
EDITORIAL**Editorial: Relaunching Cultural Science**

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Cultural Science Journal is delighted to announce our successful migration to the Ubiquity Press platform. We are now ready to publish submissions received during 2018, which will comprise Volume 10 of the journal. We begin with several papers on the theme of ‘open knowledge’ and will add new papers on all topics as they are accepted. Each volume of the relaunched *Cultural Science Journal* will be cumulative over the year, so that work will be published in a timely manner once it is reviewed, revised and accepted, without having to wait for an issue. We are planning for 12 articles per annum to begin with, and are also open to reviews and commentary as well as research. Initially, the costs of publishing Open Access are borne by the Centre for Culture & Technology (CCAT) at Curtin University. In later volumes, we will encourage authors to seek funding from their own institutions to support publication of their articles. We hope to support the journal through events such as research workshops and conferences.

Keywords: Culture; Knowledge; Evolution

We invite all interested scholars and thought-activists to submit articles to *Cultural Science Journal*. If you are working on cultural groups or technologies, data or stories, conflicts or systems, models or histories, using any existing or experimental method, in order to understand causes, processes, technologies, achievements, changes and connections, across any aspect of communication, media, publishing, culture or creative practice, then we would like to consider your work.

Aims and Scope

What does it mean to be human; to be creative; to make knowledge? These are not simply individual or behavioural questions. They arise where collective-connective human immersion in language, story, technology, knowledge, sociality and power-relations intersect with subjectivity to shape the possible answers. Culture and meaning are no longer confined to the human domain, as communication begins to be understood as a defining feature of life, from the simplest proteins and cells to the most complex ecological systems and the most elaborate textual-discursive forms. How humans make sense of themselves and the world is not confined to individual expression (artistic or vernacular), but relies also on population-wide systems which themselves change over time, co-evolving with technologies and with changes in the external environment.

How then can ‘culture’ be understood as a useful analytic field of study when – like the atmosphere – it is a planetary system of turbulent dynamics while at the same time it’s the very air each one of us breathes, and which we shape into words and songs? Perhaps in time the answer will not be so different from what’s been achieved in meteorology: the development of complex computational models based on globally distributed and automated observation stations, sampling millions of measures repeated over long time periods, using probabilistic statistical methods that have been refined and tested over more than a century. It has taken meteorology more than 150 years to attain its current accuracy. If it seems that culture is too complicated and variable to be analysed in this way, perhaps that’s because we have hardly started on the task; and perhaps we should get on with it.

This journal explores the intimate creation of meaning, identity, relationships and imaginative expression while at the same time recognising and looking for new ways to account for the effects of global scale, complex systems and evolutionary dynamics in cultural as well as biological and technological systems, linking the semiosphere with the biosphere. Given the accelerating pace and autonomous development of digital

and media technologies, we want to put culture on a more secure analytical footing, taking advantage of and synthesising work in evolutionary theory and systems sciences as these apply to culture, using existing natural and social sciences, the humanities and ‘new humanities’ – including media, communication, cultural studies and creative industries – to facilitate interdisciplinary contributions and conversations.

Cultural Science Journal aims to bring these fields together in productive dialogue and mutual critique, to develop new conjectures, methods and questions for understanding cultural functions, uses and conflicts:

- To explore the intersections of culture, groups and knowledge, and to investigate how meaning-systems emerge, interact and are sustained under uncertain conditions, especially changes in technologies of communication (oral, written, print, broadcast, computational, digital, internet).
- To publish work that contributes to systematic models and methods, to trace causation through cultural processes and groups, as well as more detailed work on applied topics.
- To look beyond the academy, to advocacy, activism and policy, to advance ‘public thought’ about culture and how to understand it in a world of globalised conflict and cooperation.
- To delineate the functions and uses of culture in forming groups or ‘demes’:
 - making identities, meaningfulness, sociality, and thence knowledge,
 - at different scales – micro-agent, meso-institution, macro-network,
 - by ‘meaningful fabrication’ – fiction, law, gods, ‘the economy’, firms, nations (etc.).
- To compare human culture with non-human cultures and their interactions with humanity, individually and at species level:
 - looking back to pre-human evolution,
 - looking sideways at animal and biotic culture,
 - looking forward to artificial intelligence (AI) and robotic culture.
- To investigate how culture-made groups form, change, and interact with others to produce ‘newness’ (innovation) in any context, from ethno-territorial and language-based cultures to groups based on affinity (e.g. fans), purpose (firms, ‘knowledge clubs’) or adversarial conflict (‘tribes’).
 - What policies best facilitate sustainable innovation?
 - Is culture an industry or social network market? Is Intellectual Property the appropriate basis for a cultural economy, or is it giving way to decentralised governance protocols, such as those that are being explored via blockchain technologies?
 - What role does collective action play in innovation?

Cultural Science Journal is interested in any new approach to the study of culture, and is aware of other centres of energy and exploration which are opening up the field to new ideas. These range from new journals such as *Evolutionary Studies in Imaginative Culture* and *Cliodynamics: The Journal of Quantitative History and Cultural Evolution*, through to social-media initiatives like *Evonomics*, numerous research centres around the world, and individual scholarly publications from people within and beyond our current intellectual horizons, to say nothing of those working outside the Anglosphere.

We would like to publish work associated with any such centre or people. We are not claiming definitional or disciplinary exclusivity. Quite the reverse: we see cultural science as an intellectual meeting-place, not a disciplinary method. We do think that cultural science is distinguished by an interest in the culture-creativity-knowledge nexus, in dialogue between evolutionary and cultural approaches, and in the humanities traditions of textual-discursive analysis and criticism. How these might be conjoined with mathematical, probability and complexity approaches is what *Cultural Science Journal* plans to discover – with your participation.

History and Plans

Cultural Science Journal published 14 issues (one or two a year) between 2008 and 2016. You can explore them all in our archive on this site. Some articles are about the development of the cultural science approach, while others focus on specific problems. Most were collected from research workshops, events and reports that sought to advance interdisciplinary approaches to the cultural and creative industries.

‘Cultural Science’ was a program of research in the Australian Research Council (ARC) Centre of Excellence for Creative Industries and Innovation (2005–13), via John Hartley’s ARC Federation Fellowship program (2005–10). Initially located at Queensland University of Technology, the Cultural Science program relocated in 2012 to be hosted by the Centre for Culture and Technology (CCAT) at Curtin University, Western Australia, which now supports the journal.

A 'zeroth order approximation' account of this research was published in the book *Cultural Science: A Natural History of Stories, Demes, Knowledge and Innovation*, by John Hartley and Jason Potts, (Bloomsbury, 2014). It is available Open Access, via Bloomsbury Collections: <https://www.bloomsburycollections.com/book/cultural-science-a-natural-history-of-stories-demes-knowledge-and-innovation/>). The approach is explained and applied in Hartley, Wen and Li (2015).

During 2017, *Cultural Science Journal* took a break in order to pupate from a self-managed project in a particular research program, emerging as a fully Open Access journal in 2018, with a new editorial board and website.

Why we need Cultural Science

We approach and model culture as an evolved functional system, being the chief mechanism for creating and binding social groups, for translating meaning and knowledge (including technologies and uses) across boundaries of difference, and for transmitting codes and knowledge through space and time – to other groups and generations.

We want to discover the extent to which culture is the cause of societal and environmental problems, including problems of knowledge, and to pinpoint where a better understanding of how it works can be part of their solution. If you are concerned about the economics or governance of groups, the negotiation and transmission of identity, the history and future of communities, the development of networked knowledge or the role of social media in shaping culture, then you have a place in the rich interdisciplinary ferment of our growing community.

We seek to integrate the insights gained in the humanities with work from other spheres, especially the evolutionary sciences (including economics and bioscience) and complexity sciences (computational systems and networks). We also look beyond the academy, to advocacy, activism and policy. We're a journal of 'public thought', open to those working on applications of knowledge as well as basic research. What can each domain learn from the others?

- What is the role of fiction, imagination, creativity and novelty in economic and life systems?
- How does cultural conflict result in both the destruction and creation of knowledge?
- What is the agency of technology and artificial systems in human affairs?

In terms of approaches and method:

- Which scientific approaches can help us to explain planetary-scale and population-wide cultural processes; and their dynamics under uncertain conditions?
- How can the methods already in use in specialist corners be synthesised towards a general model?
- How can such a model improve on individualistic, choice-theoretic and behavioural approaches?

Rigour + Vigour

In 1974 Raymond Williams – one of the founding parents of cultural studies – called for a new approach to the study of culture. He wanted a discipline that was 'rigorous in method' but retained a 'vigorous and general humanity' (1974: 37). He wrote: 'The approach I want to describe is that of cultural studies, which is English for "cultural science".' Williams was translating the German *Kulturwissenschaft*, associated with philosophy (Simmel, Cassirer), history and anthropology (Dilthey), sociology (Weber) and art history (Warburg, Gombrich). Thus, for Williams, the first theorist of 'British' cultural studies (Turner, 2003), cultural *science* came first. We can call this version 'cultural science 1.0'.

Cultural *Studies* has enjoyed a long period of expansion and social prominence, marked by politicisation and bursts of controversy (Lucy, 2016), which displayed plenty of vigour but not always rigour. The relation between scientists and cultural studies deteriorated after the 'Sokal affair' (Derrida, 2005: 70–3). It became a textbook case of adversarial distrust between 'we' and 'they' groups. Neither side learnt from the other. When Alex Mesoudi (2011) published a knowledge tree of evolutionary approaches to culture, the Arts and Humanities branches were missing altogether, although the concept and practice of culture had been under scholarly investigation in these fields for several centuries.

Meanwhile, advances in the integrated biological sciences delivered new ideas about communication, relationships and identity throughout the biosphere, while cultural studies generated plenty of insights about how text, discourse and meaning are real (empirical) phenomena that require the same kind of naturalistic, evolutionary, materialist analysis as any other.

Why is Cultural Studies Not an Evolutionary Science?

It's time to restart the conversation across disciplines, seeking to synthesise the best work. Our particular effort commenced in 2008 as 'cultural science, version 2.0'. With Carsten Herrmann-Pillath (2013), we have sought to establish for culture a 'scientific approach that aims at establishing truthful propositions about reality', and at finding ways for humans to perform themselves – vigorously, as Williams said – in the face of those facts.

Cultural science can be summarised as the study of how, utilising evolved sense-making social technologies (speech, writing, media, electronics and their organisational forms), culture makes groups, groups make knowledge, and innovation emerges from translation within and between groups (Lotman, 1990), not simply from 'transmission' of information (Carey, 1989). Culture-made groups are structured but not static systems; change can be gradual or explosive, which means that knowledge can grow cumulatively but also be transformed rapidly, for instance in response to technological or environmental changes. Cultural science studies these dynamics, seeking to understand the emergence, proliferation and disruption or destruction of groups and their knowledge.

Cultural science conjectures that culture is a primary causal force in socioeconomic and political change over the *longue durée*. If so, then the conceptual framework for communication, agency and change are in need of revision. Communication is not a 'behaviour' of already-made individuals; it is a condition of existence for individuals. Culture is not a 'superstructure' whose causal determination or 'base' lies elsewhere (in economics). Instead, culture is itself a causal agent that may turn out to be constitutively prior to 'production' (economies) and 'settlement' (polities), contrary to most developmental narratives.

At the same time, the received concept of culture in the humanities is no longer fit for purpose. Cultural science is an attempt to reconceptualise it, based on what culture is *for*, as an evolved system-of-systems. The inherited usage of 'culture' to refer to the works of elite artists (art, literature) or to the everyday practices of ordinary people (anthropology) does not address what Thorstein Veblen called 'causal sequence'. Following Veblen's (1898) provocation – 'Why is economics not an evolutionary science?' – cultural science poses the same question to the study of culture, over 100 years later. The need for a clearer understanding of cultural causation has been made urgent by the rapid expansion of user-created content, creative industries and the maker movement. These phenomena clearly carry economic, business and political implications, but at the point of (re)production they are all culture. They are about identity, relationships, meaning and power, using textual-discursive codes to communicate imaginative truths, fictions (and deceptions). How do such creative systems work at population and planetary scale?

The overall conceptual models inherited by cultural and media studies – structuralism, political economy, production/consumption – were not well-suited to understanding global dynamics and system-level change. Following the widespread adoption of computation and the internet, in addition to globalising commercial popular culture, cultural studies needs new tools to understand:

- competitive communication in and among self-organising groups,
- the principles of social network markets (Potts et al., 2008),
- the productive agency of myriad users of social networks (Hartley, et al., 2015).

Already, many studies of social media borrow, adapt or propose numerate methods to analyse user-created systems and data. The burgeoning field of internet studies is developing many different types of computer-aided analysis, from actor-network theory to data visualisation. But an overall conceptual framework is still a challenge for a branch of knowledge that has previously relied on in-close analysis of unique artistic works, situated groups and textual-discursive activities in a wider context of power (Gibson, 2007). The agency of users could no longer be researched using received cultural methods (textual-discursive; ethnographic; critical) alone, but 'big data' analytics often seemed to miss the cultural component of scaled phenomena. It is obvious that consumers are at the 'end' of the industrial value chain, but that doesn't explain the creative productivity of everyday consumption in interactive, participatory and sense-making media. So far, an overarching frame that can encompass both social scale and individual meaningfulness has proven elusive. Cultural science seeks to build that frame.

Cultural science focuses on culture's systems, function and dynamics across whole populations, seeing culture as a long-run evolving system, which, at micro (agent), meso (institution) and macro (system) scale (Dopfer et al., 2004), has enabled societies as a whole:

- to form trustworthy groups,
- to store and transmit knowledge,

- to generate useable novelties (innovation) in self-creating, self-organising systems and their mutual interactions,
- to adapt to changing circumstances in the environment or in relations within and among groups.

It investigates:

- how culture makes groups (we/they boundaries) organised around identity and meaning,
- how groups make knowledge (shared among 'us' but often secreted from 'them'),
- how meaning systems, from speech and story to elaborate institutional forms, share/restrict the distribution and growth of knowledge among particular subpopulations,
- how knowledge is boundary-marked, proclaiming universal application while displaying parochial aggressiveness towards outsiders,
- how disruptive interactions between groups, from cooperation and competition to conflict and conquest, can result in new knowledge (innovation).

It is looking for causal sequence in cultural processes, when 'micro'-generated novelties (random variation) are adopted via 'meso'-institutions (selection) in 'macro'-systems (retention). For this, it uses a 'bio-science' (complex system) model, rather than the 'transmission' model that was borrowed from physics (moving information along a wire) and is now entrenched in the standard communication disciplines (Carey, 2000).

Rethinking user-creativity within large-scale social and technical systems entails linking language systems with industry systems with individual agency, focusing on the growth/distribution of knowledge via 'translation' of meaning across boundaries (Lotman, 1990). Instead of confining cultural action to a struggle between public and private interests (Oakley & O'Connor, 2015), cultural science focuses on:

- groups organised as 'clubs' (Buchanan, 1965),
- groups (including clusters of clubs), sharing knowledge via 'commons' (Hess & Ostrom, 2003; Allen & Potts, 2012).

The shift from public/private to clubs/commons draws attention beyond individualism to the agency of groups and 'imagined communities' (Anderson, 1991), and the Tocquevillian 'associations' that emerge to support them and the communication media that coordinate them.

Cultural science is an effort to discover how decentralised agency and self-organising social systems (re) produce knowledge, by developing new (hybrid) methods for studying cultural systems and dynamics, combining:

- 'in-close' attention to textual-discursive meaningfulness,
- 'big-data' analytics, including 'network effects' in knowledge-making systems,
- attention to the governance of groups and their interactions in circumstances of uncertainty and conflict.

Cultural science is an attempt at disciplinary modernisation in the so-called HASS sector (Humanities, Arts and Social Sciences). In relation to policy, it seeks to shift culture, creativity, knowledge and research from 'market failure' or 'social welfare' (public) models to a model based on groups: both purposeful enterprise or activist 'clubs'; and multivalent, multi-user 'commons'. If 'culture makes groups and groups make knowledge', then what are we doing to nurture excellent groups and to open knowledge to population-wide use?

We invite you to address these questions – or to argue with them, or suggest others – by submitting a paper to the journal.

Competing Interests

John Hartley founded the Cultural Science Society and is Founding Editor of the Cultural Science Journal.

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How to cite this article: Hartley, J. 2018. Editorial: Relaunching Cultural Science. *Cultural Science Journal*, 10(1), pp. 1–6. DOI: <https://doi.org/10.5334/csci.111>

Submitted: 12 June 2018 **Accepted:** 12 June 2018 **Published:** 10 July 2018

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