‘Paris with snakes’? The Future of Communication is/as ‘Cultural Science’

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Abstract

What if Communication has been pursuing the *wrong kind of science*? This paper argues that the physics-based or ‘transmission’ model derived from Claude Shannon and criticised by James Carey does not explain how communication works. We argue instead for a model derived from the evolutionary and complexity sciences. Here, communication is based on dynamic systems of meaning (not individual ‘particles’ of information), and relations among knowledge-producing agents in culture-made groups. We call this sign-based evolutionary and systems model of communication ‘cultural science’ (Hartley & Potts, 2014), and invite communication scholars to assist in its development as a ‘modern synthesis’ for communication, along the lines of Huxley’s synthesis of botany and zoology as evolutionary bioscience.

Keywords

Communication science * cultural science * evolution * systems * groups * knowledge * semiosphere * noösphere * dynamics

Science or studies?

During the 1950s to 70s ‘Communications’ threatened to emerge as a master-discipline for the information age. It promised general salience to industry and society, and possibly even fundamental explanatory power. Its one-word name in the USA represented an ambition for scientific status, founded on mathematics, theory, replicable method, and generalisability. Not for Communication(s) the ‘soft’ status of mere ‘studies’ – dismissed as cultural, historical, and partial. It seemed ready to explain everything from Cold-War military reliance on information to consumer-capitalist reliance on persuasion, from the organisation of firms to pathological conditions in individuals. What made it even more compelling was the fear that communication *didn’t work* much of the time. There were plenty of problems for the

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scientists to get stuck into. If only they could understand how communication worked, they could control it, strategically, commercially and behaviourally.

What if all this could be encompassed in a single science – as that term was then understood? It seemed that it was at least possible to ask that question. But to encompass communication as a whole, the (universal, physics-based) 'transmission' model beloved of behaviourists, functionalists and positivists, largely in the USA (Lee 2015), would have to be integrated with the (cultural, historical-materialist) 'ritual' model used by literary, linguistic and cultural theorists, largely from Europe (Carey 1989: 42-3). US Communication science showed little interest in creative communication, except the 'mass' forms whose effect on behaviour was suspected to be pathological. Otherwise, elaborated and imaginative forms – language ('code'), literature/film ('content') or culture ('context') – were left out of the account. One attempt was made to achieve the transmission/ritual integration, and it came not from a US Communication scientist but from European literary critic Raymond Williams (1962; 1974), despite longstanding literary suspicion (going back to George Eliot) of any attempt to find a 'key to all mythologies'. In the event, with such disparate inputs – one set aspiring to practice a certain paradigm of science (in order to train up businesspeople), another resistant to it (in order to educate critical consciousness) – the output was always more likely to be chaotic than comprehensive. But the question was on the table, even if there was not yet, despite Williams's heroic efforts, a magisterial synthesiser available to unify it, as Julian Huxley had done in the biosciences (1942).

The rise of Communication as a science was not simply a disciplinary matter. It was also political and historical, as was the transatlantic rift between behaviour and meaning. Communication didn't travel abroad unopposed. The globalisation of ideas – and the presumption that the US way of doing things was as universal as Mickey Mouse's ears (Lee 2015) – accelerated after Telstar (1962), coinciding with the period of the Vietnam War, globalising media-entertainment, countercultural politics, new social movements, international Marxist theory, and the beginnings of a global academic marketplace that specialised in radical superstars. Europe was 'opened up' to US behavioural sciences.

But the trade was not all one-way. Continental high theory and cultural constructivism – soon gathered under the *nom de guerre* of 'postmodernism' – began to infiltrate US literature departments. Some saw the arrival of French theory into the USA as a new colonial invasion. Thus, according to *The New York Times* at the time, it was 'as if a tropical French colony, a Paris with snakes, had sprung up' at Yale, where 'a dense jungle has grown up around this house of literature'. The *NYT* went on: 'Some fear the jungle also shields a guerrilla camp from which armed nihilists have been launching raids on the academic countryside' (Campbell 1986). The scientific (transmission) and constructivist (ritual) approaches collided *as knowledge*. Once the dreaded 'Paris with snakes' began to infest Communication departments in big mid-Western universities, where psychosocial experimentation on and by students had risen to an art form, it seemed clear that the differing takes on communication were incommensurate forms of knowledge. Communication turned out to be too contextual, contested and complex to thrive as an integrated reductive science.

For all its scientific desire, communication 'studies' has continued to expand only insofar as it has drifted ever further away from science and into the humanities (when other fields, such as psychology, economics and geography, were heading in the opposite direction), even in the mid-Western 'homeland'.

What kind of science?

But was the retreat from scientific status all the fault of the 'transmissionists'? Don't the 'ritualists' bear some responsibility too? Here, the loose assemblage of progressive 'studies' (communication, cultural, media) and some of the practice-based arts (visual, design, drama, Radio-Film-TV, music), now characterised as 'creative industries', has consistently refused to play the scientific game. Is that a victory for resistance and freedom from control; or a defeat for scientific self-correction? We think it is the latter, abandoning knowledge to the *wrong kind* of science, which in Communication has become both internally dominant and isolated externally, cut off from advances in other fields – as Anderson and Servaes have pointed out. Certainly it has never felt the need to learn from 'cultural studies', especially as (according to its opponents) this cutting edge weapon of postmodernism was already blunted by the Sokal hoax in the 1990s, testing the academic rigor of cultural studies, and is now a fading paradigm whose founding figures are all dead (but see Lucy 2016). Despite its

success in *irritating* the prevailing arrangements of knowledge (Hartley 2003), cultural studies has not *reformed* communication studies.

The basis and status of cultural studies knowledge remain radically uncertain, but it has nevertheless ended up sharing a room with Communication research. But the early attempt by Raymond Williams (1974) to combine US-style 'Communications' with European 'cultural science' (*Kulturwissenschaft*) has not re-ordered the field. Communication itself is diminished to the status of 'studies' in this cluster; and cultural studies, while remaining 'critical', is reduced to local studies of socially embedded texts and discourses. No longer questioning the reality of the real, or agitating for revolutionary political action, it contents itself with humdrum studies of power and difference in contemporary everyday mediated life. It is still interested in textuality, discourse and power, and alert to context, history and theory, but it's no longer a threat to anyone else's truth claims or territory. It doesn't want to *take* power. This means that the *science* of Communication has been left to the behaviourists, underpinned by methodological individualism. The chance for postmodern cultural studies to join forces with new ways of doing science, so as to reconfigure *science itself* – i.e. *knowledge* – has dropped off the agenda (Bruno Latour (2005 [maybe]) notwithstanding).

Why is Communication not an evolutionary science?

What is the best scientific model of communication for a burgeoning science of culture? The answer seemed obvious in mid-twentieth century, namely that it should be based on *physics*, the most prestigious and foundational of the sciences, and the one in which communication begins. Elementary particles communicate with each other through 'messenger particles' that carry force over a force field. In a fundamental sense, physics is a framework of perfect communication – of all particles with all particles – that constructs the concept of information as a message (based on difference from randomness). That framework in turn underpins the sender-receiver model by defining perfect communication as a message along a channel.

What else could possibly furnish a *better* basis for a general theory of Communication science? The virtue of selecting the physics model is that many subsequent key concepts from political studies, cultural Marxism, and sociology actually fit rather

well, even if this was mostly carried as metaphorical transformation. The concepts of a noisy channel, amplification and entropic loss – principles in engineering – could be interpreted in a cultural and sociological register. What mattered was the key analytic form of a change in a message at a single point propagating to all. The idea that various forces – such as hegemonic power – could shape a message and propagate across a 'cultural field' seemed a natural extension of the basic scientific logic of communication.

But field models are not the only models of communication in science, and nor are sender-receiver conceptions the only approach to information and agency. The other broad class of communication models comes from evolutionary biology, and evolutionary science in general (cf. Veblen 1898). The physics versus evolutionary models are different for two basic reasons. First, biological models deal with *groups* and *populations*, and with the interaction and emergent dynamics of those groups – rather than with an individual and fields. Second, communication, because of the group context, is often *strategic*, which means that it matters what the other agent does, and what the agent thinks they will do (Tomasello 2014). Communication is elementary to competitive and cooperative reproductive strategy, which means that it is a target of powerful forces of evolutionary selection (both natural and sexual). Communication *evolves*; the field-based physics ('transmission') models completely miss this aspect. Evolutionary biology begins with DNA, chemical groups that carry instructions for how to make things, such as cells or tissue. This is biological 'knowledge' carried in an organic structure (the domain of biosemiotics). DNA communicates with other DNA through costly phenotypic traits, including behaviour, language and minds. This is the domain of evolutionary psychology and the problems of honest communication.

In the networked, creative, global era, the chance is there for what Carey thought impossible – a 'science of creation and construction, a science of understanding and common action' (2000: 22) – to be made possible at last. Without that, Communication stays in the hands of the wrong kind of science: what it studies is not communication but behaviour; and what it measures is not creativity but control. As things stand, behavioural research commonly discounts the humanities altogether, while textual-discursive traditions resist scientific method. One side neglects scale

and methodology; the other neglects meaning and power. Given the rapid changes in the sciences in the last few decades, the conditions are surely right for the study of communication to be re-founded on a different conceptual basis. This time, its science will not rely on sender-receiver models borrowed from physics. It will not abandon the study of 'Communication', as a *constitutive* action of sociality, culture, systems, etc., in favour of studying something else entirely, namely. individual 'behaviour', on the grounds that the latter can be observed and subjected to experimentation. Instead, a new science can be posited by using a framework derived from:

- Evolutionary and complexity sciences: the study of culture and communication is naturalistic, evolutionary, and systemic;
- Systems approaches to society: society is constituted in communication;
- Meaning-creation occurs across planetary systems: the semiosphere (meaning and culture) and the noosphere (thought).

Cultural science

We call this new approach *cultural science* (Hartley and Potts 2014) – partly in homage to Williams's incomplete project – to distinguish it from the 'control' version of communication science. James Carey (2000) was pessimistic about control, because he saw it exercised by corporations and governments. But in complex systems, control is not construed as *external*. Cultural science is founded in evolutionary naturalism, it is interested in how large-scale systems *self-organise*, achieving control *as systems*, not by external imposition, whether authoritarian or scientific. It is also interested in the *dynamics* and interactions of systems: how they respond to change and to each other; how they adapt and become extinct. As an evolutionary science it is interested in *populations*, not individual specimens. Cultural science construes individuals and their behaviour as outputs of systems. And it founds the construction of autopoietic systems – such as society, language, culture – on *communication*, following (among others) Luhmann's theory of society (e.g. 1991; 2012), Uexküll's concept of *umwelt*, the semiotic world of an organism (Kull 1998), and the Lotman/Vernadsky theory of the semiosphere/noosphere (e.g. Lotman 2009; Vernadsky 1938; 1943). Systems thinking was a feature of these models, anticipating complexity theory by decades. Together with recent work in biosciences and computer science, they offer the elements of a *sign-based approach to evolution* – a

very different foundation for Communication compared with Shannon's model of electrons in a wire.

A cultural science can be built on this foundation, not of psychological theories of mind, but by developing evolutionism into the realm of social communication as the reproduction of a self-communicating group – a 'deme' (Hartley and Potts 2014). This is a general evolutionary model of communication as the constitution of *a group in a space*. It is not a field-theoretic model of a space, but a 'deme-theoretic' model of a (semiospheric) space.

In this approach culture makes groups and groups make knowledge. That formula defines a 'deme'. Knowledge grows through conflict with other knowledge and through shifting demic boundaries. We suppose that each person occupies one or many demes, and that knowledge is made by a deme (not an individual). Therefore communication is the cultural process of constitution and reproduction of the deme, which we can model as the space of *group-making actions*, including cooperation, coordination, exchange, and negotiation. This approach therefore generalises many of the concepts in economics and sociology (including competition and cooperation) into a generalised model of communication and knowledge.

As a general framework, cultural science requires that we start by asking what is communication *for*? In a sign-based evolutionary model, communication is for meaning translation, which we can take to run from signalling to feedback and sensing, through to concepts relating to message and meaning. Information is for coordination and cooperation, which is about the problem of strategic behaviour and honest communication. And the adaptive purpose of coordination and cooperation, building on communication of meaning, is for making and using knowledge, which is done in groups. The coordinated use of distributed knowledge is how groups survive and prosper (Hayek 1945). The function of culture is to make groups that can make knowledge. This is the space of evolutionary communication in which communication is not individuals 'sending and receiving messages' but culture making and remaking a group and groups, in which *it is meaning that evolves*, so as to make, use and grow knowledge. This suggests cultural science as a scheme of evolutionary dynamics of culturally constituted knowledge-making groups.

Six deficiencies

The provocations of Anderson and Servaes are timely. There is a need to develop a global conversation about where we're heading, including differing perspectives (Prince 2010), in order to address conceptual problems and constraints. We need to get away from methodological individualism, parochial aggressiveness, and incumbent defensiveness, and to ask what would be gained and what lost by starting again. Here then is our response to Anderson and Servaes' 'deficiencies' in communication research:

1. *Not a science*

It is challenging to think about communication as a science. We think it should be an evolutionary-complexity-systems science of dynamic groups, studying culture-communication-creativity. It needs to aspire to a 'modern synthesis' of knowledge, of the kind that has reconfigured the biosciences, archaeology and other pursuits that started life in the humanities.

2. *Dead-end cognitivism*

Behavioural science studies individual behaviour. Cultural science studies communication.

3. *100-year old methods*

Cultural science offers rapid prototyping of new methods by pursuing 'consilience' between evolutionary sciences, digital systems, and creative culture. It's not so much a new toolkit as a newly thought-through application of existing models, drawn from recent advances in many (apparently antithetical) disciplines.

4. *Failed to return something of value to society*

Cultural science solves the problem of what innovation is, where it comes from, and what it is for, leading to new understandings of how newness and knowledge are made, grown, communicated, and transmitted through time and space. Using 'club-theoretic' approaches from economics (Buchanan 1965), we propose the concept of 'knowledge clubs' to analyse how these processes work. The advantage of this is that it does not reproduce the 'control' concept of science that Carey feared, or rely on an

increasingly outdated 'public vs. private' characterisation of knowledge and culture, but shifts attention to how new knowledge is made in cultural groups (clubs) and shared across social networks (commons).

5. *Not interdisciplinary enough*

Ultra-interdisciplinary! You have no idea what we have had to read to get here!

6. *Very low utility to society at large*

Watch this space … we have applied this as a new approach to innovation strategy and policy (Hartley and Potts 2015). We don't exactly have a 'clinical practice', nor do we anticipate immediate consultancy contracts for our model, but the potential of cultural science is to investigate how culture-formed groups make knowledge. That's pretty useful.

… and 7. – *far too content with current state and 'also participated' trophies*.

Cultural science is ambitious: it wants to remake Communication (science and studies).

Conclusion

If cultural science, as a sign-based approach to evolution, is a science of evolutionary dynamics of culturally constituted knowledge-making groups, and creativity is the production of newness under uncertainty, then what is Communication? It is an evolutionary-complexity-systems science of dynamic groups, seeking to understand the processes of variation, selection and retention of signs, signals and knowledge in any system, e.g. human-made systems of culture-communication-creativity; but also computer-made systems; animal-made systems. Longer term, it is the natural science of the noösphere.

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