

The origins of *The Origins of Monsters* lie in an interview I conducted more than a decade ago with Maurice Bloch (Wengrow 2003). We were talking about the work of Dan Sperber and Pascal Boyer, and more specifically the problem of how to explain striking recurrences in the content of human culture, especially when these relate to such apparently arbitrary things as the form taken by mythological or otherwise imaginary beings.

I had in mind some specific examples, which have intrigued art historians and archaeologists for more than a century. They concern the transfer of images depicting composite beings such as griffins, sphinxes and so on. Images like these have “epidemic” features. They spread with amazing bravado from one society to another, often in periods of major social change. The whole phenomenon begins at a suggestive time – about 6000 years ago, when the world’s first states and urban societies were taking shape in North Africa and the Middle East. Another famous and much studied monster-epidemic occurs in the Iron Age, when imaginary beasts from the East invade the image worlds of archaic Greece and Etruria along with a variety of other social and technological innovations, as part of what is sometimes called the “orientalising” of the Mediterranean. There are plenty more examples in between, which I try to document in the book.

Lots of people have studied these cultural transfers from the perspective of their own period and regional specialization. But I think my book is the first to treat them as a group, and possibly as part of a unified phenomenon. Maurice’s comment on the whole affair was along the lines that monsters are interesting, anthropologically and psychologically, precisely because they appear to be acts of pure and free imagination, yet their characteristics recur so widely within and between societies.

I made a mental note to return to the topic but did so only seven years later, when I was invited by Roger Bagnall to give a series of lectures at New York University’s newly established Institute for the Study of the Ancient World. The lecture series is named in honour of the historian Mikhail Rostovtzeff. Speakers are supposed to address topics that explore his cosmopolitan vision of ancient Eurasia as a world shaped by far-flung connections that, at least since Bronze Age times, have bound its societies together by land and by sea, from China to the Mediterranean.

I had no idea at the time that Rostovtzeff, best known for his (1926) *Social and Economic History of the Roman Empire*, had himself written a series of lectures on the transfer of images, and in particular the fantastic ‘animal style’ of the Central Asian steppe. I have the 2010 Eyjafjallajökull eruption to thank for this discovery. It left me stranded at Princeton University, where the library has a copy of the original lectures. Never mind that most of Rostovtzeff’s ideas were wrong: their existence offered the prospect of academic credibility for what must otherwise have seemed an unlikely project.

Around that time, and for reasons initially unconnected with my research, I was reading an increasing amount of work in experimental psychology, especially about mental modularity, symbolic expression, and theory of mind. A few prehistorians were already exploring the implications of this kind of work for their own material, but in a way which seemed problematic to me (see pp. 4-5 of the book in particular). Still this seemed better than the default position of most culture historians, which is simply to ignore what is going on in fields such as neuroscience and cognitive psychology.

Susanne Küchler (2005) has made similar observations about anthropology, where approaches to human cognition – if made explicit at all – seem torn between incompatible notions of what the mind is and how it works. Is it a highly malleable organ, constantly re-trained through its encounters with a culture-laden world? Or is each of us, by contrast, carrying within ourselves a pristine hunter-gatherer brain that fights its primeval battles through a modern world of its own mysterious making? In their own ways, both alternatives are highly romantic and appealing; but my book joins many others in arguing that the reality is somewhere in between.

I conceived of the book as a test case for what Dan Sperber calls the ‘epidemiology of culture’, and am absolutely thrilled that it has been taken up for discussion by researchers who are serious about exploring the relationship between cognition and culture. But I am also aware that my subject matter raises some immediate problems. I half anticipate that the “epidemiologists” will take the opportunity to explain that I have simply misunderstood what they are trying to do. But I have read their work closely, and taken them at their word when they say that they are interested in understanding how cognition might underpin the spread of culture (*culture*, in all its manifestations, as opposed merely to language).

The main difficulty with epidemiological approaches to culture, it seems to me, is the mismatch between theory and data. The theory is all about diffusion, popularity, distributions of culture, spreads of representations. But the data used to test this hypothesis seem so far to derive either from experimental (laboratory-type) conditions or from the ethnographic record. This would have been fine a century ago, when mapping out distributions of culture on a large scale was precisely what a lot of anthropologists did. But that kind of work is rarely done nowadays. What we have instead are snippets of culture, isolated examples uprooted from their histories of circulation, and arguably unsuited to an empirical study of how things spread.

Most archaeologists, by contrast, have never lost their love of map-making and the study of distributions. It’s arguably what we’re best at. So it seemed to me that, in this case, the anthropologists and evolutionary psychologists had proposed a great hypothesis that could not really be tested from within their own material, but which at the same time offers a wonderful invitation for archaeologists to get involved. A second problem is that the definition of ‘culture’ in evolutionary psychology often seems heavily weighted towards spoken discourse. It has relatively little to say so far about either images or objects (Alfred Gell’s [1998] work surely addresses some of this, but Gell was rarely explicit about the kind of cognitive models he was using).

An exception is Sperber and Hirschfeld’s (2004) piece on ‘The cognitive foundations of cultural stability and diversity’. They present a suggestive discussion of how artifacts such as outlandish masks, caricatures, and cosmetics may stimulate – yet at the same time violate – specific mental modules for face recognition. Such things are intuitively recognised as both face-like and un-face-like, in a way that makes us pay special attention to them. And according to the theory, this may enhance their chances of transmission. It makes them culturally catchy. Pascal Boyer, if I understand him correctly, argues on similar lines that some such cognitive balancing act is necessary or at least desirable if a given concept of the supernatural is going to catch on, and become embedded in some wider cultural milieu:

In any cultural environment, indefinitely many representations of religious entities are constantly created and communicated. Only some of them, however, have the potential to support both imaginative scenarios and intuitive references. These are the ones that combine a rich intuitive base, with all its inferential potential, and a limited series of violations of intuitive theories, which are attention-demanding. Because of these characteristics, such assumptions are more likely than others to be easily acquired, memorized, and transmitted than other assumptions. It should not be surprising, therefore, that they constitute the most recurrent aspects of religious systems.
(Boyer 1994: 122)

Can this kind of theory be legitimately extended from spoken discourse about supernatural beings to the world of images? I don’t see why not, and two particular sources of inspiration here were the work of Barbara Stafford (especially her 2007, *Echo Objects: The Cognitive Work of Images*) and La

fabrique des images, an exhibition hosted at the Musée du quai Branly in 2010-11. Philippe Descola and Anne-Christine Taylor, its creators and organisers, were kind enough to show me around on its final day. The timing could not have been better for me, and it will already be obvious that – like its subject matter – my book is very much a composite of influences, thrown together more or less by chance.

From *La fabrique des images* I took two things. The first was a way of approaching modes of figuration as types of visual experimentation, at once anatomical and theoretical. The exposition showed how such experiments offer points of entry to more general principles, by which people try to organize the world around them in some sort of systemic relationship with other worlds “beyond” – the imagined worlds of the supernatural. The second thing I took away was a more technical point about the production of composite figures, which Descola associates with an ontological stance called “analogism”. It’s the same point made by Da Vinci in his notebook entry on *How to Make and Imaginary Animal Look Natural*: that precisely because of their fictional character, the creation of visually compelling composites requires *enhanced* empiricism and accuracy in the depiction of individual body parts, each of which should be independently identifiable as belong to a certain kind of species (Arcimboldo’s 16th century faces take the same principle to another kind of extreme). I also found it fascinating that nearly all the examples of analogism derive from large-scale, hierarchical societies such as Han China, medieval Europe, or the historical kingdoms of Benin. I discussed this point with Philippe and Anne-Christine, but I suspect this is roughly where our interests begin to diverge.

In Barbara Stafford’s work I found a scaffold that bridged research on mind and image. It emboldened me to expose data of an archaeological and art historical kind to an “epidemiological” approach. Stafford uses the term “compressive compositions” for images that ostentatiously combine elements from different species, and she suggests that such images draw attention to otherwise unconscious systems of visual processing. For example, experimental studies show that human cognitive processing of animal forms is highly sensitized to part-whole relations (Davidoff and Roberson 2002). A total presence can be inferred from quite limited visual cues (horns, tails, feet and so on). This inferential capacity we owe to an intuitive repertory of biological information that is hard-wired, and is part of our evolutionary make-up (New et al. 2007). Pictures of animals – even when jumbled, distorted, or incomplete – may thus activate neural pathways attuned to the recognition and classification of living kinds.

In violating some limited part of this intuitive biology, composite figures nevertheless affirm many of its underlying structural principles. Even such fantastic beings as a dragon, mermaid, centaur, minotaur, unicorn, sphinx, or whatever, will have legs correctly positioned for walking, eyes for seeing, wings for flying, horns for gorging, fins for propulsion, and so on, allowing us to infer (often extraordinary) properties of movement and vitality for such figures. They are, in short, the visual counterparts to Sperber and Boyer’s “minimally counter-intuitive representations”. And if the latter are right, then such representations might be expected to exhibit special “epidemic” properties of transmission, of a kind that should leave traces in the record of human image-making. Or at least that was the premise from which I began my own experiment in tracking distributions of composite figures.

Of course this was not entirely a “blue skies” experiment. I already knew that, from at least around 4000 BC, “monster epidemics” were a striking and recurrent feature of the visual record. I diligently began to compile evidence for the earliest widespread appearance of composite beings in the art of Egypt, Mesopotamia, Pakistan, Greece, and so on, and to map out the likely relationships between them. In nearly all cases the appearance of monsters on the scene correlates with a number of other historical features, which seem non-random and important in terms of modes of transmission. Not all of them will apply to every case, but for western Eurasia and the Mediterranean world they can be

summarized under five broad headings:

1. Mechanical image-making devices: the use of stamps, moulds, and seals (remote ancestors of the modern printing press) to replicate and promulgate officially sanctioned images in standard formats and on a wide scale. This took place mostly through the administrative offices of temples, palaces, and other urban institutions.
2. Centralisation: composite figures seem most at home in (what was then) the newly emergent social world of the city, whether the ancient city-state or some other kind of large-scale territorial polity, such as the Bronze Age kingdoms of North-East Africa, or the Neo-Assyrian Empire. Monsters are urbanites, and highly cosmopolitan ones at that.
3. Social transformation: composite figures typically appear in times of major social and economic restructuring – the phases that archaeologists love to call ‘formative’, ‘archaic’ or ‘proto’ (as in Archaic Greece or Protodynastic Egypt) because they precede and foreshadow the emergence of states with their official canons of cultural representation.
4. Conservatism: these composite figures are rarely original or local flights of imagination. More commonly – as with the serpent-necked felines on the ceremonial cosmetic palette of King Narmer – they are imports from an exotic and distant source (and this they have in common with those much later “marvels of the East”, famously discussed by Wittkower and later Mitter, whose movements from India to Europe can be traced in images from late antiquity to the age of the modern printing press).
5. Apotropaism: where composite figures can be associated with rich iconographic repertoires and/or ancient written sources, these frequently implicate them in the use of magic and medicine to avert misfortune, including protection from the spread of harmful diseases. The Neo-Assyrian empire furnishes wonderfully detailed examples, such as the corpus of cuneiform texts from the House of the Exorcist at Assur, with their pedantic instruction-manuals for the making and placement of protective images, and injunctions to send sickness-bearing demons “3600 miles” away from their intended human targets.

Based on these five factors it might be reasonably argued that composite figures do, in fact, exhibit (almost literally) epidemiological features in the record of human image making, far outstripping most other kinds of imagery in their scale of distribution (and this includes, of course, other types of image transmitted by mechanical reproduction). In which case we would have discovered a good empirical demonstration of how cognitive dispositions works in practice to create spreads or distributions of culture. The difficulty, of course, is that all my examples derive from the last 6000 or so years of human history – a relatively shallow period of time in evolutionary terms. If the striking distribution of imaginary composites in the visual record is to be explained in terms of innate pre-dispositions, then what about the many preceding millennia of human image making. Where, in short, are all the prehistoric monsters?

Here we enter slightly murky waters. Some of the initial reactions to my argument were along the lines: but what about the famous ‘Sorcerer’ of Les Trois-Freres Cave, which dates back to the Upper Palaeolithic? Or the ‘Bison-Man’ of Chauvet and the ‘Lion-Man’ of Hohlenstein-Stadel, which at 30,000 BC are twice as old still? But even if we accept the identification of these and some tens perhaps of other very early prehistoric figures as composites (and this is not uncontroversial – as pointed out by Dale Guthrie, for instance, Lion-Man may simply be “standing bear”), they remain strikingly isolated within the much wider corpus of images that survive from Palaeolithic and Neolithic times. The majority of those images, as I discuss in chapter 3, are more or less schematic representations of animals and other subjects that could actually be seen in the worlds of Ice Age hunter-gatherers and of the first farmers.

The question is not whether early humans were capable of producing images of fantastic, composite beings: they undoubtedly were, and they undoubtedly did. The question (of my book at least) is

whether such images ever caught on, becoming stable and widely transmitted features of prehistoric culture. And while there may be limited exceptions, the general answer, it seems, is an emphatic: 'no'. As Andre Leroi-Gourhan pointed out half a century ago, 'Palaeolithic art offers very few examples of what might be construed as flights of the imagination. Its monsters can be counted on the fingers of one hand' (or today, perhaps, two hands and a foot).

Modern scholars may love to disseminate and talk about images of prehistoric bull-men and so on. They open the door to discussions of early religion and the imaginary worlds of our hunter-gatherer ancestors. But the ancestors themselves just don't seem to have shared this fascination. So rare, in fact, are these kinds of images that one almost suspects a policy of avoidance or prohibition. Such a policy would in fact be quite familiar to more recently documented groups of hunter-gatherers or small-scale cultivators, who follow the ontological precepts of 'animism' and 'totemism' (in Descola's sort of sense). Consult the catalogue of the quai Branly exhibition and you see that the kind of anatomical reshuffling required to produce composites is generally at odds with the plastic and visual arts of such groups.

It is, by contrast, a pervasive feature in their *performance* arts, where ritual actors take on attributes of animal and other non-human bodies, and vice-versa. These are the image worlds of masks and short-lived effigies, destined to vanish in spectacular rites of expiation. For reasons of prudence, among the San or Inuit for example, such effigies were not traditionally rendered as permanent images. More often, crossing the boundaries between species also meant having to navigate a safe return – as epitomized in the figure of the trickster, shaman, or shape-shifter – or in the multi-layered masks of the Kwakiutl that flicker open and shut in ritual performances, affording glimpses of a human face lodged in an animal body, but never more than a glimpse.

To depict such states of mediation or mid-transformation in durable form may invite danger, by leaving open an extended trace of a relationship (between human and "other") that should be properly circumscribed by rites of passage. Images of composite beings, rigid and unchanging, thus evoke the principles of metamorphosis and liminality, only to subvert them. They fix transformations in stable media that render them capable of being replicated and disseminated, over and over again, in canonical forms. Composites thus typically belong to the image-worlds of cities and hierarchical states: mechanized, modularized, standardized, and centralized. The basic point was made long ago by Elias Canetti, in those sections of his (2000 [1960]) *Crowds and Power* that deal with the topic of transformation. Over the decades related points were developed by, among others, Victor Turner, Ruth Benedict, Fredrik Barth, and more recently Harvey Whitehouse (2004) with his distinction between 'imagistic' and 'doctrinal' modes of religious transmission.

In some other respects too, the 'cultural ecology' of cities seems especially well suited to the production of composites. Not just in imagery but also in other spheres of technical production. In the central chapter of the book I try to show how principles of modularity and standardisation – all basic to composite figuration – can in fact be found at work more generally in styles of craft and industry that developed in the early urban centres of western Asia, north Africa, and the Mediterranean. From the fourth millennium BC onwards, new levels of uniformity and precision are evident across a whole range of activities from the ceramic arts to techniques of making furniture and buildings, and also in modes of depiction. Similar points have been made for the bronze-working systems of Shang China and their associated forms of ornamentation. There, from around 1500 BC, images of anatomical composites (like the taotie figures on metal vessels) proliferated within an urban industrial complex that allowed manufacturers 'to assemble countless combinations from a limited repertoire of motifs and compartments' (Ledderose 2000: 25).

Of course, generating signs from standard components is also a favourite pastime of bureaucrats and administrators the world over. Some of the earliest evidence for this kind of activity can be

traced back to ancient Mesopotamia and Elam – today's Syria, Iraq, and parts of western Iran. There the first known forms of literate administration were concerned with classifying, archiving, and monitoring the flow of resources – both raw materials and finished goods – as they passed through large urban institutions: so many hundred jars of beer or oil, so many thousand sheep, so much grain or textiles. Such institutions combined temple and factory functions, forming the religious and economic hubs of cities such as Uruk and Susa – this was bookkeeping for the gods. The surviving inscriptions (written in scripts known as proto-cuneiform and proto-Elamite) also show that resident scribes sometimes engaged in what Robert Englund calls “fanciful paradigmatic name-generating exercises”, producing long lists of signs, many of which seem never to have been used for any practical purpose whatsoever.

A further function of temple administration was to guarantee the authenticity of finished goods by applying seals to them, or rather to their containers. The miniature impressions, thus applied, offer one of our main sources of evidence on the contemporaneous development of pictorial design, and often show lively arrangements of animals and people engaged in a variety of activities and postures. Such markings also testify to a close relationship between skilled depiction (in intaglio carving) and bureaucracy as linked domains of urban activity. The entire system of marking and recording was predicated on the constant generation of new visual signs that could fulfil their designated purposes, as discrete signifiers within an expanding system of administration. Under such conditions it is easy to see why the “bureaucratic eye” was drawn to the possibilities of composite figuration which – quite apart from being fun and memorable – would have greatly multiplied the range of possible subjects for depiction (i.e. instead of just ‘cow’, one suddenly has the possibility of ‘body of cow + bird head + wings’, or any other number of possible combinations).

This precis is now wandering a bit too far from its initial questions concerning the relationship between culture and cognition, which is supposed to be the main concern of this forum. So let me take a step back and return to where I started, posing again the question: can the origins of monsters (or, more precisely, of composite figuration) be taken as a test case for an “epidemiological” approach to the evolution of culture? And, if so, then what are its main conclusions? On this point I fully expect a lack of consensus from the readers, to whom I am deeply grateful for their attention to my book. My own conclusions are roughly as follows:

As minimally “counter-factual” or “counter-intuitive” representations, images of composite figures do indeed have “epidemic” qualities, which enhance their chances of transmission within and between populations. How else would we account for the cultural survival, in our own modern imaginaries, of such arbitrary Bronze Age creations as the griffin or unicorn, and for the apparently endless capacity of such figures to acquire rich new meanings and associations across the ages? But I would also argue that these epidemic qualities were unleashed only under certain sets of conditions, which are much more limited in range than the universal cognitive capacities that underpin them. Such conditions have been prevalent only in certain parts of the world, and only for what is – on an evolutionary time-scale – a relatively short episode in the history of our species.

Another way of putting this would be to say that the “intuitive” basis for the cognitive reception of monsters has not one, but two foundations – it is a sort of “double intuitive”. On the one hand, it rests upon the mind's innate and evolved tendency to compensate for gaps in the visible world, conjuring organic-seeming wholes out of ill-fitting parts, and ascribing them properties of living beings. This inferential capacity has no doubt been with us since the origins of our species. But at another level, the distinct epidemiology of monsters is a product of institutional environments existing only since the appearance of the first cities, and with them (as Jim Scott might have it) our first systematic attempts to “see the world like a state”: as a realm of standard and divisible subjects, each comprising a multitude of separable and combinable parts.

The latter and much more recent development is, I argue, what lay foundations for the enhanced orders of “monster-reception” that would be predicted by an epidemiological approach, and that are so evident a feature in the record of human image-making from the Bronze Age onwards. More generally, I suggest, it is in reconstructing such emergent properties of cognition over historical timescales that an archaeological – rather than purely lab-based or ethnographic – approach remains important for understanding cultural transmission and cultural evolution.

References

Boyer, P. 1994. *The Naturalness of Religious Ideas: A Cognitive Theory of Religion*. Berkeley, CA and London: University of California Press.

Canetti E (2000 [1960]) *Crowds and Power*. New York: Farrar, Straus and Giroux.

Davidoff, J. and D. Roberson. 2002. Development of animal recognition: a difference between parts and wholes. *Journal of Experimental Child Psychology* 81: 217-34.

Descola, P. ed. 2010. *La fabrique des images: visions du monde et forms de la representation*. Paris: Somogy/Éditions D’art.

Englund, R. K. 1998. Texts from the Late Uruk period. In *Mesopotamien: Späturuk-Zeit und Frühdynastische Zeit, Annäherungen 1*, ed. P. Attinger and M. Wäffler, pp. 15-233. Fribourg: Universitätsverlag.

Gell, A. 1998. *Art and Agency: an Anthropological Theory*. Oxford: Oxford University Press.

Guthrie, R. D. 2005. *The Nature of Paleolithic Art*. Chicago and London: University of Chicago Press.

Küchler, S. 2005. Materiality and cognition: the changing face of things. In *Materiality*, ed. D. Miller, pp. 206-30. Durham and London: Duke.

Ledderose, L. 2000. *Ten Thousand Things: Module and Mas Production in Chinese Art*. Princeton: Princeton University Press.

Mitter, P. 1992. *Much Maligned Monsters: A History of European Reactions to Indian Art*. Chicago: University of Chicago Press.

New, J., L. Cosmides, and J. Tooby. 2007. Category-specific attention for animals reflects ancestral priorities, not expertise. *Proceedings of the National Academy of Sciences of the United States of America* 104: 16598-16603.

Rostovtzeff, M.I. 1926. *The Social and Economic History of the Roman Empire*. Oxford: Clarendon Press.

– 1929. *The Animal Style in South Russia and China, being the Material of a Course of Lectures delivered in August 1925 at Princeton University under the auspices of the Harvard-Princeton Fine Arts Club*. Princeton Monographs in Art and Archaeology 14. Princeton; London: Princeton University Press; H. Milford, Oxford University Press.

Sperber, D. and L. A. Hirschfeld. 2004. The cognitive foundations of cultural stability and diversity. *Trends in Cognitive Sciences* 8: 40-46.

Stafford, B. M. 2007. *Echo Objects. The Cognitive Work of Images*. Chicago and London: University of Chicago Press.

Wengrow, D. 2003. Machiavellian moments: an interview with Maurice Bloch. *Journal of Social Archaeology* 3: 299-311.

Whitehouse, H. 2004. *Modes of Religiosity: A Cognitive Theory of Religious Transmission*. Walnut Creek, CA: Altamira.

Wittkower, R. 1942. Marvels of the East: A Study in the History of Monsters. *Journal of the Warburg and Courtauld Institutes* 5: 159-197.