

Technologies of the Imagination: An Introduction

David Sneath, Martin Holbraad & Morten Axel Pedersen[†]

University of Cambridge, University College London, & University of Copenhagen

What would an anthropology that takes the imagination seriously look like? And how far could an exploration of the processes through which imaginative effects come about serve to distinguish the imagination from other phenomena? The result of a series of editorial workshops funded by an 'innovation award' from the British Arts and Humanities Research Council, this special issue aims to present a cohesive selection of case studies. Exploring practices as diverse as prophecy in Mongolia, migration in Guinea-Bissau, Internet use in Russia, and open source software design in Europe, our aim in focusing on these 'technologies of the imagination', as we call them, is to develop a distinctly anthropological approach to the central and irreducible role of the imagination in social and cultural life. While the individual contributions explore how imaginative effects are produced under very different ethnographic circumstances, the collection as a whole is meant to add up to a comparative argument.

Setting out this common agenda, this Introduction makes the case for sharpening up the concept of the imagination by examining the specific 'technologies' through which imaginative capacities are moulded. This is done in three sections. In the first section we review dominant anthropological approaches to the imagination, in the writings of Charles Taylor, John and Jean Comaroff, Vincent Crapanzano, Arjun Appadurai and Benedict Anderson. Three tendencies are singled out here. Firstly, in this literature the concept of the imagination can be said to play the role of 'culture' in new clothes, seen as it is as a holistic horizon of meanings. Secondly, the imagination is typically presented in 'instrumental' terms, as if its analytical value depended on showing how it may serve particular functions in people's lives. Thirdly,

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partly due to the concept's Romantic origins, there is a general tendency to ascribe positive connotations to the imagination.

Taking a critical view on each of these points, in the second section we develop a positive programme for an alternative anthropology of the imagination. Here we build particularly on Kant's insight that the imagination is pervasive in all human apprehension, and explore how this 'processual' view has been taken up in a variety of human sciences, including the burgeoning cognitive psychological literature on the subject. With a view to complementing this research, and with reference to the ethnographies of our contributors, we argue that by focusing on the social and material means by which particular imaginings are generated – by focusing, in other words, on 'technologies of the imagination' – the imagination can be characterized in a more refined way than it has been hitherto in the anthropological literature. In the final section we take up this task with reference to the contributions that follow, drawing on Tim Ingold's analysis of the social role of technology, as well as Cornelius Castoriadis' philosophical writings on the 'indeterminate' character of the imagination. The key idea here is that the imagination can be defined in terms of its irreducibly indeterminate relationship to the processes that precipitate it (i.e. its 'technologies'). In relation to our critical review of the literature in the first section, we explore the implications of such a view, showing particularly that the imagination is best understood in non-holistic and non-instrumental terms.

The Anthropological Imagination

Among anthropologists, references to 'the imagination' and 'the social imaginary' have recently become commonplace (see, for example, Hansen & Stepputat 2001; Gaonkar 2002; Strathern, Stewart & Whitehead 2006). It has even been argued that, due to the rising speed with which images and persons now travel, 'the imagination has now acquired a new power in social life' (Appadurai 1996:53). Imagination, the more or less implicit message seems to be in these writings, goes hand in hand with modernity; indeed, it is sometimes viewed as the cornerstone of globalization. More precisely, the imagination is widely seen as the mechanism by which 'modernity' is made 'multiple' in different social and cultural contexts. As Dilip P. Gaonkar observes, it is 'through exploring the productive tension between globalization and multiple modernities that [anthropologists have] turned to the idea of the social imaginary' (2002:4).

In our view, such formulations exemplify the way in which the concept of the imagination is used by anthropologists as a mainly rhetorical device

in well-rehearsed constructivist arguments, which aim to de-essentialize socio-cultural entities and categories. For example, in the introduction to their edited volume on *Civil Society and the Political Imagination in Africa*, Jean and John Comaroff suggest that '[t]he very fertility of the Idea [of Civil Society] – its broad, transnational appeal as a trope of moral imagining – stems from its polyvalence: its capacity to condense distinct doctrines and ethical strains in a fan of pliable associations that can be variably distilled and infinitely elaborated' (1999:6). Suggestive as such renditions of the moral or political imagination are, they offer little guidance as to how, and under what possible constraints, the imagination allows for 'infinite elaborations' of meaning to take place. Effectively, in such contexts the concept 'imagination' is used in a way strikingly reminiscent of how 'culture' once was. As Claudia Strauss (2006:322) notes in a recent article, which articulates a number of our concerns as well,

it is not a coincidence that talk of imaginaries became common just as culture was falling out of favor: to a certain extent the imaginary is just culture or cultural knowledge in new clothes. We need a way to talk about shared mental life: if culture is too redolent of Otherness, fixity, and homogeneity, then another term will have to be found. Ironically, however, the imaginary, in the hands of some authors, has taken many of the same connotations of homogeneity as culture did (emphases omitted).

One might say, then, that recent writings on the imagination have tended to 'enlarge' this concept, investing it with a role similar to more familiar anthropological concepts, like culture and ideology.² Take the example of the political philosopher Charles Taylor (2002, 2004), whose work on 'social imaginaries' has become increasingly influential among anthropologists, as also noted above. The 'social imaginary' is here depicted as an overarching template for thought and action – a sort of totalizing backdrop of meanings required for human beings to make sense of the world. As stated in Gaonkar's introduction to an influential special issue of *Public Culture* on New Imaginaries (2002), to which Taylor too contributed, 'within the folds of a social imaginary, we see ourselves as agents who traverse a social space and inhabit a temporal horizon, entertain certain beliefs and norms, engage in and make sense of our practices in terms of purpose, timing, and appropriateness, and exist among other agents' (2002:10). Similarly, though without reference to Taylor, Rapport and Overing define the imagination as 'an activity in which human individuals are always engaged; and it is through their imagination

that individuals create and recreate the essence of their being, making themselves what they are, were and will become' (2000:4).

The problem is that, despite their rhetorical appeal and apparent theoretical novelty, such uses of the concept of the imagination do not so much qualify or present alternatives to earlier concepts of culture, but rather serve to upgrade them, as it were, in a newer version. Consider, for example, Taylor's own comment:

I speak of imaginary because I'm talking about the way ordinary people 'imagine' their social surroundings, and this is often not expressed in theoretical terms; it is carried in images, stories, and legends. But it is also the case that theory is usually the possession of a small minority, whereas what is interesting in the social imaginary is that it is shared by large groups of people, if not the whole society (Taylor 2002:106).

Leaving aside the undisguised holism of the idea that the social imaginary is 'shared by the whole society', we see here a good illustration of the subtle magic performed by the concept of the imagination. The social imaginary is presented as a continually changing and implicit template through which individual agents make sense of their world, which, the underlying assumption seems to be, is both epistemologically and ethically superior to the elitist foreground of explicit rules and propositions, which was once known as culture. Much like Bourdieu's *habitus*, Taylor's social imaginary is thus defined as a 'largely unstructured and inarticulate understanding of our whole situation [sic], within which particular features of our world become evident' (2002:107). In effect, all that is accomplished by Taylor's (and Bourdieu's) seemingly radical move is that a fixed totality of explicit meanings ('culture') has been substituted with a fluid totality of implicit ones ('the social imaginary'). In other words, the imagination is not 'a whole' in the same way as 'culture' once was, but it is just as holistic.

In addition to the analogy with 'culture', a second difficulty with dominant approaches to the imagination in anthropology is their tendency towards what one might call 'instrumentalism'. For those inspired by Taylor and other theorists of 'social imaginaries', as well as for anthropologists who like Strauss are more influenced by cognitive scientific approaches, the imagination is cast as something *purposeful*. Social imaginaries are thus teleologically defined in accordance to a hypostatized socio-psychological function, such as 'making sense of the world' – an expression that is ubiquitous in discourses about imaginaries, be they 'social', 'political', 'religious', 'moral', or what have you.

Consider, in this connection, Benedict Anderson's approach in his influential book *Imagined Communities* (1983). In important ways, Anderson provides a good antidote to the holistic tendencies in the more recent literature described above. His thesis that nations emerged imaginatively as emotive-cum-political entities as a result of particular practices, such as the diffusion of maps and the printed press, shows that the imagination need not be posited in metaphysical terms as a source of 'meaning', but can rather be investigated empirically as a process that, though always present in social life, may have variable characteristics. Thus, in his critique of Gellner's theory of nationalism Anderson writes:

All communities larger than primordial villages of face-to-face contact (and perhaps even these) are imagined. Communities are to be distinguished, not by their falsity/genuineness, but by the *style* in which they are imagined (1983:6; emphasis added).

While Anderson lacks an explicit theory of the imagination (Axel 2003), this willingness to explore the heterogeneous processes through which concrete imaginings come about, and thus to entertain the possibility that the imagination may not constitute a holistic horizon but rather a set of emergent effects, is, as we shall see, confluent with our proposed focus on 'technologies of the imagination'. Nevertheless, Anderson's abiding Durkheimian agenda shares a broader tendency within the social sciences to posit the imagination in terms of putatively more basic concerns such as, in Anderson's case, the 'need' to forge a communal identity. Our worry here has less to do with the truth value of this thesis than with its analytical implication, namely, that the imagination is only interesting for the social scientist insofar as it can be shown to fulfil a certain purpose, whether in terms of social function or existential potential (as in Taylolean approaches), thus 'constantly shifting' the imaginary, as Castoriadis puts it critically, 'towards something other than itself and [letting it be] absorbed by this something else' (1987:168).

The expectation that the imagination must ultimately fulfil a purpose of some sort is also connected to a third shortcoming we detect in the literature, namely the 'Romantic' tendency to ascribe positive connotations to the imagination. Vincent Crapanzano's notion of 'imaginative horizons' (2004) is relevant here. By far the most ambitious attempt by an anthropologist to theorise the imagination so far, his book may best be described as a literary experiment within the tradition of hermeneutic anthropology. Staunchly refusing to offer a theory of the imagination (2004:7), and discarding any 'claims to completion

and definitiveness' by deliberately organizing his text 'as a montage' (2004:5), Crapanzano offers a range of suggestive ideas, including that of imaginary 'frontiers', which, unlike borders, cannot be crossed. He writes:

I am interested in frontiers as horizons that extend from the insistent reality of the here and now into that optative space or time – the space-time – of the imaginary... They postulate a beyond that is, by its very nature, unreachable in fact and in representation. My concern is with the role of what lies beyond the horizon... that rattles our assumptions about the reality from which our constructions are made. However foundational, it is not immune to our images of the beyond. I am then particularly concerned with the paradoxical ways in which the irreality of the imaginary impresses the real on reality and the real of reality compels the irreality of the imaginary. These ways cannot be separated. They are in dialectical tension (2004:14–15).

By focusing on the processes by which virtual horizons are 'compelled' by the thickness of materiality (see also Miller 2006), Crapanzano opens up a genuinely ethnographic engagement with the imagination as a social and cultural phenomenon that can be investigated empirically. But his approach also has its difficulties. For one thing, it is impossible to discern any conceptual or methodological framework for carrying out such an analysis (even though, as mentioned above, this is intentional). Secondly, Crapanzano's perspective displays a certain romanticism, in common, perhaps, with such 19th-century theories of the imagination as Coleridge's, who famously saw the imagination as an unfettered and in that sense transcendental source of poetic creativity (see below). Nowhere is the 'transgressive possibility' of the imagination (Crapanzano 2004:6) discussed in ways that might be seen as negative, and nowhere is it suggested that 'the wonder of the imagination' (2004:2) might itself be a quintessentially European ideological (or could we say imaginary) construct rooted, perhaps, in the Romantic reaction to the Industrial Revolution and its epistemological, moral and political underpinnings (Engell 1981).

In contrast to such romanticizing tendencies, and more in line with Strathern, Stewart and Whitehead's timely discussion of imagination and terror (2006), a number of the contributors to this special issue explore the more dystopian potentials of imaginative engagement. For example, Humphrey shows how Russian youths' interaction in internet chat-rooms allows for newly potent forms of ethnic nationalism – in this case of the Buryat Mongol minority. Vigh, on his part, shows how people in Guinea Bissau map their life trajectories onto an imaginary vista where different visions of 'high tech' technologies

correlate different levels of progress in what amounts to a sort of modern dystopia (or rather, a dystopia *of* modernity). Making clear his intellectual debt to Castoriadis and Taylor (see also Vigh 2006), Vigh explores the social imaginary of young Bissau migrants, focusing on the sometimes desperate strategies by which they navigate the conflict and poverty of their war-torn country. As such, his analysis allows us to make sense of an emerging racial world order, arguing in the process that we need to better understand the prospective dimensions of the imagination.

In this section, we have tried to capture the anthropological imagination, as it were, and hinted at a number of alternative ideas and approaches yet to be explored in further detail. Notwithstanding the ambiguities in many of these writings, our brief survey has identified certain key assumptions, made in more or less implicit ways in the literature, regarding the role of the imagination as a holistic backdrop of meanings (culture in new clothes), the notion that the imagination must serve some social or cultural purpose (the view we call instrumentalist), as well as a diffusely Romantic tendency to depict the imagination as something positive. All contributors to the present collection seek to undercut these dominant assumptions, and do so by adopting a common strategy, namely to focus on the concrete processes by which imaginative effects are engendered, or, what we call 'technologies of the imagination'. Taken collectively, the articles in this special issue pursue in a programmatic way analytical possibilities which are already implicit in the writings of Anderson, Crapanzano and others. However, in order to formulate this common platform in a more explicit way, it is necessary to go beyond the anthropological literature to examine influential approaches to the imagination in philosophy and the human sciences (not least cognitive science), as well as certain writings on technology and material culture, from which this project has drawn inspiration.

Technologies of the Imagination

The present impetus to investigate anthropologically the heterogeneous processes by which imaginative effects come about in social life has been much inspired by writings in the human sciences, which have sought to develop in different empirical fields a core insight owed originally to Kant. In contrast to anthropologists' recent tendency to present the imagination as a holistic field of meanings, hypostatized in the popular phrase 'social imaginaries', Kant treated imagination as a basic faculty of consciousness, a constitutive element of all human apprehension. Defined as the ability to

bring to mind that which is not entirely present to the senses, for Kant the imagination allows the synthetic formation of knowledge – the bringing together of diverse forms and appearances and the ability to relate them (Rundell 1994:92). As he wrote,

synthesis in general... is the mere result of the power of the imagination, a blind but indispensable function of the soul, without which we should have no knowledge whatsoever, but of which we are scarcely even conscious (Kant 1978:112; cf. Rundell 1994:115).

So for Kant knowledge is constituted through a process of imaginary creation, which includes the formation of representations, but is not confined to this (Rundell 1994:95). Just as we construct meanings, we *imagine* realities, and this is, we might say, the only way in which we are able to perceive them (Turner 1996:11). The literary critic Jean Starobinski has put it well, stressing the determining role of imagination in the constitution of the reality we experience:

Insinuated into perception itself, mixed with the operations of memory, opening up around us a horizon of the possible, escorting the project, the hope, the fear, speculations – the imagination is much more than a faculty for evoking images which double the world of our direct perceptions... the imagination, because it anticipates and pre-views, serves action, draws before us the configuration of the realizable before it can be realized (Starobinski, 1970:173–4, cited in Crapanzano 2004:19).

The Kantian notion of a ‘blind’ and ‘scarcely conscious’ imagination is instructive for our purposes for two main reasons. Firstly, it allows us to move away from prevalent ‘hypostatized’ views of the imagination, towards a maximally broad and heterogeneous ambit of phenomena in which the workings of the imagination, seen as a process rather than a distinct field, can be detected. From such an inclusive and, so to speak, processual perspective, there is no *a priori* substantive distinction to be made between, say, the role of the imagination as a continuous aspect of perception (e.g. allowing us to perceive the shape of an object when only one side of it is visible) and its ability to let us imagine characters or situations that we have never experienced – thus viewing it, as Tim Ingold notes (1993:465), as a reflexive mental activity detached from engagement with the world. So rather than some special (let alone delusional) form of cognition, we are dealing with a capacity involved in everything from the basic perception of objects to our engagement with entirely immaterial knowledge.

From this follows a second reason for which Kant's philosophical approach is anthropologically compelling, namely that it suggests the possibility of investigating empirically the variety of processes by which different imaginative effects might be produced – thus diversifying the idea of the imagination itself *a posteriori*, if you like, rather than distinguishing it from other fields *a priori* as has hitherto tended to be the case in anthropology. And in this connection it is instructive to note that a similar move, from treating the imagination as a special though internally homogeneous field to investigating it as a heterogeneous set of processes, can be detected in the development of psychology in the past century.

In early psychology the imagination was associated with fantasy and pretend play. Freud thought of child development in terms of a primary mental process governed by a 'pleasure principle' that with time gave way to a secondary process governed by a 'reality principle.' The first was associated with fantasy, imagination and wish-fulfilment. The Swiss psychiatrist Bleuler (1951) recast this distinction in terms of logical or 'realistic' thought on the one hand and what he called 'autistic' thought on the other. This term was later used for a particular state of mental withdrawal – but Bleuler coined the term to mean a normal mode of thought, present in both children and adults, that was dominated by free association and wishful thinking. This influenced the work of Piaget who linked 'imaginative' pretend play among children to the inner, egocentric world that defied the rules of reality, a mode of cognition that would give way to logical and objective thought as a child matured (Harris 2000; Piaget 1962).

Since that time, however, developmental psychology has drastically revised these early perspectives. Work such as that by Taylor (1999), Walton (1990), and Harris (2000), for example, stressed the importance of imaginative play for developing 'realistic' understandings, the importance of causal rules in the work of the imagination, and the lifelong engagement of adults as well as children with imaginary worlds. This has brought developmental psychology rather close to cognitive science in treating imagination as an essential capacity that allows for a wide ambit of different forms of apprehension, including narrative discourse and the conception of alternative possibilities.

Operating on what is essentially a Kantian premise, cognitive scientists treat the imagination as an integral part of perception (see e.g. Turner 1991, 1996). The potential for transposing for anthropological purposes the insights of cognitive science is ample and, as we shall see, a number of the contributors to this special issue have sought to exploit it. What is also clear, however,

is that, on its own, psychological research inevitably presents the imagination in what to anthropologists will seem unduly 'mentalist' terms, as if the sources of human imaginative capacities could be located primarily, or even exclusively, in the operations of the mind/brain. Cognitively inclined anthropologists also tend to skew analysis towards the mental in this way (for a constructive critique see Pedersen 2007). For example, take Strauss' attempt to develop what she calls a 'person-centred' definition of social imaginaries as 'shared cognitive schema or cultural models' (2006:331), following her apt critique of 'culturalist' approaches to which we referred above. While it is true that her proposal to view the imagination in terms of 'prototypes, exemplars and background understandings' (2006:332) does 'concretize the somewhat abstract features Taylor attributes to imaginaries' (*ibid.*), it is also true that, to Strauss and most other cognitive anthropologists, these elements of the imagination are located squarely in the mind. So, like other cultural ideas (cf. Sperber 1996), imaginative ideas are seen to be 'learned, mentally represented, and used' (Strauss 2006:337) by single individuals by virtue of their mental make up.

One of the main problems with this approach, in terms of our agenda, is that this focus on the inner processes of individuals effectively excludes from consideration, or at least relegates to an inferior role, any external imaginary space spanning between persons, or between persons and things. Yet, as we shall now argue, such external spaces are often constitutive of imaginative projects, as they serve to delineate the particular vistas on which that which is imagined assumes its form. Strauss' unspoken holism, then, lies in her (within cognitive science still more disputed) monomorphic model of the mind, which 'assumes that cognition "happens" in a well-insulated, internal computational space' (Day 2004:103; c.f. Clark & Chalmers 1998; Mithen 1996). So, while we share with cognitive science an interest in the particular mechanisms that bring about imaginative effects, in this special issue we seek to explore the theoretical purchase of a concept of the imagination beyond the purely mental level, assuming that the processes and mechanisms we seek to identify could be quite different – if complementary – to what goes on in the individual brain/mind.

The advantages of broadening the scope of psychological research on the imagination in this way are made most explicit in this special issue by Stafford and Sneath. While they both draw inspiration from cognitive science, they also seek to connect these findings to fields that we may call 'social', following anthropological tradition. In Stafford's contribution, a discussion

of the pervasive emphasis people in China and Taiwan place on numbers is grounded in a sophisticated argument about the cognitive salience that numbers come to acquire for children, as a result of certain features of the way in which they learn to be numerate (e.g. the ease with which numbers are 'sung' given the peculiarities of a tonal language).

However, taking this psychologically and linguistically informed analysis as a departure-point, Stafford goes on to treat *numbers themselves* as a source of imaginative effects – i.e. as 'technologies of the imagination' in our sense. Some of the ways in which Chinese people use numbers to think with, Stafford shows, are circumscribed outcomes of logico-mathematical operations (addition, multiplication and so on). However, in China numbers make possible a much wider set of imaginative possibilities, such as lucky numbers, numerology and so on, which are implicated in a particularly wide ambit of common concerns, from kinship to business. In light of their pervasive *social* salience, then, numbers become a central ingredient of people's narration of the self, playing a wide variety of roles in the ways in which people imagine their place in the world and plan their future. Indeed, the apparent fluidity of the numeric systems that the Chinese bring to bear on their lives – the way in which they move between the logical and the numerological so to speak – would appear contradictory without an appreciation of their role as what we want to call 'technologies of the imagination'.

In his chapter, Sneath draws on research specifically into the cognitive determinants of the imagination, and particularly the work of Mark Turner, to explore differing imaginative effects in two contrasting ethnographic cases from rural Mongolia, namely scapulmantic divination and the impact of the introduction of electric light. In the former case, Sneath draws on Turner's analysis of 'metonymic fields' – bounded technical practices from which wider meanings are inferred – to show how the sheep bones that diviners use give rise to a variety of apparently unrelated yet often highly complex image schemes for divinatory interpretation. In the second case, Turner's discussion of the imaginative constitution of narratives (cf. above) is used to explore how the political narrative of state modernism and the spectacle of electric light in the Soviet era together constituted a 'technology of the imagination' of a quite different sort. The programme was designed to create the perceptions of the world and its future advocated by the modernist state. However, argues Sneath, this cannot be described as a successful 'colonization' of the Mongolian imaginary. The metaphor of colonization implies a bounded space being filled up with a particular ideology. By contrast, Sneath's

study reveals a rich diversity of imaginative 'styles' available to Mongolians, which rather than displace each other have interacted in unexpected and locally potent ways.

So, in speaking of 'technologies of the imagination', we have in mind primarily the diverse manners or indeed styles through which imaginative effects are engendered. But before articulating what we take to be the distinctive contribution to anthropology of such an approach, we may address the apparent paradox of using the notion of technology to approach the imagination. After all, the imaginary is often conceived of as immaterial while a common view of technology is that it is precisely about material objects. Lemonnier (1992:1), for example, defines technology as 'all aspects of the process of action upon matter'. However, such clear-cut characterizations have in recent years begun to seem less convincing. Indeed the trend in science and technology studies has been to recognize technology as an immanent aspect of, rather than as something that is in opposed to, the social (Pfaffenberger 1992; Latour 2005).

Also in archaeology it is now widely accepted that all social activities are technological as they reflect people-artefact interactions (Shanks 2001:297; Schiffer 1994:203). Similarly, historians have long treated the category inclusively. White (1940:141), for example, described technology as simply 'the way people do things', noting that we could identify a technology of prayer. In anthropology too for a long time now technologies have been seen as systems of efficacious knowledge which, although they may involve artefacts, cannot be reduced to them. Mauss (1983) had defined techniques, as 'acts combined to achieve a known goal', and in this tradition, as Pfaffenberger also suggests (1992:505), perhaps the most useful characterizations of technology for anthropologists is that devised by Daniel Miller, as 'the range of methods used in order to produce patterned variation' (1987:201). Finally, the popularization of Foucaultian notions of 'technologies of power' as techniques and practices for disciplining and shaping human beings has helped make the concept of technology more clearly applicable to intensely social processes (Foucault 1978; Gledhill 1994:148).

In light of such writings, then, in this project we use the concept of technology in two senses. First, at the level of ethnographic content, the collection of essays in this volume brings together studies of the role of particular kinds of 'technologies', where this word is understood in its most colloquial sense. Light bulbs in rural Mongolia (Sneath), Russian internet chat rooms (Humphrey), Chinese numbers and their manipulations (Stafford),

images of Western technological superiority in West Africa (Vigh) and open source software in Europe (Leach) are all explored with a view to identify their particular imaginative effects in specific ethnographic settings. Several contributors argue that technologies understood in this colloquial sense, to mean mechanical implements such as tools and so forth, do indeed form a particularly powerful field of imaginative engagement. We have already mentioned how Soviet electrification programmes precipitated particular images of modernism in Mongolia, and how ideas about modern technologies form the basis of racist imagery in Guinea Bissau. The contributions by Humphrey and Leach are also revealing in this respect. Humphrey explores the theme of 'masking' in a context that could only be described as 'hi tech', namely the internet chat-rooms visited by Buryat youths in contemporary Russia. Much of Humphrey's argument turns on the ways in which chat-room participants create elaborate virtual personae ('avatars') that are deemed particularly important because, by hiding contingent features of their off-line personality, they distil and express user's 'inner face'. By propelling what users see as their core self in the public virtual world of the Internet, the construction of 'avatars' becomes a novel site of ethical comportment, Humphrey argues.

Leach, in his contribution, also sets out to explore the imaginary potential of information technology, though in this case the ethnographic focus is on computer programmers who design so-called 'open source' software on the internet in Western Europe. Viewing themselves as a community, the group of programmers with whom Leach studied are, as with Humphrey's chat-room users, particularly conscious of the moral character of their on-line activities. Seeing their work as essentially egalitarian, due to the meritocratic principles of 'open source' where anyone sufficiently 'good' at programming can contribute to the development of software freely, the designers imagine their activities as a project of emancipation that 'pushes the frontiers of knowledge' and furthers the liberal cause of freedom. One of Leach's central concerns is to reveal how key features of the way programmers imagine utopias of freedom and equality are linked to technical features of software design. For example, the binary logic of machine code itself, as well as the perceived clarity with which programmes can be seen either to work or to fail, engender a particularly absolute style of political imagination, where ideals of liberal democracy and freedom are conceived in the starkest of terms, as a fight between good and evil, progress and atavism. Seen as an imaginary corollary of technical activity, this utopian vision is contrasted with a number

of key features of the actual practice of open source programming, such as its thoroughly individualistic character as well as the almost complete absence of women in these communities.

Taken collectively, these contributions offer further support to a growing trend within the anthropology of modern technology to qualify the assumption that technological implements tend to 'disembed' themselves from social processes (e.g. Miller & Slater 2000; Buchli 2002; Latour 2004; cf. Ingold 1997). It is amply clear that things like the internet or machine code are deeply embedded in wider social concerns that matter to their users in ways that reach far beyond their immediate interaction with the technological implements themselves – Russian youths' ethical dispositions and their role in nationalist projects, or West Europeans' investment in utopian ideas of freedom and equality. But what these studies add to this anthropological commonplace is a focus on the *generative capacity* of the technological implements in relation to the social projects in which they are embedded. The use of 'avatars' in Russian internet chat-rooms allows Buryat users to experiment with new forms of ethical comportment by exploring the implications of sharing (and often having to defend) one's 'inner face' in an unprecedented public forum. Conversely, the development of open source software allows programmers not only to reformulate Western liberal notions of freedom in the stark binary terms of machine code, but also to imagine that otherwise abstract utopian notions like freedom and equality may emerge as concrete results of their own skill, practised in the private and, as Leach shows, peculiarly sheltered world of internet-based programming communities.

It is with these generative capacities in mind, then, that we posit technologies also in a second sense, which is distinctly anthropological. In addition to the colloquial sense of 'technology' appealed to above, we also want to argue that 'technologies of the imagination' can be understood as a particular kind of theoretical object. Such a tack – the move from substantive heuristics to anthropological analytics (cf. Henare, Holbraad & Wastell 2007) – brings to mind an analogous strategy adopted by Alfred Gell, in his attempt to theorize art in what he sees as a distinctively anthropological way (1998). As Gell explains, his definition of art is 'not institutional, nor is it aesthetic or semiotic; the definition is *theoretical*. The art object is whatever is inserted into the "slot" provided for art objects...in the theory' (1998:7; emphasis original). In a similar vein, we here wish to posit a distinctly anthropological understanding of the notion of 'technologies'. If for Gell what makes art distinctive is its 'abductive qualities' (1998:12–19), then we want to show that 'technologies' are 'of the imagination'

precisely inasmuch as the imaginative effects that these technologies bring about are *indeterminate*. In the final section of this Introduction we show how a focus on ‘technologies of the imagination’ overcomes some of the ambiguities in the anthropological literature discussed above. In particular, this approach effectively overturns the two key – and arguably least helpful – assumptions identified in our earlier review of that literature, regarding the ‘holistic’ and ‘instrumental’ character of the imagination.

Towards an Anthropology of Imaginative Effects

Our critical argument so far could be summed up as an inversion in relation to prevalent anthropological attempts to articulate the role of the imagination – or the ‘imaginary’ – in social life.³ Rather than positing the imagination as a holistic backdrop that conditions human activities by providing, say, the ‘horizon’ of their meanings, we attend to the processes by which imaginary effects themselves may come about, i.e. what we call ‘technologies of the imagination’. In this last section of our Introduction we set out certain implications of such a reversal. Crucially, we argue, viewing the imagination as an outcome rather than a condition allows for a definition of the imagination that is considerably sharper than the prevalent uses encountered in the anthropological literature. On this view, the distinguishing mark of imaginative effects is that while they are the product of the specific processes we are calling ‘technologies’, they are nevertheless peculiarly *underdetermined* by them. In other words, while it is only by viewing the imagination as an effect that one can get to its peculiar character (distinguishing it from such notions as ‘culture’, ‘ideology’, or ‘habitus’), that peculiar character – what makes the imagination imaginative so to speak – is precisely that the imagination is *not* an effect as this is ordinarily understood, inasmuch as its relationship to the conditions that engender it is neither deterministic nor teleological. To explore ‘technologies of the imagination’, then, is to explore the conditions under which unconditioned outcomes come about.

This core idea can be expressed also with reference to the influential semiotic distinction between ‘symbol’, ‘icon’ and ‘index’ (Peirce 1960). By casting the imagination in terms of the technological processes that precipitate it, as a series of ‘effects’, we are positing it in ‘indexical’ terms (much as Alfred Gell did in seeking to define art in a distinctly anthropological way). Indeed, in this vein, our complaint against the tendency in the ‘social imaginaries’ literature to reify the imagination as a horizon of meanings comes down to the fact that on such an analysis the imagination is presented in unduly ‘symbolic’ terms,

understood as the arbitrary combination of shared cultural signs/meanings. Similarly, we might say that approaches inspired by cognitive science are unduly restricted to the realm of the 'iconic' as the imagination is here cast in terms of the formation of 'images' and their resemblances. However, if our argument tends towards the 'indexical', it does so in a qualified – indeed paradoxical – way that distances us from approaches in which the imagination is, precisely, causally *determined* by the processes that bring it about.

One way to elucidate this apparent paradox is with reference to the long-standing anthropological conversation about the relationship between 'technology' on the one hand and 'culture' or 'society' on the other (e.g. White 1959; Sahlins 1976), a conversation which, as Caroline Humphrey has explored in an earlier paper on Soviet discourses on the social effects of infrastructure, extends beyond academia and into politics (see Humphrey 2005).⁴ As Tim Ingold has observed, positions in these debates traditionally come in two broad kinds, 'technological determinism' and 'technological possibilism' (1997:106):

The former holds that the essential institutional forms of society are dictated by the requirements of operating a technological system of some given degree of complexity, and therefore that social change is driven by – and depends upon – technological change. The latter . . . holds that technology exerts no influence on the form of society beyond setting outer limits on the scope of human action. Within those limits, society and culture are said to follow their own historical course, irrespective of the nature or complexity of the technological system (*ibid.*).

Ingold's contrast pertains to our argument on technologies of the imagination only by analogy. On the one hand, as we have explained, by 'technology' we do not mean just systems of material tools, as in the traditional debate that Ingold has in mind, but a wider repertoire of objects and practices that bring about imaginative effects. On the other hand, we have set out explicitly to distinguish the imagination from concepts like 'culture', which Ingold, for example, glosses as 'systems of meaning' (1997:107). Nevertheless, so far in this Introduction both terms ('technology' and 'imagination') have been defined in a rough and mainly negative way. It is precisely here that the distinction between 'determinism' and 'possibilism' is helpful. For, as we shall see, it is in terms of its distinctive relationship to the technologies that engender it that we are able to define the imagination in a positive way. With this end in mind, we may turn to Ingold's own argument, which, in a characteristically lucid way, reformulates the notions of technology and culture in a manner that overcomes

the dilemma between determinism and possibilism, and thus brings us closer to the concept of the imagination for which we are reaching here.

The common premise of determinism and possibilism, Ingold argues, is that technology and culture can be posited as separate domains in the first place. Inspired by phenomenological critiques of Cartesian subject/object distinctions (cf. Merleau-Ponty 1964; Dreyfus & Dreyfus 1987), he proposes that 'technology' and 'culture' (which he treats in the same breath as 'society') are mutually implicated in what he sees as the more encompassing field of 'skills', defined as 'embodied capacities of action and perception that people learn in the course of handling everyday practical tasks throughout their lives' (Ingold 1997:108). Drawing extensively on primatology, palaeontology and archaeology as well as ethnographic materials, Ingold shows that so-called technological systems cannot be identified independently of the knowledge that people bring to bear upon them, which is itself socially constituted. Conversely, the development of society includes changes in people's skilful engagements with tools, and can therefore only be articulated in relation to the possibilities that tools allow for. So, given that the relationship between technology and culture (or society) is, as we might say, internal, it makes little sense to ask questions about their causal relationship as if the two could be conceived as independent variables (cf. Ollman 1975; Miller 1987).

While the immanent sociality of technology has already been acknowledged above (indeed, the point can be sustained independently of Ingold's perspective), most instructive for present purposes is the way in which Ingold reformulates the relationship between technology and culture in light of it. Comparing technical change to the adaptive modification of organic species, he focuses on the process of 'exaptation', whereby 'structures that may have evolved for one purpose are co-opted for quite different functions for which they happen to come in handy', as, for example, 'the mammalian ear is derived from a part of the jaw of the fish' (Ingold 1997:119; cf. Gould & Vrba 1982). By analogy, he argues, 'most if not all of what we call invention, in the technical sphere, seems to involve a process of exaptation – of hitting on new uses for old things – [which] then condition subsequent processes of refinement' (Ingold 1997:119, see also Lévi-Strauss 1966 on 'bricolage', a concept to which Ingold's use of 'exaptation' bears striking similarities).⁵ Thus technological complexity, and its role in socio-cultural change, cannot be simply read off the material properties of tools, but is a function of the multifarious uses to which such artefacts might lend themselves in different socio-cultural situations – a function of their 'affordances', to use the influential

term of James Gibson's ecological psychology (Gibson 1979; cf. Costall 1997). Taking just one of Ingold's examples, the decorated spear-throwers used by Nyatunyara men in the Australian Western Desert are designed to enhance the flight of spears during hunting, but are also used as friction sticks to make fire, as woodworking tools, as trays for mixing tobacco, as percussion instruments, as cleaning utensils, and, decorated with the track of a totemic snake, as mnemonics for recalling the locations of waterholes and other features of the landscape (Ingold 1997:127–128, referring to Gould 1970).

Clearly Nyatunyara spear-throwers are as good an example of 'technologies of the imagination' as any investigated by the contributors to this special issue. Rather than viewing the spear-throwers as vehicles, say, of the Nyatunyara 'meaning' of the landscape – interpreted in 'possibilist' mode as a backdrop of imaginings that lend these artefacts sense – we may instead examine their own generative role, both in their production and in their subsequent use, in moulding, among other things, the imaginative constitution of a totemic landscape. Our suggestion now is that, given the confluence of our purpose with Ingold's, his argument about the 'exaptative' relationship between technology and culture can be transposed to characterize the relationships that we designate as technologies of the imagination in a way that serves to distinguish the imagination from more generic notions, such as culture.

As an intermediate position, so to speak, between determinism and possibilism, exaptation captures a defining feature of technologies of the imagination. On the one hand each of the contributions to this special issue explores ways in which imaginative effects are generated by particular processes, thus effectively barring a 'possibilist' view of the imagination. We consider this point important because the recent tendency to replace 'culture' with the 'imaginary' seems to turn precisely on a possibilist urge – emphasizing the 'fluid' (Taylor) or 'optative' (Crapanzano) character of the imagination, which allows for 'infinite elaboration' (Comaroffs), and so on. On the other hand, the 'technologies' examined in this special issue cannot be said to bring about imaginative effects in ways that could be described as deterministic or teleological. Rather, the imaginative effects discussed by us present themselves only as 'affordances' (recalling Ingold's vocabulary) inherent in the processes that engender them. Technologies 'afford' imaginings in ways that, though hardly random, are nevertheless essentially unpredictable and often quite unintended.

To give two examples from this volume, while according to Humphrey the use of 'avatar' personae by Buryat internet users gives rise to the ethical notion of an 'inner face', it is also clear that such an imaginative effect is no

way prescribed by the technology in question. After all, as Humphrey acknowledges, 'avatars' and other comparable forms of masking are a common feature of internet use around the world, whereas Buryats' peculiarly normative 'exaptation' of them is both ethnographically contingent and distinctive. Similarly, in Sneath's account of *dal* divination in Mongolia, where contrasting forms of divinatory interpretation are owed to differing elaborations 'read off' by diviners and lay people from the cracks on a sheep's shoulder-blade, we have an explicit illustration of the varied imaginative effects afforded by a single technology.

Another striking example of how, in a postsocialist Eurasian context, the imaginary effects of divinatory practices cannot be predicted from the technologies by which such verdicts are produced is explored by Pedersen (n.d.) in an argument developed as part of the present project. Based on fieldwork in the Mongolian capital of Ulaanbaatar, Pedersen shows how an electronic calculator is used by a Buddhist astrologer to 'calculate people's fates' (*huv' n' zayag tootsohdoo*). What is interesting about this use of an iconic 'modern' technology for 'traditional' religious purposes is not so much that the verdicts reached in this way are held to be particularly accurate by the astrologer's clients. More striking is the fact that these verdicts are nonetheless considered to be 'only 80 percent right' by the same clients – and even more striking is the fact that this imprecision is taken to be an ontological feature of post-socialist life itself, as opposed to being an epistemological problem pertaining to people's ways of knowing about it. This, argues Pedersen, suggests that the probabilistic 'affordances' of calculators somehow are 'exaptated' by urban Mongols to play the role of a technology for imagining the fundamentally unpredictable nature of postsocialist life – and, clearly, this imaginary efficacy hardly can be said to have been intended by anyone (like the inventors of this technology), let alone to have any particular purpose.

The theories of exaptation and affordances bring us a long way in terms of understanding the nature of imaginary processes. There is, however, also a conjuring trick in ideas like these – a sleight of hand with reference to which, paradoxically, a new and more precise characterization of the imagination can be articulated. For it could be argued that the indeterminate relationship between means and ends that such ideas profess as a merit actually conceals a flaw. One could ask: if any given technology can in principle precipitate a variety of imaginative effects, then how can the emergence of one rather than another at any particular juncture be explained? Since technological constraints cannot, *ex hypothesi*, furnish an answer, it would seem that we

are forced to locate the source of variation within the imagination itself. And insofar as the whole point is to provide an account for the different imaginative effects in each case, we seem to be back with positing the imagination as a conditioning field – a horizon of possible imaginings if you like. This would effectively reverse our argument for looking at the imagination as an effect of ‘technologies’, and return us to the culturalist analogies we wish to avoid.

Arguably, however, there is a way out of this apparent impasse – one in which the idea of imagination is not just defined in terms of notions like exaptation and affordances, but also supplements them to overcome their logical limitations. Here we draw on an insight that runs through the philosophical literature on the imagination, from Kant as well as Vico, through Coleridge and up to Castoriadis, namely that the imagination can be defined, in Castoriadis’ words, ‘as a type of being that essentially escapes determinacy’ (1987:168). While it is beyond our remit and competence to comment on the philosophical importance of this idea, its anthropological implications are significant. Effectively, defining the imagination ‘by its privation of determinability’ (ibid.) allows us to settle the matter of its relationship to ‘technologies’.

For if the imagination is *defined* by its essential indeterminacy, so that imaginings are distinguished from other human phenomena by the fact that they cannot be fully conditioned, then we also have a clear criterion by which to distinguish the imagination with reference to its relationship to the processes that precipitate it, i.e. what we call technologies. We choose the word ‘precipitate’ advisedly here, to encompass both those processes that condition their outcomes fully (i.e. may be said to determine them) and those processes that do not (i.e. involve an irreducibly indeterminate element). Thus the major premise of a focus on ‘technologies of the imagination’ is that a broad but analytically precise distinction can be made between phenomena whose emergence is fully conditioned and phenomena whose emergence is not fully conditioned. Only the latter are to be conceived of as phenomena of the ‘imagination’.⁶

The place of the imagination, then, is the space of indeterminacy in social and cultural life, and it can be empirically identified and ethnographically explored with reference to the processes or technologies that open it up. Only if one were to deny that such spaces can exist, and that indeterminacy has a constitutive role to play in people’s lives, would the notion of ‘technologies of the imagination’ appear oxymoronic or contradictory. Indeed, having arrived at a positive definition of the imagination by means of the means–ends logic of ‘technology’, we may return to specify our theorization of ‘technology’ too.

Simply, to us 'technologies' count as being 'of the imagination' insofar as they serve to precipitate outcomes that they do not fully condition. This definition does not involve demarcating a particular set of objects, but rather *a particular relationship* between objects (but also, potentially, narratives, events and so on) and the outcomes they may precipitate. It is for this reason, incidentally, that we think ethnography, with its 'thick' attention to specificities of time and place (*sensu* Geertz 1973), is indispensable for identifying technologies of imagination, and exploring their specific workings (what Anderson would call the 'style' of the imagination).

While, following the Kantian line, the cases presented show that imaginative effects can be triggered in the least obvious places, many of the contributions also demonstrate that some 'technologies' are particularly effective at being ineffective (so to speak), i.e. they are particularly good at opening up spaces in which the underdetermined outcomes that we call imagination emerge. Certain *narratives*, about electricity in Mongolia for example, may conjure more encompassing images, ranging from utopia to dystopia; specific *numbers and codes*, whose abstract structures, both formal and pliable, make them a potent tool for imaginings that range from the personal to the political; particular *objects* like sheep bones that, as 'metonymic fields', afford a variety of alternative interpretative structures; masks such as internet 'avatars', which by concealing identities create the scope for new ones to emerge.

Indeed, while in each of these cases the irreducible role of the imagination is mainly 'read off' the material by the contributors themselves (showing, one might say, how ethnography acts as a technology of the anthropologist's analytical imagination), there are also occasions in which the emergence of imaginative effects, conceived explicitly as being underdetermined, can be seen as a properly ethnographic concern. For example, in an article written under the auspices of this project, Holbraad discusses the peculiarly active and marked way in which 'coincidences' are sought out in *la bolita*, a betting game played in contemporary Cuba (2007). Punters' abiding concern in this game is to derive their bets from occurrences in their everyday lives deemed significant precisely because they are coincidental. Thus, the chance meeting with a drunken stranger on the street, or an accident with a candle at home, are grasped as opportunities to place bets on particular numbers deciphered according to a series of symbols associated with each number. Focusing on the apparent redundancy of these numerological imaginings, whereby just about any event can be deemed significant enough to inspire a bet, Holbraad contrasts punters' number-guessing with popular forms of divination. Un-

like the cosmologically-based reasoning of divination, he argues, gambling turns on a form of 'a-reason': what makes coincidental events so special for gamblers is that, suitably deciphered according to the numerological matrix of *la bolita*, they allow numbers to emerge directly and of themselves, unfettered by any interference on the part of the gambler. The emergent quality of the imagination (here the imagination of numerological associations) is in this sense of immediate concern to the punters themselves.

Conclusion

To conclude this Introduction, we may note that viewing the imagination as an underdetermined effect of the technologies that engender it offers a direct contrast to the two main features of prevalent anthropological appeals to 'social imaginaries' discussed earlier, namely the culturalist vestige of 'holism' and the closet-functionalist propensity to show that the imagination is 'instrumental', i.e. serves a purpose. With regard to the first point, all the contributions to this special issue amply confirm that, in accordance with the thoroughly heterogeneous processes or technologies that bring them about, imaginary effects do not need to constitute – or be constituted by – 'wholes' at all. In any given ethnographic setting, any number of different technologies may work alongside each other, or sometimes against each other, to yield independent, or even incongruent, imaginings, which need not amount to a whole in any useful sense.

Similarly, by delimiting the imagination as an essentially underdetermined effect of the conditions that bring it about, we leave the matter of its 'instrumentalism' as an open ethnographic question. While it is amply clear from the contributions to this special issue that the effects we call imaginary may indeed serve a variety of purposes (divination, politics, ethics, and so on), it is also fundamental to bear in mind that the emergence of these effects *qua* underdetermined 'technologies' is, precisely, not purposeful – a feature in which Cuban gamblers, for example, are explicitly interested. Indeed, one may say even that what makes the study of the imagination, and the technologies that engender it, so compelling is that in it we are able to locate the 'incidental' source of what some anthropologists call 'culture': the origination of ideas and practices that are subsequently co-opted as building-blocks for more encompassing and purposeful projects, be they political, religious or existential.

Technologies of the imagination, then, are technologies of the incidental, and by exploring them we seek to reveal the specific conditions under which the unconditioned emerge as such. By displaying these processes in

all their ethnographic richness, this special issue goes to the heart of a long scholarly fascination with the apparent ineffability of the imagination. Refusing to explain the incidental away, we chose instead to identify it as the characteristic feature that defines the imagination as such. What distinguishes the imaginative effects explored in this special issue is thus that the ways in which they are 'exaptated' into a variety of social and cultural projects are all equally indeterminate – the imagination, in this sense, is truly *sui generis*, and its study ought not, in Castoriadis' phrasing, be 'absorbed by something else' (1987:168).

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Notes

1. The three authors have contributed equally to this article.
2. As Strauss notes with reference to Castoriadis' philosophical treatise on the *Imaginary Institution of Society* (1987), 'Castoriadis' formulation, *the* social imaginary, [is] repeated by anthropologists who use imaginary in his sense. The definite article, "the", implies just one, and indeed Castoriadis stressed the way each (bounded) society has its fundamental idea' (2006:324; emphasis omitted).
3. By contrast to the tendency in the existing literature to use the term 'imaginary' (e.g. as in 'social imaginaries') as a way of reifying the imagination as a field of meaning, in our argument, which presents the imagination in processual terms, 'imaginary' is used simply as the adjectival form of 'imagination'.
4. Our argument on technologies of the imagination runs parallel to Humphrey's investigation in that article of Soviet infrastructure as technological 'complexes' of the social, ideological, and technical. As she shows, in the Soviet Union infrastructure had the overt aim of moulding social behaviour, channelling the imagination by acting as a 'prism' of thought.
5. We may here note the connection between our present focus on 'technologies of the imagination' and anthropological writings about the nature of creativity and innovation in a cross-cultural perspective (Liep 1991; Welz 2003; Hirsch & Strathern 2004; Hastrup 2005). Of these, our concept of the imagination resembles what James Leach calls the 'Melanesian' concept of creativity (2004), for, much like Roy

Wagner understands invention (1981), we see imagination as an immanent aspect of the world, which is not necessarily a result of individual creativity.

6. The empirical correlates of this analytical distinction are of course hardly clear-cut. So while we propose that phenomena can be distinguished according to their degree of precipitation (or indeterminacy), it may be difficult, if not impossible, to single out any phenomenon that is fully conditioned by the technology that precipitates it. This would accord with our earlier point, with reference to Kant, about the pervasive character of the imagination.

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