1

The History and Future of Ideas

False facts are highly injurious to the progress of science, for they often endure long; but false views, if supported by some evidence, do little harm, for every one takes a salutary pleasure in proving their falseness: and when this is done, one path towards error is closed and the road to truth is often at the same time opened. (Charles Darwin 1871: xxi)

Part I: Reading Digits

Reading, which was in decline due to the growth of television, tripled from 1980 to 2008, because it is the overwhelmingly preferred way to receive words on the Internet. (Bohn and Short 2010: 7)

Media and cultural studies grew up in the era of the press, broadcasting, mass consumption, and national popular culture. Were these innocent novelties, harmless entertainments for suburbanizing workforces and their nucleating families? Early cultural and media studies thought not. Media consumption and everyday cultural practices were beset on all sides by darker forces that seemed to be exploiting the pleasure-seeking consumer for quite different ends, both political and corporate. Given that the mid twentieth century was the high water mark for totalitarianism in politics as well as capitalist monopolies in the media marketplace, it is no wonder that cultural and media studies were founded in suspicion of those who

own and control the media. As a result, media and cultural studies readily took over from communication science and cybernetics a model of communication that seemed to express this structurally opposed and even antagonistic difference between producers and consumers. This was the linear 'sender → message → receiver' model, made famous by Claude Shannon (1948). It placed producers at one end, consumers at the other, and causation as an arrow going one way only, as 'information' is sent from active agent to passive receiver.

It is easy to see how this model can be used as a metaphor for communication through the media. The 'sender' may be a capitalist corporation or a state; the 'message' may be propaganda, for consumerism, capitalism, or communism; and the 'receiver' is a passive individual, often feminized as 'the housewife,' reduced to 'behavior' rather than self-motivated action. Thus, there is room for duplicity and deceit at each link in the process. The producer may have hidden motives; the message may have hidden meanings; and the recipient may be made to behave in ways that he or she would not otherwise have chosen (media effects). Although such a model of communication has been criticized and reworked many times over the years, it still has a commonsensical hold over much work in the field, and also across government policy, corporate strategy, and community engagement in relation to popular media and culture.

With the emergence of digital, interactive, and participatory media and of the 'user,' as opposed to the consumer, it is timely to rethink this underlying model of communication. An alternative is in fact readily to hand. The 'dialogic model of language' implies turn-taking, mutual productivity, context-specific uses, and an example of an almost infinitely complex system – namely language and its 'institutional forms' in textual systems such as literature, media, journalism, and science – that is nevertheless continuously produced by myriad unmanaged and self-organizing 'users' or speakers, whose agency is 'open' but not 'free-for-all.'

It is my hope that media and cultural studies can be reformed not only to take account of the technological consequences of digital media but also to take seriously the dialogic model of communication – where, you will note, 'the consumer' disappears entirely. Instead, 'meaningfulness,' 'social networks,' and 'relationships' surface as crucial components of the process. They replace 'content,' 'information,' or the 'message' with human interaction based on self-expression (albeit constrained by language and other systems of communication), description and argumentation

('truth-seeking' in Karl Popper's terms), as well as play, 'phatic' chatter, and imaginative invention. Of course, language can be used for exploitative, duplicitous, and hidden purposes just as much as any other medium, but a model of communication in which *everyone is a producer*, and where these constraints are continuously renegotiated in action, is surely preferable to one based on behaviorist assumptions that reduce human agency to the status of the lab rat.

A further implication of shifting our analytical lens from the linear model to a dialogic one is that we can extend the study of media and culture from its present fixation with a tiny minority of powerful *producers* (i.e. industry professionals) to a *population-wide* focus on how all the 'agents,' individual or institutional, in a given communication, media, or cultural system act and are acted upon as they use it (i.e. the 'people formerly known as the audience').

If media and cultural studies are to transform – from a linear to a dialogic mode; from producer to consumer; from powerful corporation and charismatic celebrity to *everybody* in the population; from representation to productivity; from structural opposition to dynamic systems; from cultural *studies* to cultural *science* – is there anything left that we might recognize *as* media and cultural studies? My answer takes the form of this book: it remains interested in the media, popular culture, and textual systems as the best evidence for sense-making practices at large scale, and it retains the familiar focus of cultural and media studies on questions of meaning, identity, power, and 'the human,' in the context of technology, the market economy, and global interaction among our dispersed and diverse but 'convergent' species (Jenkins 2006).

One thing that cultural and media studies do particularly well, in my view, is to study the situated and contextual process – both informal (in self-organizing networks) and formal (via institutional agency) – of the *emergence of ideas* in mediated networks. How that is done on a society-wide scale using the latest communications technologies is no longer a matter of interest to media and cultural scholars alone. It has also become a vital interest among economists, who seek to understand *innovation* as the process where new values, both cultural and economic, *emerge* from a complex open system. The contemporary digital media, which are dialogic, consumer co-created, population-wide, productive, and dynamic, may be just the place to study the *evolution of novelty*.

Each ensuing chapter takes these general issues forward in a specific context:

- Chapter 2 (CULTURAL STUDIES, CREATIVE INDUSTRIES, AND CULTURAL SCIENCE) maps out the changes that may be required in our disciplinary settings if we are to do justice to emergent meanings.
- Chapter 3 (JOURNALISM AND POPULAR CULTURE) subjects journalism – and journalism studies – to a comparative historical analysis that shows how modern 'mass' journalism was originally invented on a dialogic model of communication, only later falling prey to the linear model that dominates the domain today. The chapter argues that the dialogic model is re-emergent in the digital age.
- Similarly, Chapter 4 (THE DISTRIBUTION OF PUBLIC THOUGHT) shows how the public sphere itself has evolved in the global era, not only by going online but also through such self-organizing market mechanisms as the 'airport bestseller,' a hitherto neglected media form, which coordinates and distributes ideas in a way that may help us to understand how new ideas using new media may have evolved their own coordinating mechanisms, despite the fear of the amateur that currently preoccupies the minds of expert professionals who are used to 'representing' the population at large in the realm of ideas.
- Chapter 5 (TELEVISION GOES ONLINE) shifts the focus to television, exploring what happens when television opens out, from 'representative' broadcasting to 'productive' digital affordances.
- Chapter 6 (SILLY CITIZENSHIP) takes these ideas further to show how the agents 'formerly known as the audience,' especially those *not* counted as citizens, for example children, may be making up new forms of civic engagement even as they play with the digital media.
- Chapter 7 (THE PROBABILITY ARCHIVE) pursues online television into the archive – specifically YouTube – to show how that pursuit changes what we mean by archiving, and the very nature of the archive itself, in the process. Shifting from 'representative' to 'productive' status also changes the nature of the archive from 'essence' to 'probability' – a move that has profound implications for our disciplinary methodology.
- Chapter 8 (MESSAGING AS IDENTITY) throws caution to the wind and proposes the reclassification of our species – *Homo sapiens* – as *Homo sapiens nuntius*: 'messaging humanity.' Here the idea is that personal identity itself is a *product of*, rather than input into or affected by, our messaging interactions with one another, such that the very idea of 'the message' needs to be updated from noun to verb (thing to action), somewhat after the manner of the visionary architect Buckminster Fuller (Buckminster Fuller, Agel, and Fiore 1970), whose autobiography

was entitled *I Seem to be a Verb*. Well – we seem to be constituted by our messaging.

- Chapter 9 (PARADIGM SHIFTERS: TRICKSTERS AND CULTURAL SCIENCE) draws the themes of the book together by highlighting the extent to which *change* has been a constant 'problem situation' for the humanities just as it has been for economics. Thus, the tradition of the trickster in classical mythology and in anthropology, which has been investigated using the classic tools of textual analysis and 'thick description,' may be linked with that of the entrepreneur, the focus of evolutionary economics. Both the mythological trickster and the Schumpeterian entrepreneur are agents of system change or 'creative destruction,' the 'go-betweens' who link, disrupt, and renew different worlds to produce new meanings.

Thus, this book sets out on a path to reorient and reconceptualize media and cultural studies, while investigating some examples of digital futures along the way to see which way they are pointing.

My Media Studies

My involvement in what would eventually be called media studies started in the 1970s, on the trail of the 'active audience.' During the broadcast era, the idea of such a thing may have seemed perverse. At the time, media audiences were widely thought to be passive couch potatoes, exhibiting behavioral responses to psychological stimuli coming from powerful commercial and political agencies whose motives were far from pure. The pursuit was even more quixotic because I had no training in 'audience studies,' if by that was meant ethnographic description, sociological survey, or psychological experiment on the bodies of 'subjects.' I was trained in literary history and textual analysis, which are just as empirical and realist as the social sciences but are focused on discourse not agents. I had a very different model of the 'active audience' in my head, based on early modern popular culture in both of the major spheres of representation: imaginative (the audience for popular drama) and political (mass readership of the press).

- My exemplary *imaginative* audience was modeled on Shakespeare's own, the question being what Elizabethan popular drama could tell us about the ideas of its time. There was little talk of couch potatoes in

relation to Shakespeare's audience, although some critics did make unflattering assumptions about what the 'groundlings' could understand compared to the courtiers in the audience. But that was simple class prejudice, because what made Shakespearean theatre fascinating was that groundlings and courtiers alike attended the plays, which were both commercial and critical blockbusters. I was interested in a popular dramatic tradition that linked the top of society with the bottom in mutually illuminating dialogue (Bethell 1944), and I approached television audiences in the same spirit.

- My model *political* audience was the first mass 'reading public,' produced by the democratic activists of the American, French, and Industrial Revolutions, and in particular by the 'pauper press' of the early nineteenth century – the first mass reading public of the industrial era. These audiences were 'active' to the point of insurrection.

It seemed that if audiences were considered as active agents, seeking enlightenment as well as entertainment, indeed seeking it *in* entertainment, then television would present itself as a completely different object of study compared with what the social sciences researched – psychologists looking for pathological behavior, pollsters looking for marketing opportunities, or political economists looking for capitalist influence. Instead, broadcast television presented itself as a means for extending imaginative and political representation to whole populations. So, my media studies says that the *most popular* media, from Shakespeare to *Big Brother* (Hartley 2008), are open, generative resources for growing popular self-realization and emancipation.

Once you set off down the path of equating popular media and popular emancipation (both imaginative and political), you will quickly be intercepted by those who say that the media are owned and controlled by vested interests in a power structure, with programming designed to keep the potatoes on the couch, watching the ads for neo-liberalism. Very well; but this is to see culture as confined to the intentions of the most cynical and exploitative producers, ignoring both positive potential and long-term unintended consequences. In the long run, do we care more about the motivations of capitalists or about the ideas that their energies put into circulation? For instance, do we remember Charles-Joseph Panckoucke or do we remember the ideas of the Enlightenment and revolutionary France? Panckoucke was the first French media mogul, but few remember him now. At this distance of time, the speed, efficiency, and scale of his operations,

taking revolutionary newspapers and literature to the far reaches of France and beyond, look more impressive than his contemporary influence or fortune. These were but the means by which he was able to create a nation-sized 'social network' in which the struggle to implement the Enlightenment, or to resist it, could become a practical political endeavor for a whole population. Similarly, few recall that Shakespeare himself was a pioneer media entrepreneur, an investor and executive of a joint-stock company that produced popular entertainment for profit. And no-one accuses Shakespeare of downplaying the disruptive force of early capitalism in his plays even as he benefitted financially from it in his business.

As for audiences, treating them as lacking in the mental resources to deal with their own entertainment is not only demeaning but also a case of academic bad faith. For, if all the psychological experiments and sociological surveys *do* reveal an audience characterized by vulnerability to media effects, then what are media academics and researchers doing to help them to become independent? Teaching students to become expert in blaming the media for their effects on *other* people may produce the very things we rail against – disempowerment, disengagement, passivity, and risk aversion. In my view, media studies needs to teach both knowledge, including self-knowledge, and action, both critical and creative – together they constitute true digital literacy for an 'active audience.' The educative role of media studies does not pathologize the object of study. Instead, it propagates astute reading, adept navigation, contextual understanding, and creative productivity.

Studying the media as resources for popular imagination and emancipation means that their overall importance in the history of modernity has far outweighed their scale as a sector of the economy. They are an 'enabling social technology' – like the law, science, and markets, all of which are important as coordinating and regulating mechanisms that enable other kinds of creative productivity to flourish. We rarely assess the law or science by reference to their scale as 'industries' or markets by reference to the cost of maintaining them as markets. Their importance is that they coordinate intercourse and regulate trade in large-scale economies. They enable the growth of knowledge, as do the media.

The emergent 'creative industries' are in the twenty-first century taking over the position that 'the media' held in the twentieth. However, there is a major difference. The media were conceptualized as the 'enabling social technology' of *ideological control* for a mass society, but the creative sector may be regarded as the social technology of *distributed innovation*. As

productivity migrates out of firms, organizations, and expert systems into the homes and heads of the population at large, media studies will need to attend to new sources of creative innovation and productivity. 'Ordinary' people may realistically pursue and publish their own imaginative, intellectual, or political emancipation, driving growth and change as they go.

It will be the recurrent theme of this book that the 'active audience' tradition has been given a powerful boost by the emergence of digital technologies, the internet, Web 2.0, and consumer-created content. During these developments, 'the audience' has transmogrified into 'the user,' and industrial-era, one-way, mass communication has added to its broad social reach a mode best described as dialogic, demotic, and DIY/DIWO (do it yourself/do it with others).

The industry-generated model of digital content shown in Figure 1.1, produced by the International Data Corporation (Gantz and Reinsel 2010), shows a 2010 estimate of the extent of user-generated content, compared with the previous monopoly of 'enterprise-generated content.' As the Venn
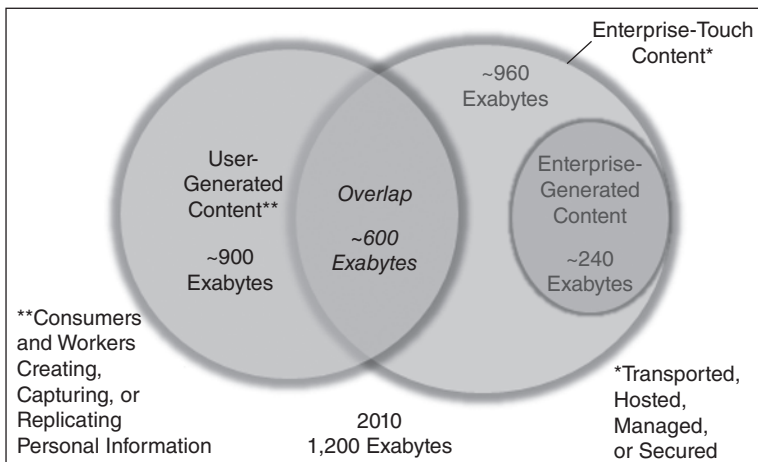

Figure 1.1   The Scale of the Problem: User-Generated Content. 'More than 70% of the Digital Universe [in 2010] will be generated by users – individuals at home, at work, and on the go. That's 880 billion gigabytes' (Gantz and Reinsel 2010: 11).[1] Source: Gantz and Reinsel (IDC Digital Universe Study, sponsored by EMC) (2010).

[1] 'Enterprise-touch' means information for which enterprises may be legally or managerially responsible but that they have not generated themselves, for example the videos on YouTube.

diagram makes clear, there is an unprecedented overlap between users and enterprises (typically commercial enterprises). For instance, an astonishing amount of content is uploaded by users, whether these are private individuals or workers for other enterprises, on YouTube and similar sites, such as Tudou in China (whose name, 'potato' in Mandarin, is a play on the English term 'couch potato').[2] But these sites themselves – their security, servers, legal status, design, and information architecture and management – are commercially owned and operated (in YouTube's case, by Google). Gantz and Reinsel use the expression 'Enterprise-Touch' content, a suggestive term for a phenomenon that radically undermines the traditional consumer/producer distinction.

This reconfiguration of media means the 'active' audience's own *actions*, not their behavioral *reactions*, now constitute the most important empirical field for the investigation of dynamic change. The mediated enterprise of self-directed creative interaction among all the agents in a system – for example in social network markets – can be investigated empirically. The scale of productivity escalates year by year, from gigabytes to petabytes to zettabytes – 2010 was the first year that this unit was reached (the '1200 exabytes' shown in Figure 1.1 is equal to 1.2 zettabytes; see also Bohn and Short 2010). As a result, the tools required to model and measure dynamic change in such systems must come from mathematics, complexity theory, evolutionary economics, and game theory. Media studies needs to develop expertise collaboratively with these fields.

The future is digital for media studies, and that will require new competencies, for instance in large-scale, computer-generated data; new horizons, for instance linking our interdisciplinary field with the natural sciences, bioscience, and 'science and technology studies'; and new problem situations, for instance moving beyond the familiar 'producer → text/commodity → consumer' chain to an evolving social-network model of the media. 'Digital futures' will pose serious questions for media studies as well as for media organizations and audiences.

Disciplinary Context

My disciplinary cluster is the humanities and creative arts, known in Australia as 'HCA.' One difference between HCA and other disciplines lies in the interface between the discipline and its object of study. Simply put,

---

[2] Source: Bulkley (2008). See http://www.tudou.com.

many disciplines *face out*: law, engineering, medicine (etc.) face an impersonal object (the law, mechanics, the body, etc.) that needs to be understood and manipulated by a defined profession or industry. But HCA *faces in*: traditionally the object and beneficiary of this kind of knowledge has not been 'the industry' or 'the profession' but *the student*, whose taste, judgment, comportment, and conduct are formed and shaped as the 'outcome' of knowledge practices. Thus, where an engineering or law student may practice engineering or the law, a humanities student practices . . . being human. As a result, humanities-based research has developed a strongly values-based tradition of criticism and critique, rather than a 'science'-based tradition, either pure or applied. Further, the graduates of HCA programs, often the largest cohort in a university, don't face out towards a *profession* or industry entry scheme for their employment, but to a chaotic, global, dynamic, and uncertain set of *markets*. They qualify for no accredited point of entry other than the notorious 'swimming lesson' that most arts graduates must undertake before finding their niche in a complex open system – they sink or swim.

Immersed in uncertainty, always exposed to potential disutility, but heir to some universalist claims, those who study culture – especially in the domain of cultural studies – have come to see their own disciplinary situation as disruptive and their knowledge-forming practices as an intellectual version of Schumpeterian 'creative destruction' (Schumpeter 1942; Hartley 2003; Lee 2003). They work against the grain of both established knowledge systems and professional or industrial applications of such knowledge. The traditional mode of HCA 'research' was *criticism* – both various forms of literary and art criticism and 'critique' of the politico-economic or social status quo. This type of research is not easily oriented towards an industrial or professional 'end user' – it does not face out *towards* a paying customer, as research in, say, engineering or computer science may readily hope to do. For some HCA specialists, the 'end user' is another academic specialist, contributing to the deepening of a field of study; for others, it is no less than contemporary subjectivity and identity as such, a humanity and a creative capability that graduates will carry around with them in their heads and know via their relations with others. The humanities are split between in-close analytic specialism and a universalist-emancipationist agenda for intellectual and ethical/political reform. They are but weakly connected to commercial R&D (research and development) or public policy formation.

The so-called 'new humanities' – including communication and cultural and media studies – have proven much more willing than the 'old' humanities to engage with the markets their graduates will face. These markets are themselves chaotic, dynamic, and not always morally pure, so what they 'want' of a graduate or from a research collaboration is not at all clear in advance, and not always what universities are best at delivering. Thus, if the ideal qualifications for a journalist are foot-in-the-door tenacity, a street-fighter's will to win a story, and fearlessness in the face of uncertainty, not to mention a habit of being attracted to the worst districts in the worst countries to talk to the worst people about what makes them angry, fearful, or vengeful, then a traditional university's default ethical settings may be an impediment, and disciplinary or scholarly protocols a limiting preparation. The tension between the demands of the so-called 'real world' and the practices of institutionalized learning have been managed over a couple of generations in the 'new humanities,' often at new universities – former institutes of technology, polytechnics, and teacher training colleges – where 'doing' vies with 'knowing' both interpersonally and across pedagogy and the curriculum. No-one can claim to have solved the problem, but the new humanities do offer HCA researchers and graduates the chance to have a go at those difficult syntheses between knowing and doing, values and facts, criticism and utility, the formation of individual judgment and the productivity of organized investment.

Not having direct links to private firms or public departments can be a source of alienation for the HCA researcher, but it can also be a competitive advantage. The need for this kind of 'dispersion across difference' flows in HCA's lifeblood. Non-specialist polymath interdisciplinary homelessness can be turned to advantage. It produces problem-solving agility, the ability to deal with diversity (across time, space, form, and identity), and a 'method' that can apply to multiple problem situations in the form of the habit of in-close critical attention to documents, discourses, and power (in the context of individual creative imagination) that can see both the wood ('macro'-level systems, relationships, and cultures) and the trees ('micro'-level creative work in the here and now). In an era of hyper-specialization, it is increasingly unusual to work across such a wide range of concerns, especially in the sciences. But it is impossible to do justice to specialist domains without knowing how they fit together and how different national economic and cultural systems interconnect in a globalized economy and technologically networked culture.

From Industrial Consumption and Behavior to Networked
Productivity and Dialogue

This book results from a sustained period of research into the uses of multimedia while I was a Federation Fellow of the Australian Research Council (see Hartley 2005, 2008, 2009). During that time it became clear that, despite their own contingency, uncertainty, and incomplete formation, the disciplinary foundations of cultural and media studies are as much in the process of fundamental transformation as are the media and cultures that these fields seek to explain. This book is therefore an account of the growth and transformation of ideas, both *in* and *about* media and culture, in a period of unprecedented technological and economic turbulence. Change is driven by technological invention and geopolitical shifts such as globalization and the rise of emergent economic powerhouse countries such as China. It has resulted in the rapid evolution and expansion of digital creativity, social networks, and media content, including what is often called 'consumer' co-creation – although what is meant by the very notion of the consumer has changed beyond recognition in the process.

At the same time, continuities can be discerned that require attention to cultural and media history and to the history of ideas. For instance, we can learn about digital media and journalism by recalling the development of print; or we can understand some of the functions of YouTube by comparing it with the archives of an earlier period. From this point of view, each chapter explains the new by reference to the old, showing how the creation and distribution of new ideas – and their uptake among very large populations – has become ever more distributed and productive during the shift from modernist media (print-based, broadcast, centralized) to the digital media of the coming period.

Within the detail of the specific situation or context relevant to each chapter that follows, some general lessons can be learned. Perhaps chief among these is the observation that ideas are not separable from the context or medium of their generation. A shift from broadcasting or print publishing to digital media changes the ideas. The very ideas of what counts as journalism, the public sphere, television, citizenship, a museum, and identity (i.e. the topics of Chapter 3, Chapter 4, Chapter 5, Chapter 6, Chapter 7, and Chapter 8) are all transformed as they migrate to new platforms, reinvented anew by myriad users until their previous form is scarcely recognizable. Thus I shall argue in succeeding chapters that:

- *Journalism*, like the magnetic sphere of the Earth, whose N/S geomagnetic polarity reverses every few tens of thousands of years (we're overdue for one now), is going through a reversal in the direction of its communicational causation in the digital era. When print was dominant (say, from the 1850s to the 1950s), popular culture was the object and destination of news media; the direction of communicational causation was top-down, *from* corporate or state agencies *to* the populace. In the interactive era the direction of causation has reversed; popular culture is the bottom-up origin and subject of journalism (the addresser, rather than addressee). Despite resistance by the industrial heavyweights, journalism is now displaying a trend towards peer-to-peer or user-generated content, although corporate enterprises continue to be responsible for content management, display formats, and legal liabilities. I shall argue further that this change in polarity (popular culture as cause not effect) reverts to the directionality that characterized the radical and 'pauper' press in the early nineteenth century (Chapter 3).
- *The public sphere* – as an idea – is an unsustainable notion; it needs to give way to the idea of 'public thought.' Public thought is produced and communicated in many different ways. It cannot be reduced to what a few self-selecting savants think, be they thinkers-on-behalf-of-the-public from academic (intellectual), political (community), or journalistic (commercial) situations. Even so, it is not a case of 'anything goes,' nor is every member of the public equal in the game of public thought. It is an organized and competitive market, best exemplified, I suggest, in the form of airport bestsellers (Chapter 4).
- *Television*, as it has been buffeted by technological and social change, has changed the most profoundly in the significance attached to it. It no longer counts as the metonymic stand-in for society-as-a-whole. Even if it is still the most popular pastime in the world in terms of raw numbers, it is no longer the case that those numbers are seen as one aggregated audience (coterminous with 'the nation') whose television habit is endlessly inspected for pathological symptoms to demonstrate to the public just how fearful it should be of its own agency. Instead, television is dispersed across different platforms, diffused among different audiences, and distributed by its fans and viewers. It is no longer 'popular' in the sense that it has power to unite whole populations in observation of one ritual act of drama (factual like 9/11 or fictional like 'who shot J. R.?'); but it

is more 'democratic' in the sense that people have more say in pro-
ducing as well as consuming their own viewing and sharing practices
(Chapter 5).

- *Citizenship* has changed by being practiced in conditions of semiotic
  plenty, play, and commercial consumer culture, all of which are ampli-
  fied, networked, and coordinated anew in online media. While the idea
  of citizenship is clearly historical, governmental, top-down, and policy-
  led, its uptake and practice by those who are about to become citizens
  – children and young people – appears not to be modeled so much on
  social theory as on the 'dance-off' (Chapter 6).
- *The archive* is immense, but uncertain. Ideas are rather easier to come
  by now that they can be Googled. Among the internet's many other uses,
  it is also an archive, because whatever is uploaded is also stored, down
  to the minutiae of phatic chatter or entire (unwanted, unlooked-at)
  camera rolls of an event, as opposed to one redacted image. In condi-
  tions of unthinkable plenty (who can imagine a zettabyte?),[3] the status
  of any object in this archive is unlike that of artifacts in conventional
  galleries, libraries, archives, and museums. I shall argue that the only
  way to explain what is going on is to take seriously the uncertainties
  and indeterminacy of the archive, as well as the immensity of digital
  information, by using probability theory (Chapter 7).
- *Human identity* does not escape these developments, or, at the very
  least, the way we think about it needs to change. Instead of seeing it
  as an intrinsic property of individuals who *then* enter society, we can
  now claim that identity, like rational thought and purposive action,
  emerges – it *results* – out of social networks and relationships con-
  nected via language, culture, social institutions, and various organized
  forms of collective agency that use 'social technologies' (from firms,
  markets, and the law to media and digital technology) to *produce* our
  individual capacity for signaling (sense-making practices), copying
  (cultural behavior), and networking (intersubjectivity). How we
  produce and communicate our identity within a competitive social
  network and an economy of attention is well-exemplified in the fashion
  system. Individuality proceeds not from inner essence but from species

---

[3]   See Blake (2010). Blake tries to imagine a zettabyte: 'The current size of the world's digital
content is equivalent to all the information that could be stored on 75bn Apple iPads, or the
amount that would be generated by everyone in the world posting messages on the micro-
blogging site Twitter constantly for a century.'

identity; humanity is the *messaging* species or *Homo sapiens nuntius* (Chapter 8).

Chapters 2 and 9 do slightly different work, being focused on the problem of *renewal* rather than on specific ideas or media platforms. Chapter 2 locates that problem in the traditions of study that media and cultural studies have inherited, arguing that a *disciplinary* renewal is required in order to resolve the intellectual problems that the fields set out to tackle in the first place. Chapter 9 opens up the question of the renewal of cultural and economic *systems* more generally. Here, the argument is that the clash of difference and the wiles of deceit are both mechanisms for the emergence of the new. 'Creative destruction' is as much a feature of the deepest traditions of mythology (the humanities) as it is of evolutionary economics (the sciences). The agent of renewal – the trickster in one tradition, entrepreneur in the other – is the 'go-between,' who exploits the very differences between systems to make possible new meanings, even as they disrupt and challenge existing meanings. They provide one answer to the semiotician Yuri Lotman's challenging question: 'How can a system develop and yet remain true to itself?' (Lotman 2009: 1). That is the question for cultural and media studies. The agency of disruptive renewal, which I call 'cultural science,' is itself a 'go-between' that brings the humanities and the sciences into mutual dialogue. This is sometimes noisy with mixed ambitions, disagreement, and mutual incomprehension, but it may enable new approaches to emerge and thus the field of media and cultural studies to be renewed for a digital future.

Distributed and Dialogic Productivity

Each chapter in this book contributes towards two overarching claims about contemporary media and culture. First, the current era of digital transformation is one where 'command and control' centralization is giving way (often unwillingly) to 'self-organized' networked complexity, in which new ideas, public thought, entertainment platforms, information archives, and human identity itself are produced by innumerable 'agents' in a dynamic process that demands our analytic attention – and requires new analytic tools compared to those elaborated when 'analogue' media/cultural studies was started.

Second, it is no longer adequate to posit a powerful corporate or state agency as *producer* and a powerless individual or private *consumer* in any

model of communication, even where the relationship is asymmetrical. Equally, however, consumption or reception is never done by a collective, whether understood as an audience or as a social group (such as a class, gender, ethnicity, etc.), but only by individuals whose choices are also patterned by association with such collective identities, among others. On both 'sides,' producer and consumer, there is both individual agency and collective productivity. It is a dialogic relationship. At a higher level of integration, it is possible to conceptualize the *overall* productivity of communication, culture, and media through what E. O. Wilson dares to call 'the communal mind':

> In his 1941 classic *Man on his Nature*, the British neurobiologist Charles Sherrington spoke of the brain as an enchanted loom, perpetually weaving a picture of the external world, tearing down and reweaving, inventing other worlds, creating a miniature universe. The communal mind of literate societies – world culture – is an immensely larger loom. Through science it has gained the power to map external reality far beyond the reach of a single mind, and through the arts the means to construct narratives, images, and rhythms immeasurably more diverse than the products of any solitary genius. The loom is the same for both enterprises, and there is a general explanation of its origin and nature and thence of the human condition, proceeding from the deep history of genetic evolution to modern culture. Consilience of causal explanation is the means by which the single mind can travel most swiftly and surely from one part of the communal mind to the other. (Wilson 1998: 12)

Everyone in *Homo sapiens nuntius* is part of the 'communal mind,' adding, whether purposively or unwittingly, to the process of 'weaving […] tearing down […] inventing […] creating' the cumulative and dynamic archive of 'literate societies.' Everyone is a producer, publisher, journalist, scientist, artist . . . and everyone can *use* the archived 'communal mind' as a resource for identity, citizenship, and public thought – even more readily than when Wilson wrote this passage in the 1990s, given the continuing exponential (or power law) expansion of digital media. Thus, disciplinary media and cultural studies need to think again about the basic model of communication. The academic and scholarly tools that have been elaborated over the past few decades to *explain* the media are also in need of transformation; they cannot simply be 'applied' to 'new' media platforms (Gray 2010). Each chapter is therefore an attempt to reposition and repurpose media and cultural *studies* for a digital future.

Part II: A Short History of Representation – From Print to User

How well he's read, to reason against reading! (*Love's Labour's Lost* I.i.94)

Abstraction of Knowledge

The tradition of modern scholarship – now some centuries old – has tended to favor the abstraction of knowledge from action in order to develop explicit rather than tacit knowledge. From the Renaissance onwards, and at a gathering pace after the scientific revolution of the seventeenth century (associated with the foundation of the Royal Society), knowledge (in books, libraries, journals; also 'objective' knowledge in Karl Popper's sense) was radically separated from knowing subjects. This unleashed the growth of knowledge that we call modernity. During that lengthy period there were many instances of such abstraction across the whole field of the economy, society, and culture. In the industrial revolution, for instance, 'workers by brain' were abstracted from 'workers by hand,' white collar from blue, art from artisans, design from fabrication, knowing from doing. Without abstraction and specialization there could have been no exponential economic growth; no modernity.

The *medium* through which abstracted knowledge was collected and communicated was of course print. Printing by moveable type was invented around 1450 to serve the interests of religious and business activists in a still-feudal middle-Europe. Its ability not only to abstract knowledge from the knowing subject (Ong 2004 [1958]) but also to 'broadcast' it around the globe made it the first mass medium, and emancipated it from the control of its inventors. It was at this point that it became an 'enabling social technology' for the growth of knowledge in general. The unintended consequences of socially ubiquitous print literacy could emerge and grow. These consequences proved to be spectacular and included the development of all three of the most important realist textual systems of modernity – science, journalism, and the novel.

In the Middle Ages the university library evolved from the monastic scriptorium, but with print it too could be 'abstracted' – emancipated – from its institutional origins in the church. As a result, even though this process took time and was never uncontested, science was freed from both

religiosity and the authority of ecclesiastical hierarchies. Similarly, spare capacity on printing presses and the growth of a secular reading public allowed for the development of prose fiction and later the newspaper. 'Dispatches,' 'Intelligences,' and 'Mercuries' about current affairs were 'abstracted' from the secret dealings of courtiers and merchants and broadcast to the reading public at large. Meanwhile, the development of vernacular printed prose and of middle-class leisure enabled the rise of the novel – the form in which psychological individualism (pioneered in Shakespearean theatres) was generically elaborated and socially propagated, recruiting writers as well as readers (especially women) from previously unrecorded origins. In all of these contexts, print was an agent of generative change, not a neutral tool; it carried the modernizing force of realism – science, journalism, imaginative individualism – to that most 'abstracted' entity of modernity, the reading public.

Print was vital to the emergence of secular industrial society; it was the very agent of knowledge. Small wonder, then, that those trained into modern scholarship are children of print and remain wedded to a model of intellectual emancipation based on print. Print was the means by which knowledge could be *extracted* (abstracted) from its context, from the knowing subject, and from the temporality of its first production. It was then available for archiving and dispersal among a general population that was at least in principle indifferent to birth, rank, or wealth. This in turn allowed experimentation, correction, and expansion of ideas on a scale hitherto impossible to imagine. Print was so suited to the 'emancipation' of knowledge from its context of production that many came to see it as an agent of rationality; the means by which the ideas of the Enlightenment were disseminated. The technology itself came to be associated with freedom – political, philosophical, religious, and personal. The famous emancipationist slogan of the nineteenth century, 'knowledge is power,' was routinely shown as the caption to a picture of the printing press.

However, the democratic and scientific supremacy of print was challenged by 'new media' during the twentieth century, especially film and broadcasting (radio and then television). These audio-visual media were not welcomed by many print-based thinkers, including scientists, journalists, and authors, because they seemed to rely not on reason and ideas but emotion, desire, and corporeal attraction for their communicative impact. They may have made millions of people laugh, cry, fear, or even wonder, but they did not seem suited to 'public thought' as it had been institutionalized since the American, French, and Industrial Revolutions. A

division between print-based (abstract) knowledge and audio-visual (embodied) knowledge has persisted to this day, and forms part of the institutional setting into which the latest surge of 'new media' has erupted. Nevertheless, the audio-visual media carried all before them in terms of popularity and reach, so a long-term process of mutual accommodation occurred, at an increasing pace from the 1960s, whereby news, and thence politics, as well as imaginative fiction 'went over to the other side' – from print to broadcasting and film. Science held out longer, maintaining what was increasingly a fiction: that it is based on 'papers,' 'publications,' and 'print,' even when none of these is used to disseminate its rationalist ideas.

Thus, in order to understand the impact and politics of 'new media,' the field of media and cultural studies needs a better grasp of the history of sense-making practices in large-scale modernizing countries of the post-Enlightenment era (from the seventeenth or eighteenth centuries to today). At the most general level, just as communication has been modeled in a particular, limiting way, so the history of sense-making has been narrated as if it is self-evidently *representative*. Indeed, the stories we tell each other in mainstream media involve both a *semiotic* theory of 'representation' and a *political* theory of 'representativeness,' each infecting and amplifying the other:

- Semiotically, the default setting for signification-in-general is that of representation, where one thing (word, image, sound, phoneme, or 'sign') stands for another (meaning, referent, signified), often in a *realist* relationship with one another, where a real object leaves a trace of itself in the sign, as in photography.
- This realist representation is then caught up in political *representativeness*, where something stands for something else *proportionately*, as when an elected politician 'represents' in one person many thousands of constituents or voters.

'Our heroes,' on screen and on the page, 'represent' the supposed readership or audience as a whole, condensing in one celebrity body characteristics, desires, and actions that seem naturally to be representative of those of everyone. Combining semiotic and political representation makes for a powerful sense of realism or naturalism in the spectacle of celebrity culture: our screen gods and goddesses don't just *stand for* 'everyone'; if successful they *sum up* who 'we' are *on our behalf*.

This apparently natural or self-evident model of signification is, however, strictly historical. It belongs to a specific time – modernity – and a specific place – the West. This can be demonstrated both synchronically, by comparing the system of Western modernity with other co-present systems, and diachronically, by showing that the system itself is, historically, internally dynamic and changing, such that even as we speak (or write, read, etc.) it is in process of transformation. In both cases it is possible to find systems of representation that don't involve either realist foundations or conflation with representativeness. Just look at any culture's traditions of classical dance or drama; or at Australian Aboriginal painting; or at verbal dueling and ritual insult in many oral traditions. Here, courtly ritual, place-based cosmology, and competitive signaling are abstracted and elaborated, often with secrecy or interpersonal relations playing a more important role than open communication in the reproduction of knowledge within such systems. Nowhere here can you instantly scale up from comic-book character to superpower nation (Superman), from flawed hero to foreign policy (James Bond), from individual personality to universal gender role ('Brangelina'). Modern-Western 'representative representation,' apparently naturalistic, is contextual, contingent, and contestable. Its realism is conventional. It is not simply that a restless age tires of its representatives quickly or that competitive commercialism requires constant A-list turnover and renewal. It is the *system* that is localized to a particular time, place, and sense-making regime – no matter how global and permanent it seems to the gaze of the immersed onlooker – even as it changes under pressure of its own internal dynamics.

Representative Realism → *Productivity of the Sign*
→ *Productivity of the User*

Thus, my own reconceptualization of the realist 'representative representation' model of signification replaces the model with a periodization in which the modern Western model is reconfigured, slowly at first but at an increasing rate, into what I call a 'productive' model.

- Representative representation (realism): modernism;
- Productivity of the sign (abstraction and emancipation of signification): postmodernism;
- Productivity of the user (socially networked self-representation): digital futures.

In my analysis, this shift occurred via an interim stage when signification became abstracted from 'the real.' That stage was widely known as 'postmodernism.' There, *the sign* ceased to stand for anything much beyond itself, and thereby became massively more productive – but, catastrophically (for realism), less 'authentic.' This interim phase marked the *productivity of the sign*. It was soon replaced by the stage of the *productivity of the user* – the current era of interactivity, social networks, and the internet. Here, we are not 'represented' by others but can self-represent, making choices, taking decisions, or pursuing actions *directly*, not via 'mediated' heroes and celebrities. We are not represented by delegates or surrogates, but self-mediate. We are directly *productive* of both meanings and actions.

A couple of notes of caution may be in order here. First, periodizing does not tell a settled truth about a period. It gives a language with which to rethink periods and it may in the end overplay the differences between them, neglecting the fact that much change is imperceptible, especially to its own agents. Thus, it is only once a transformation has occurred that we can interrogate the former period (modernism) using the terms we have elaborated to account for a later one (postmodernism), only to discover that under the then 'obvious' modernist veneer there were already all sorts of ideas, actions, practices, and textual systems that could easily be described as 'postmodern.' It is just that the modernist lens could not see them and the modernist lexicon could not explain them. During the modern, representative era, people were *also* able to self-represent, achieve productivity, and the like, but *media and cultural studies* found this hard to see.

Second, the sequence I am proposing, from modernist realism, via the postmodern productivity of the sign, to the current productivity of the user, is not meant to suggest that 'naturalism' has disappeared. This concept still plays a crucial role in the sciences, where it is axiomatic that the study of something implies that it can be observed and that observing something requires attention to the nature of the thing rather than to the ideas of the observer. All this I accept; indeed, I am very much in favor of 'consilience,' where the sciences and humanities are seen as unified in principle and the hope is that both may be 'explained by a small number of natural laws' (Wilson 1998), such that what holds for one holds for the other. I am making no claims for cultural exceptionalism. But, equally, cultural specificity and media history need to be investigated in their own terms, both at the 'micro' level of specialized topics and at the 'macro' level of large-scale systems.

One such system is language, which while real enough and naturalistically evolved does not work the same way as do other natural phenomena, because its capacity to signify and thus to tell the truth is equally its capacity to deceive and thus to lie. They are the same capability, where the same sign may signify both truth and falsehood; a peculiar semiotic productivity whose ramifications will be taken up in more detail in Chapter 9. The discovery by the structuralists and continental philosophy of the 'productivity of the sign' was not itself a sign of the humanities going off the rails of the real, but a rational attempt to understand how humans make sense of anything, the real included, using something that lies and is purposed to deceive. Then, the 'postmodern' delight in the emancipation of the sign from mere realist referentiality was an *advance* in consilience, not its negation. The shift was observable in the accelerated mediation of contemporary global culture; it was not a mere fantasy of the theoretical imagination.

Further, interactive user productivity is now the mainstay of the internet (Gantz and Reinsel 2010). It could not have occurred without a prior process of the *abstraction* of the sign, from localized particularity of reference to global potential for meaningfulness, and its emancipation from the regime of producer-only causation (one-way communication). With the internet and digital communication, mediated communication has been restored to a two-way dialogic model in which everyone is understood as productive. Postmodernism, it transpires, was a halfway house to consilience. Scientific scoffing was premature. But a final general lesson follows. What's sauce for the goose is sauce for the gander. Media and cultural studies as a field needs to attend more to the causes and mechanisms of change, focusing the analytical lens on the dynamics of systems, not just on structural oppositions within them.

The Era of Representation, Semiotic and Political

The broadcast era was the heyday or culmination of *representation*, which is itself the semiotic and political form taken by abstraction. In the movies, and then in celebrity culture more generally, human traits and forms of identity were *represented* on screen, through look, dialogue, action, costume, and the company kept by characters (not to mention the stars who played them). The indeterminacy of the socially mobile self was also represented, through plot, narrative, and character development. Semiotic

representation consisted in taking both identity and the mutability of modern experience and universalizing them on screen: the star stood for everyone; the story for reality.

Semiotic representation, however, requires a highly asymmetric relationship between the human attributes represented on screen and the myriad selves sitting in the dark. In this unequal exchange, the experts who produced media realism prospered while their customers were left with what the psychoanalysts liked to call a 'lack' in self-realization. Luckily for capitalism, the mass audience obsessively returned to the screen to fulfil that lack vicariously, for instance by gazing intently at Lauren Bacall, fifty-feet high and cool as a cucumber, while she taught their (alter) ego how to whistle. A standard critical response to this asymmetric relation is to dismiss it as a fraud: the audience were somehow deceived or duped, over-powered by the representation itself, which in any case did not stand for their reality.

Meanwhile, the same audience, now reconfigured as private citizens, faced the same Faustian bargain in politics, where they ceded to their elected representatives the power of political action, governmental decision-making, and administrative process, in exchange for . . . what? Again, a standard critical account looked for a lack, this time in power. Critical theory in the Marxist and Frankfurt School traditions, often recast in more recent work as 'political economy' critique, saw representative democracy not as winning the vote but as losing freedom of collective or class action. Nothing was 'gained' but powerlessness. The return on citizens' investment in political representation, according to this logic, was a straight loss. This was the logic that Monty Python sent up in *Life of Brian*: 'What have the Romans ever done for us?' – to which rhetorical question the answer is obviously *nothing* . . . except for what turns into a hilariously long list of concessions:

> REG [JOHN CLEESE]: All right, but apart from the sanitation, the medicine, education, wine, public order, irrigation, roads, a fresh water system, and public health, what have the Romans ever done for us?

Alright, point taken, but clearly the system of representation was flawed, its extreme asymmetry seeming to separate both political and semiotic representatives from the mass audience of citizen consumers, who were left hanging around on the amphitheatre steps with little to do but moan sedition.

Representation also looked suspect to those who were active in the *production* of print-literate knowledge, for among the capabilities ceded to professionals was the ability to *write*. Audiences could only 'read' images and stories. They couldn't produce and publish them in the broadcast media (another 'lack' filled in by representation). Therefore the 'reading public' for broadcast media appeared not as co-equal subjects of knowledge who might write as well as read but as passive consumers, the end point of a chain of causation that had those fifty-foot stars and *their* producers as 'cause' and the punters as 'effect.' This notion of a value chain (rather than a dialogue) transformed audiences from 'subjects' of knowledge and sovereignty to 'objects' of manipulation and mystification. Not surprisingly, therefore, scientists and intellectuals – adepts of print media – remained skeptical of 'read-only' popular media. Knowledge forged in *that* crucible was hardly to be trusted, and was routinely dismissed as demagogic or delinquent.

But, while it is easy to see how literate specialists, habituated to publishing their own thought as well as reading the thought of others, might feel short changed by the asymmetric deal offered in representative cinema and democracy, the same cannot be said for the popular audience. For them the contemporary media have offered a technological route to semiotic and intellectual emancipation that traditional arts denied to them. There was even some mobility between popular classes and popular media: the meritocratic principle recruited talented workers to creative and professional occupations, and any Betty Joan Perske could aspire to become a star (Lauren Bacall). Modern representation (both semiotic and political) offered something real to those who had no stake in traditional forms of artistic and intellectual expression or public participation. Movies and media seemed more transparent, less subject to artistic or ideological shaping, and therefore closer to ordinary life (despite the asymmetry between fans and their representatives on screen).

The 'mechanical arts' held the promise of greater objectivity and truthfulness than sermonizing professionals. Mass media could not exist without scientific invention, industrialized production, and modern marketing. Science was recruited to the cause of art. The popular audience was primed for the idea that truth might be revealed by technological means. No matter how far-fetched the story line, from Chaplin onwards the diegetic screen world was real: human-scale but technologically enabled; populated by 'ordinary' characters who were engaged in self-realizing narratives and participating in imaginative responses to the rapid changes of the times.

Science itself became a staple of both realism and fantasy (e.g. *Metropolis*, *2001: A Space Odyssey*, wildlife documentaries, the dinosaur industry, and all those mad-scientist horror movies). For good or ill the representation of the human condition migrated decisively from art to science.

Like printing, the internet was invented for instrumental purposes (security, scholarship), but it has rapidly escaped such intentions and is evolving new 'affordances' unlooked for a mere decade ago. The most important change is that the structural asymmetry between producers and consumers, experts and amateurs, writers and readers has begun to rebalance. In principle (if not yet in practice), *everyone* can publish as well as 'read' mass media. Users play an important role in making the networks, providing the services, improving the products, forming the communities, and producing the knowledge that characterize digital media. We are entering an era of user *productivity*, not expert *representation.* It is now possible to think of consumers as agents, sometimes enterprises, and to see in consumer-created content and user-led innovation not further exploitation by the expert representatives but rather 'consumer entrepreneurship' (once a contradiction in terms).

Once again, as was the case for print in early modern Europe, a means of communication has become an agent as well as a carrier of change, extending the capabilities of the publisher across social and geographical boundaries and producing unintended consequences that have hardly begun to be exploited. The attention-grabbing aspects of digital media have been those related to private self-expression (albeit conducted in public), social network markets, entertainment media, and celebrity culture. Already it is evident that all three of print's unplanned progeny – science, journalism, and realist imagination – have also begun to colonize the web, using it for the 'higher' functions of objective description, argumentation, and research. Now, however, instead of abstracted individual authorship using spatialized monologue, users can exploit the social-network functionality of iterative and interactive digital media to create new knowledge using such innovations as the wisdom of crowds and computational power.

There is of course plenty of resistance to such changes. One thing that stands in the way, ironically, is print, or rather a print mentality that, because of the suspicion of media by modernists, persists in characterizing 'new' media as somehow demotic and unworthy – even untruthful. This is especially prevalent in schools, many of which still ban students' access to Google (especially Google Images), Wikipedia, social networking sites, YouTube, and so on, preferring to insist on the control culture of the expert

paradigm rather than facilitating the open innovation networks of digital media. Given that the latter is indeed what students need to know (and to be able to do) in order to navigate the evolving digital mediasphere, the world of print-based scholarly modernism falls further out of step with the times, and scholarship threatens to become just as irrelevant as professional practitioners like to say it is.

There is therefore a clear choice to be made if those who wish to pursue the serious study of communications media wish to avoid the stand-off that persists between print and its latter-day competitors. We must follow science, journalism, and realism across from the arts to the sciences, and from print to digital media. We are entering a period in which the tensions between print-based scholarship ('papers' about *knowing*) and practice-based training (hands-on *doing*) can and should be superseded. Such a move would also challenge the current disciplinary distinctions between humanities (cinema studies has drifted towards literary and philosophical traditions of scholarship) and social sciences (media studies was captured early by social psychologists and political economists) on the one hand, and the math-based sciences (particularly evolutionary theory, game theory, and complexity/network studies) on the other. Indeed, so far has change proceeded, in both digital media and in the history of science, that film, media, and journalism scholars must face the question of how and what they know, and consider afresh whether their scholarly and pedagogic armamentarium needs a makeover. Instead of retreating (further) into hyper-literate philosophical speculation (cinema) or post-literate vocational guidance (media), it may be time to consider a digitally literate and unifying alternative, which I am calling 'cultural science.' This investigates the population-wide propagation of ideas and the future possibilities of knowledge in the context of cultural and economic dynamic systems – the 'active audience' as socially networked and actively learning *agent* of the media's unintended consequences.