the characteristics of a virtual cyber-culture begin to flourish during the dot-com era of the 1990s, particularly in Silicon Valley, California. The notion of techno-utopianism was premised upon a set of beliefs that stemmed from the 1960s’ counterculture movement, including bohemianism and anti-authoritarian attitudes, together with support for more recent libertarian economic policies. This ideological position understands communication via the internet as having arisen not to fulfil a need of any governing body, but merely by the enthusiasm of computer scientists in the late 1960s and 1970s as part of their own experimental life quests. Techno-utopian visionaries such as Nicholas Negroponte (Being Digital, 1995) and George Gilder (Life after Television, 1994) might have been inspired by theologian, scientist and philosopher Pierre Teilhard de Chardin, who was keenly interested to discern the future and, according to Jennifer Cobb Kreisberg’s 1995 article for Wired magazine, probably pre-empted our contemporary communications environment when he wrote in 1949 (p. 110): ‘[A]ll around us and right under our eyes, a process of great importance is going on. It is favoured by the sudden multiplication of ultra-rapid means of travel and transmission of thought.’ Years later, the computer made it to the desktop for the purposes of business and leisure, and the natural
graduation from stand-alone personal computers (PCs) to the networked PC was possible simply by connecting a modem to one’s computer and to a phone line. The development of the internet within the university sector encouraged technologically oriented communities to develop over time and across vast geographical distances on the basis of similar interests, breaking down the barriers of distance in interpersonal as well as business communications. Marshall McLuhan (1968) argued that media communication could provide the opportunity for a planet-wide effort to solve urgent problems relevant to all communities, with the result that they might be unified into the global village of the information age. Also envisioned was the possibility of a phenomenon best described as a ‘hyper-hectic flow’ associated with a digital revolution and electronic expansion of the mind, resulting in a qualitatively new kind of communication in the flow of information (Vladyková, 2013: 246). According to this position, life moves away from having prevalence in the physical world into the imaginary digital world where the main motto is ‘information wants to be free’ (Brand, 1984).

For John Perry Barlow, a US cyber-libertarian and former lyricist for the rock band the Grateful Dead (formed in 1965 in Palo Alto, California), the early days of the internet were like setting up camp in the Wild West. He describes (Barlow, n.d.) the reasons for his journey to the ‘electronic frontier’ and what affected him, an interpretation that would be later tempered with time:

I believe the combination of television and suburban population patterns is simply toxic to the soul. I see much evidence in contemporary America to support this view.

Meanwhile, back at the ranch, doom impended. And, as I watched community in Pinedale growing ill from the same economic forces that were killing my family’s ranch, the Bar Cross, satellite dishes brought the cultural infection of television. I started looking around for evidence that community in America would not perish altogether. I took some heart in the mysterious nomadic City of the Deadheads, the virtually physical town that follows the Grateful Dead around the country. The Deadheads lacked place, touching down briefly wherever the band happened to be playing, and they lacked continuity in time, since they had to suffer a new diaspora every time the band moved on or went home. But they had many of the other necessary elements of community, including a culture, a religion of sorts (which, though it lacked dogma, had most of the other, more nurturing aspects of spiritual practice), a sense of necessity, and, most importantly, shared adversity. … Then, in 1987, I heard about a ‘place’ where Deadheads gathered where I could move among them without distorting too much the field of observation. Better, this was a place I could visit without leaving Wyoming. It was a shared computer in Sausalito, California, called the Whole Earth ‘Lectronic Link, or WELL. After a lot of struggling with modems, serial cables, init strings, and other computer arcana that seemed utterly out of phase with such notions as Deadheads and small towns, I found myself looking at the glowing yellow word ‘Login:’ beyond which lay my future …
This 'space,' which I recognized at once to be a primitive form of the cyberspace William Gibson predicted in his sci-fi novel *Neuromancer* [1984], was still without apparent dimensions or vistas. But virtual reality would change all that in time.

Howard Rheingold, author of *Virtual Reality* (1991) and *The Virtual Community: Homesteading on the Electronic Frontier* (1993), also described a perceived sense of community evolving from the internet (Rheingold, 1993: xvii):

People in virtual communities use words on screens to exchange pleasantries and argue, engage in intellectual discourse, conduct commerce, exchange knowledge, share emotional support, make plans, brainstorm, gossip, feud, fall in love, find friends and lose them, play games, flirt, create a little high art and a lot of idle talk. People in virtual communities do just about everything people do in real life, but we leave our bodies behind. You can’t kiss anybody and nobody can punch you in the nose, but a lot can happen within those boundaries. To the millions who have been drawn into it, the richness and vitality of computer-linked cultures is attractive, even addictive.

Such techno-optimistic accounts were soon tempered by dystopian counter-opinion. As the initial use of text-based systems allowed users to conceal their age, sex and racial backgrounds—a practice that continued even with later use of digital images—online interpersonal communication was negatively affected. MIT Researcher, Judith Donath (1999: 27) noted that:

Identity plays a key role in virtual communities. In communication, which is the primary activity, knowing the identity of those with whom you communicate is essential for understanding and evaluating an interaction. Yet in the disembodied world of the virtual community, identity is also ambiguous. Many of the basic cues about personality and social role we are accustomed to in the physical world are absent.

This anonymity of communications produced its own problems. Critics of virtual communities were concerned that anonymous communications encouraged predatory behaviour and internet ‘stalking’. Such unease also raised questions of how one arrives at a perception of rational communication in a globalising, liberalising, decentralising, converging world of media sound bites, manufactured personalities, commercial-political propaganda and artificial lifestyles. The additional disquiet about electronically enabled global surveillance for the possible suppression and control of citizens continues to loom large (Bauman & Lyon, 2013; Fuchs et al., 2012). Raised as an issue of some concern in 1967 by privacy expert Alan Westin, and still most relevant in contemporary times, was the important understanding that privacy is ‘the claim of individuals, groups or institutions to determine for themselves [emphasis added] when, how, and to what extent information about
them is communicated to others’ (Westin, 1967: 7). In summary, a Western concept of privacy is understood as a ‘right’, a ‘value’, an ‘interest’, a ‘claim’, a ‘power’ and a constellation of such in a universe of concurring and competing values. Sitting somewhat uneasily against such notions of privacy is that it is routine for the likes of Amazon and Google, among many others, to record which web pages are looked at and for how long, and where you went before and after visiting a site. This is done with the use of codes that most websites use to track visitors called ‘cookies’. They represent a way of watching consumers, often without their consent. For Brown (1997: 168), the effects of such technology and practices on the broader circulation of ideas in the information space mean that:

At this phase in our evolution, government is no longer the main threat to democratic pluralism and a free flow of ideas. The developed world lives instead under a subtle tyranny of instant opinion polls, media tycoons, and subservient political hacks. The information space, of which the internet remains a relatively small (and rapidly commercialising) galaxy, has been captured by business empires whose programs are too often antithetical to the interests of human society at large. What’s more, citizens now face the added danger that it has become technically possible simultaneously to control the avenues of message distribution as well as the content of the messages themselves: in short, to powerfully condition the entire public information domain. The equivalent, in the days of pamphleteering, would have been a situation in which one self-interested minority in society simultaneously owned the pub, the public markets, and squares, plus the printing presses, and also employed most of the people who generated text.

What is to be drawn from this is that an economic order for media creation, storage and dissemination has been challenged and modified by the networked capacity of the internet (see Castells, 2000) and the more recent practice of cloud computing. That order was formerly characterised by the exertion of power over the distribution mechanisms by content providers, due to the ‘scarcity’ of distribution channels for high-quality, popular content—as well as the high cost of entry into a market. For example, only a limited number of television or radio networks (also constrained by national regulation) possessed the production and distribution capacity to broadcast a television program or radio show to a mass audience. The same issue of scarcity applied to the print industries. Video streaming and downloading technologies, however, have restructured how media content is created and accessed. Lower costs and diminished barriers for access have multiplied the number of media companies and the markets they have access to, thereby presenting a challenge to the hegemony of legacy media players. Precisely because there is no longer comparative scarcity for communications means that there is the capacity and space for user-created and disseminated content.

More than four decades ago, Alvin Toffler (1970) used the term ‘prosumer’ when he predicted that the role of producers and consumers would begin to blur and merge. Don
Tapscott used the term ‘prosumption’ (production + consumption) in his 1995 book *The Digital Economy: Promise and Peril in the Age of Networked Intelligence*. Australian researcher Axel Bruns (2007: 6) has employed the term ‘produsers’ to describe participants in interactive spaces who engage with content interchangeably in consumptive and productive modes—often at the same time. Recently, Helen Grace (2014) has used the term ‘user-created content’ (see also ‘user-created information distribution and sharing’ by Cinque, 2012a: 13). What is undeniable is that the top-down flow of information from a few companies to a mass audience opened up to include user-created information distribution and sharing. What Brown made clear in the quote above is that the internet is by no means a general panacea because large companies such as Rupert Murdoch’s News Corp have the resources to create quality content and distribute it globally via their own networks, thus competing with smaller, local operators. There has, however, been a transition from such content distributors as Viacom and News Corp to content aggregators such as Amazon, Google, Netflix and the like.

There is an idea that the internet does, nonetheless, have the potential to be a democratising force, not only in countries where civil and political liberties are denied or deficient, but also in states where freedom of speech is recognised as a fundamental civil right. The internet has the essential characteristics of the ancient Athenian agora (or public sphere) by making possible a wide range of cultural, social, commercial and political activities at local and global levels. As Brown (1997: 169) stated, ‘[I]t is often said that the networking technologies could potentially be mobilized to revive such a civic consciousness. They could be configured to encourage “spaces” of public assembly, deliberation, and debate, where citizens could relearn the arts of persuasion (which requires that individual opinions be justified by an appeal to the common good)’. While Rheingold (1993: 118) was one of the first to argue that the internet is an ‘anarchic, unkillable, censorship resistant, aggressively non-commercial, voraciously growing conversation among millions of people in dozens of countries’, Brown questions these assumptions: ‘[N]oncommercial? Anarchic? No way! For one thing, the launch of the internet, and its remarkable rise into the high-flying reaches of business development, was initially triggered by public funding. Now it is managed by a group of telecom companies. Its continued operation depends not only upon their physical infrastructure but upon a distinct software protocol as well’ (Brown, 1997: 180). Other critics also see the ideals of cyberspace as illusory. Robins (1999: 166) established a number of years ago that interaction with like-minded people in a virtual realm represents a withdrawal from, and avoidance of, the wider problems of the physical world. For Chenault (1998), however, it remains inconceivable that people leave their foibles at the ‘cyberdoor’; rather, they are more likely to take their real-life problems and personalities to their virtual lives.

The continued gravitation of cyber-users to social networks (née virtual communities), however, indicates that traditional ways of interacting with one’s community are changing. While cyberspace has deficiencies, it has been able to bring individuals together as groups in new ways to organise, access and exchange information and data, and to participate
in democratic processes. The internet offers the potential for individual and collective empowerment at local and global levels, particularly for those in the margins of society, the unconventional, and those under authoritarian or repressive rule. The internet arguably provides individuals and groups with the means to access and address large audiences without the current requisite ownership of print, radio or television networks—something that legacy media organisations have feared. With basic keyboard skills and connection to the internet, via an internet service provider (ISP), wireless access at a cyber-café or a library connection, individuals can become virtual publishers, webcasters or user-creators from their own simply created weblog, YouTube clip, Twitter feed, Instagram image or Vine video. As Rheingold (1994: 14) forecast, the political significance of new electronic technology ‘lies in its capacity to challenge the existing political hierarchy’s monopoly in powerful communications media, and perhaps thus revitalise citizen-based democracy’. The key questions addressed by Poster (1997) are who populates the virtual public sphere and how—both of which have significance for this study. While the internet medium does, to some extent, allow for the utopian vision of a free exchange of information and data in various forms, unencumbered by traditional restraints such as vetting by editors, legislators and regulators—this has begun to change. The nature of ‘community’ online might also be contested anew.

Returning to the earlier analysis of who we connect with online, current research now demonstrates that our virtually linked friends are predominantly those we already know and are part of our physical community, as opposed to people we don’t know (see the early work of Lampe, Ellison & Steinfield, 2006). Arguably, then, the idea of a virtually physical utopian society of people who only know each other through their shared interests is, in contemporary times, more akin to the various social and business networks in the physical world. Returning to the search for an appropriate term of reference, this work suggests that the term ‘social network’ is inadequate because users do much more with the technology, such as working, shopping, banking, playing, being entertained and educated, and so on. Closer still is the very specific use of ‘visual networking technologies’ by Annmarie Chandler, Ellen Baker and Tom Fisher (1999: 140) to refer to a technical system of operations within the film industry: ‘[S]ome companies were trialing video conference systems, others were using computer-based technologies linked to networks that could transmit moving images’. Technology companies such as Cisco Systems Inc. and Hewlett-Packard (HP) use the term similarly with reference to the global growth and use of internet protocol networks worldwide and better use of video exchange for video conferencing.

In looking for something more meaningful with the intent not to simply describe a technological system, this book adopts ‘visual networking’ as the concept to encapsulate our visual motivation and consequent interaction with technologies and the carriage that lies behind them. This is done with consideration given to our visual sense and our active individual agency when engaging with interconnected digital technologies across a range of ever-changing platforms. The notion of ‘individual agency’ here refers particularly to the
‘ability of people, individually and collectively to influence their own lives and the society in which they live’ (Germov & Poole, 2007: 7). Visual networking, then, is not a term used here to simply classify any group of technologies but rather to engage meaningfully with what we are doing within them in contemporary settings. The capacity to build upon and systematically pursue the momentum of new media studies to further address the important questions of the significance and value of visual networking in contemporary society will allow for the development of robust conversations on ways forward.

Design of the book

The rationale for this book first is to introduce students and interested readers to the underpinnings of what has now become visual networking, which is so pervasive that we take it for granted. By way of concentrating research debate and critical analysis around the concept of visual networking, this book will circumnavigate the significant implications of living in a contemporary information-based society. The intention of this book is to add fresh critical thinking on the effects and affects, respectively, within society and for individuals more specifically by extending the limits of conventional media studies. This book explores the intersections between social media, legacy media and communications with other studies in history, statistics, privacy and surveillance, public policy, media law and economics. This will encompass a critical overview of the processes of globalisation, convergence and digitisation and the resulting interaction with data and information. The intention here is not, as suggested by Kember and Zylinska (2012), to move away from or move on from what has become over the past decade ‘new media studies’, because understanding the foundation consisting of the respective processes is important to giving consideration to, and making sense of, their contemporary impact on traditional media formats including television, film, music and journalism. This book will not, however, provide discrete chapters dedicated to each of the traditional media in favour of acknowledging their historical importance briefly as precursors of the contemporary media industries of today. This historical work has already been done in some depth. The changing media landscape is the greater focus.

A central argument developed in this book is that there are four key interrelated drivers of visual networking at play:

1. politics (government and policy as a driver)
2. economics (digital media industries as a driver)
3. technology (research and development as a driver)
4. society and culture (including children, early adopters, teleworkers and grey gamers).

Through considering internationally published research, the approach presented here is demonstrated to have a wide range of applications in media and communications studies,