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# On image systems in human history

In his *Discourse on the Origins of Inequality*, Jean-Jacques Rousseau asks his reader to imagine a human being with the capacity to mark its own body – adorning its skin with feathers, shells, or pigments – yet lacking the capacity for making images.[1] This fictional being, in its 'state of nature', possesses an imagination, but its mind 'paints no pictures' (just as it possesses a heart, but has no conscience). Being unable to conjure images in the mind, Rousseau's primordial human is also lacking in foresight; trapped in an eternal present, it is incapable of conceiving any reality other than that which confronts it in and of the moment. It was, as Rousseau realised, a necessary step to deprive his 'savage' of the image-making faculty (along with conventional language, property relations, and abstract thought). Only then could he tell a story of these human-like creatures running

> headlong for their chains in the belief that they were securing their liberty; for although they had enough reason to see the advantages of political institutions, they did not have enough experience to foresee their dangers.[2]

Buried in the logic of Rousseau's second *Discourse* lurks an intimation of the synthetic relationship between thought, image, and the making of social worlds,[3] which is increasingly borne out by the findings of modern neuroscience,[4] as well as being richly exemplified in ethnographic studies (most rigorously, perhaps, for the anthropology of North America and Oceania), and in the first-hand testimonies of

1 Rousseau 1984 [1754], 115–116.
2 Ibid., 69.
3 Synthetic, in much the same sense that Rodney Needham proposed in his (2014 [1978]) 'synthetic images'.
4 Metzinger 2009, 31–34, and *passim*.

Published in: David Wengrow (Ed.), *Image, Thought, and the Making of Social Worlds*, Freiburger Studien zur Archäologie & Visuellen Kultur 3. Heidelberg: Propylaeum 2022, 3–17, DOI: 10.11588/propylaeum.842.c10803

Indigenous experts and artists, to which I will return in due course. Expressing himself rhetorically, by imagining what it might mean to be without it, Rousseau notes how the faculty of image-making begins neither in pure thought nor in the external world of 'art' and 'ornament', but in the sympathetic meeting of human minds with specific materials in their vicinity; and moreover, that the capacity to make images is ineluctably tied to what we would now see as an evolved capacity for mental time travel[5] – the ability to project oneself, consciously, into the past or future – and so also to the arts of memory, modelling, and navigation.

Pacific artworks illustrate this with special clarity, by making explicit reference to previous and future creations. Shell valuables used in *kula* ceremonies carry within their forms an archive of their own passage from one owner to the next,[6] while ceremonial axes that circulate at mortuary feasts in Melanesia turn out to be complex technical models, calling to mind specific past relations and foreshadowing ones to come;[7] and the figural carvings of New Ireland known as *malanggan* are designed to open pathways of memory, leading via images to ancestral names, not ordinarily spoken.[8] Encompassing past and future, they cannot easily be placed into bounded historical contexts, because they are the means by which history itself is known: "people do not therefore have to explain such images by reference to events outside them: the images contain events."[9]

As opposed to isolated acts of making marks, patterns, or figures, image *systems* of this kind are technological and cognitive supports for expansive social networks.[10] For populations bound together in such networks, images work periodically to synchronise mental processes, bringing complex imaginaries of time, space, and states of being into alignment. Image systems of this kind form part of our species' cultural heritage, and no doubt their history extends back much further than their earliest durable traces in the archaeological record of the later Palaeolithic. Epic songs, poetry, and other skilled or formalised types of discourse are often anchored within them, and the forms of memory-work they entail.[11] Image systems are vital cognitive aids in navigating cosmological space through divination, vision quests, or shamanic journeys, just as they are essential in navigating the outer realities of physical space;

5 For the psychological and evolutionary basis of mental time travel (or 'chronesthesia'), see Tulving 1972.

6 Damon 1980.

7 Battaglia 1993.

8 Küchler 1999.

9 Strathern 1990, 157.

10 By working across the divide between ethnographically documented art and the traditional subject-matter of art history, Descola (2010) has arguably gone further than anyone else in establishing the basis for a general anthropology of image systems, in the sense intended here.

11 Lagrou, this volume; Severi 2015, and this volume; see also Cesarino 2013.

arguably, it is images and image systems alone that can mediate effectively between these different orders of experience.

It can hardly be doubted, for instance, that image systems played a crucial role in our species' development of those skills, which led to the first great conquests of maritime space. Most likely the images in question were made of ephemeral materials, like the stick-charts used until recent times by inhabitants of the remote Marshall Islands. Made of palm ribs, coconut fibers, and shells, these charts were not maps, but worked as analogical models, helping Marshallese navigators commit to memory the principles of swell and land interaction they would encounter on sea voyages.[12] No such devices could be expected to survive from the period between say 60,000 and 10,000 years ago, when our species first occupied large parts of Oceania, and even if they did, we would be hard pushed to ascertain their complex mathematical and topological functions simply by inspecting them, as these functions already assume a great deal of social and practical knowledge, grounded in the shared experience of maritime travel along island chains and atolls.

Image systems, as will already be obvious, are in no way confined to small-scale societies, but quite the opposite. More often they serve to integrate diverse populations at a regional or even continental scale, forming unbounded networks,[13] whose participants may be otherwise widely dispersed, and often speak different or sometimes even unrelated languages. These aspects of their distribution highlight two important features of image systems: one negative, the other positive. First, that they don't necessarily require explicit (linguistic) exegesis to perform their technical and mnemonic functions,[14] and second, that they are highly effective vehicles of cartographic and topological reasoning, which become especially important when social interaction takes on a discontinuous or sporadic form, switching routinely

12 Ascher 2004.

13 Unbounded, in the sense that most members of the extended group will never encounter one another in person, but nevertheless maintain potential relationships of hospitality or debt; in which sense, there is a dialectical relationship between image systems and the broader notion of human societies as necessarily 'imagined' communities (for which, see Bloch 2008).

14 Consider, for instance, the case of the New Guinea Highlands, whose indigenous inhabitants produce exceptionally rich and complex artworks (notably wigs, body-paintings, and costumes) but engage in very little exegesis of those works. Instead, words used for images tend to relate to an assessment of their 'fittingness', 'brilliance', or 'intensity', which in turn index their degree of connection with local clan-folk and more remote maternal kin. There is no 'iconography' or concern with decoding or revealing symbolic meanings assumed to be found in images; in fact, talk is held to be cheap and shallow, in contrast to deeper truths expressed by images (O'Hanlon 1992, 605, with further references). Such attitudes – which reverse the depth metaphors we conventionally use to assign language a superior status to images – are far from universal among users of image systems (see e.g. Morphy 1989, on Yolngu aesthetics), but the point is worth making, if only to illustrate the relative autonomy of image-based knowledge from spoken communication.

between different scales; as, for example, when moving across the "patchwork ecologies" spanning vast areas of Australasia and Oceania; regions famous for their complex image systems.[15]

Archaeological studies suggest scalar alternations are an extremely ancient feature of human sociality, initially arising from the seasonal rounds of Palaeolithic hunter-fisher-gatherers. It is likely that variations in the size and form of groups entailed changes in moral norms and political arrangements across different parts of the annual cycle. The precise nature of these changes will itself have been highly variable, and cannot be predicted on the basis of demography or environment alone.[16] Regular alternations of this sort may well be among the ecological factors shaping human cognition in deep evolutionary time. Few images survive from such early periods,[17] but the standing architectural remains of later forager societies offer striking exemplars of this convergence between periodic assemblies and the coordination of labour to produce durable images, usually at sensitive points of orientation in the landscape, and often on a spectacular scale. Notable examples – which serve to illustrate something of the variability in materials and design – include the Urfa Valley culture of southern Turkey, to which the stone temples of Göbekli Tepe belong,[18] and the Late Woodland Effigy Mound Culture of the American Midwest, with its focus on figural and geometric earthworks.[19]

On the other hand, it is abundantly clear that image-systems are not 'primitive' or 'archaic' features of human culture. History and archaeology offer many cases of expansive civilisations, the unity of which is most consistently expressed – not in traces of administrative or military power – but in the use of images to activate links between local groups and superordinate networks, which never coalesce into formal empires. Image-based polities of this kind have often spanned enormous territories, and are ubiquitous not just in Oceania, but also sub-Saharan Africa[20] and the pre-Columbian Americas, which furnish such notable examples as Chavín de

15 Küchler, this volume; and see also Krämer, this volume.
16 Wengrow – Graeber 2015.
17 See Pettitt, this volume.
18 Dietrich et al. 2012.
19 Boszhardt 2012.
20 Martínez-Ruiz, this volume.

Huántar, Ohio Hopewell, Cahokia, and perhaps also Olmec Mexico.[21] To the initial astonishment of European 'discoverers' and commentators, it turned out that regional systems of this kind could mobilise labour and produce monuments of precise dimensions and spatial orientation[22] – stone carvings, ceremonial ball-courts, or figurative earthworks – on a scale more typically associated with the literate states and empires of ancient Egypt, Mesopotamia, or China.

It would be a mistake to deduce from this any simple contrast between the Americas and Eurasia. The early history of the Mediterranean and the Central Asian steppe presents many cases of image systems acting as connectors between otherwise fragmented social groups, where the transmission of particular types of imagery (and ways of composing them) also heralds major reconfigurations of politico-religious systems. Examples include the so-called orientalising artworks of the Iron Age Mediterranean and their Bronze Age precursors, or the roughly contemporaneous 'Animal Style' art of Central Asia, which reached from the Black Sea to the frontiers of China. Close inspection of the figures and images in question – which include stable sets of anatomical composites or *Mischwesen* – reveals common constraints on their composition, as well as a tendency to use prototypes which have their genesis in the visual arts of the first cities. Such 'inter-cultural' systems of complex pictographs flourished in parallel with and often directly alongside the earliest forms of writing.[23]

Slotting cases such as Chavín or Cahokia into a framework of social evolution based on the history of Eurasian (literate) polities has proved difficult, not because of any oral/literate distinction, but because such frameworks assume from the outset that power over others resides in ownership of landed estates and other tangible resources, and the capacity to administer and defend them. With this in mind, it is intriguing to note recent comparisons between the Americas and Eurasia, which suggest disparities in material wealth (measured by archaeological proxies such as different numbers of grave goods or variations in house size) were of secondary importance in many pre-Columbian societies, forming an aggregate contrast with Bronze

21 In searching for scalar counterparts in ancient Eurasia we might look to the late Neolithic of central and northern China, during the third millennium BC. The initial growth of urban settlements there was not linked to any obvious administrative or military apparatus, but rather to a ritual economy based on bone-oracle divination, as well as the effusive production and circulation of images in jade. Made in standard shapes that allowed them to be worn or carried on the person, but also to be stacked, counted, and combined in greater numbers, ornamented jades seem to have functioned as a sort of ritual currency, straddling the worlds of the living and dead. In funerals, and no doubt other ritual contexts, this facilitated the precise measurement of personal distinction, expressing differences of rank along a common scale of value (cf. Liu 2003).

22 Clark (2004) explains the startling geometrical precision of monumental construction in the Pre-Columbian Americas as being most likely based on an indigenous form of string theory, and documents its consistency over spectacular (continent-wide) distances and over millennia of history.

23 Wengrow 2014; Severi, this volume.

Age Eurasia, where they consistently reached much higher levels.[24] Macro-differences of this sort have been taken to indicate that overall levels of social inequality were greater in ancient Eurasia than in the Americas, but this may well be misreading the evidence. Arguably, such models suffer from the same materialist bias that plagued attempts to apply 'world systems' theory to the pre-Columbian Americas.[25] For example, efforts to view Mississippian cultural expansion through the lens of core-periphery relations noted that groups on the margins of Mississippian influence, such as the ancestors of the Iroquois, may have supplied maize, meat, hides, minerals and human captives to the urban centre of Cahokia in return for 'prestige-goods' that were, in fact, largely immaterial (and, we might add, image-based) such as access to calendrical knowledge connected with the growth cycles of maize.[26]

A wealth of ethno-historical data points towards a different interpretation, placing image-systems rather than material surplus at the centre of Amerindian political economies. What the quantitative studies may reflect is simply that power and centralisation in the pre-Columbian Americas were not usually grounded in the stockpiling of goods or defence of landed estates, but in control over what Robert Lowie termed *sacra*: indigenous forms of property that were immaterial or incorporeal, including everything from magic formulae, stories, and medical knowledge, to the right to perform a certain dance, or stitch a certain pattern on one's mantle.[27] It can hardly be coincidental that in more recent Amerindian societies, it was usually ownership of such 'incorporeal' goods (Lowie compares them to our patents and copyrights) that unlocked rights of usufruct over land and resources: weapons, tools, and hunting grounds might be freely shared, but the esoteric powers to reproduce game or ensure luck in the chase were individually owned and jealously guarded; they were also inherited, bought, and sold.

Quite often, *sacra* have both material and immaterial elements, as with the ceremonial 'bundles' used by Plains societies, which include not only physical objects but accompanying dances, rituals, and songs.[28] Famously, among groups of the Northwest Coast, such rights were fiercely contested through claims to honorific titles, captured in images emblazoned on heirloom treasures.[29] In Kwakwaka'wakw

24 Kohler et al. 2017.

25 The aforementioned study, for instance, attributes the overall difference to the use of working animals and advanced metal industries in Eurasia, as against their absence in the Americas.

26 Dincauze – Hasenstab 1989.

27 Lowie 1928; and see, more recently, Harrison 1992. Lowie's critique of materialism has been widely absorbed into discussions of indigenous cultural property, although his own anthropological contributions are now largely forgotten, and no longer feature in seminal works on the topic (e.g. Anderson – Geismar 2017).

28 Zedeño 2008.

29 Codere 1950.

society, to take just one instance, ownership of an heirloom wooden feast-dish also conveyed the right to gather berries on a certain stretch of land, with which to fill it, which in turn afforded its owner the right to present those berries while singing a certain song at a certain feast, and so forth. Feast-dishes are both corporeal and incorporeal property at the same time, since they can die and be reincarnated. While the dish itself may rot away or be burned, the names of protective spirits carved onto its surface (and onto ladles used with such dishes) are considered eternal, and images are the means of calling them to mind, and contesting claims upon them.[30]

Rousseau's *Discourse* reminds us of this political potential in image systems: making visible the workings of any particular configuration of social reality is also to lay that reality open to scrutiny, reflection, and critique. Modern theorists of social evolution, placing their eggs in the flimsiest portion of Rousseau's basket, have largely ignored this point about self-consciousness, while embracing the fable of humanity's original innocence, and unwitting departure from a state of pristine simplicity on a voyage of technological discovery that would ultimately guarantee both our 'complexity' and enslavement. But in fact, what the archaeological record now shows is quite the opposite: far from lacking imagination or self-consciousness, Palaeolithic communities created *images* of social forms ("instituted signs," as Rousseau had it) that could not possibly have formed the permanent basis of their collective existence, let alone their workaday modes of political or economic organisation.

Most striking in this respect are the so-called aristocratic burials of the European Upper Palaeolithic, which are really more like ritual dioramas, where the decorated corpses of exceptional individuals (singled out by strikingly unusual physical features, traced in their skeletal remains) were transformed into images of power, saturated with ornaments and exotic regalia. The burials in question bear comparison with the 'chiefly' or even 'royal' tombs of much later Eurasian prehistory, yet they lack any obvious counterpart outside the domain of ritual performances, where barely any trace of social rank or stratification can be found in the archaeological record.[31] Ritual tableaus created by Ice Age hunter-gatherers call to mind the possibility of a ranked society, of precisely the sort that seems to have been avoided in their daily affairs (recalling Lévi-Strauss' observation, in *Tristes Tropiques*, that the graphic art of Kadiweu women is "like the phantasm of a society ardently and insatiably seeking a means of expressing symbolically the institutions it might have, if its interests and superstitions did not stand in the way").[32]

Such discoveries support the view that early human societies were characterised by a much higher degree of conscious social experimentation than generally

30 Walens 1981, 56–58.

31 Wengrow – Graeber 2015, 600–603; 609–611.

32 Lévi-Strauss 1973 [1955], 197; Lagrou, this volume.

thought, and image systems were integral to this kind of projective social thought. Also remarkable is the sheer geographical scale on which such systems operated, among forager groups who were demographically sparse and often widely dispersed.[33] These findings resonate with a sea-change taking place in evolutionary anthropology, which is coming to terms with what ethnographers insisted all along: that recent and contemporary hunter-gatherer societies (even living under conditions of displacement and demographic decline) are not usually confined to isolated bands (a more unfortunate legacy of Rousseau), but keep open the possibility of social relations with some thousands of other individuals regarded as potential kin – sharing rights, debts, and other obligatory relationships – despite the fact that they are geographically dispersed, have little common genetic inheritance, and often speak different first languages.[34]

Not by chance, those same evolutionary studies are now also rediscovering the importance of image systems, like the acrylic paintings produced by Aboriginal groups in Australia's Western Desert.[35] Here we might go a step further, and turn to the indigenous concept of *wunan*,[36] which describes the workings of image systems more elegantly than any western neologism. In the older ethnographic literature, *wunan* referred simultaneously to at least two quite different things: a system of image-making (in this case rock paintings, ranging in scale from miniature to massive) and far-flung hospitality zones traversed by people from hundreds of different communities, within which they could always expect to be valued and cared for. In the West Kimberleys, for instance, *wunan* is often described as a kind of ceremonial trading system, a little like Melanesian *kula*; sacred knowledge flows in one direction, material wealth in another; yet at the same time, it refers to the overall structure of the moiety system which extends between groups and ensures everyone has partners, or potential hosts, even in distant places.[37]

Ngarinyin intellectuals have recently made a point of explaining that *wunan* actually means even more than this. The *wunan* system, they emphasise, is first and foremost a form of law, but a law that is impressed on the landscape through complex images, and can only be learned by moving through it; but it is also "a set of prescriptive and proscriptive rules of civilised behaviour [...] the most prised pos-

33 This was long suspected, based on the wide distribution of cave art and portable female figurines (Gamble 1982), and now it can also be directly demonstrated by provenance studies of personal ornaments made on animal tooth, as well as the circulation – often across many hundreds of kilometres – of pigments, shell or bone beadwork, and other portable decorative media (Schmidt – Zimmermann 2019).

34 Bird et al. 2019.

35 Ibid., 102.

36 Alternate spellings: *wunnan*, *winan*, *wunnun*, *wurnan*.

37 E.g. Blundell – Layton 1978.

session of a Ngarinyin adult." Being civilised in this manner has both a moral and aesthetic dimension; one Senior Law Man, David Mowaljarlai, argued explicitly that while regional relations in the dominant (white) culture are founded on economics, Aboriginal civilisation is built on images, and *wunan* law in particular is evidence of a social order started by an artist:

> [...] that is, the law is depicted through the aesthetic nature of the land. To Indigenous Australians, symbolism holds as much legal validity as mathematics does for the laws of physics – perhaps that is why these laws have more in common with each other than with the Western legal codes. Mowaljarlai states that the law was called the *wunan* system, the law of sharing – that is, a jurisprudence of relationship and witnessing each other's behaviour.[38]

A moral and legal order of such impressive scale, created by artists, seems an appropriate image with which to end this opening chapter, in which I have tried to outline the theoretical context of the present volume, and the inter-disciplinary conference it derives from.

Our aim, as well as exploring the rising epistemological status of image systems across a range of disciplines, was to problematise the relationship between image and script, or at least 'play in the space' between them.[39] As an indication of how different that space looks now from half a century ago, it is worth recalling that I. J. Gelb, in his influential *A Study of Writing*,[40] identified aesthetic impulses as an obstacle to humanity's discovery of writing and mathematics. Understanding the principle that signs can work in conventional ways to convey language and calculus, as distinct from their value as depictions, was viewed by him as a major breakthrough in human systems of logic and reasoning, paving the way for modern scientific discoveries. From a historical and logical perspective, this always begged an obvious question (famously posed by Claude Lévi-Strauss):[41] what other kinds of intellectual activity *did* then make possible discoveries such as the invention of farming, complex metallurgy, systems of maritime navigation, monumental architecture etc. – most of which predate writing and formal mathematics by millennia? The answer, as we can now begin to see, lies to a significant degree with image systems.

Modern research has also shown Gelb's evolutionary scheme to rest on a false equation between script and the notation of spoken language, which experts now

38 Ngarjno et al. 2000, 22; see also Mowaljarlai – Malnic 1993; Doring – Nyawarra 2014.

39 As Quilter so nicely puts it in his chapter here; and see also contributions to this volume by Carraro, Gaillemin, Houston, Selz, and Shaughnessy, among others.

40 Gelb 1952.

41 Lévi-Strauss 1962.

consider to have been a relatively minor concern for the inventors of the first known writing systems, whether Mesopotamian cuneiform, Chinese logograms, or the glyph-based systems of Egypt and the Maya.[42] Despite being some decades old, these findings of philology and epigraphy have yet to filter out very far beyond their disciplinary specialisms. Cognitive and evolutionary studies of literacy have yet to fully absorb their implications.[43] Anthropologists too often seem to be working with an outmoded understanding of script development, as overdetermined by the notation of spoken language. Art historians and philologists, on the other hand, may be working with an equally outmoded understanding of image systems, as underdetermined by advanced and rigorous thought processes.

Archaeologists, for their part, find themselves in the position of happy magpies, recombining scraps of insight from all around; but with occasional exceptions, they have been reluctant to accord images even the most basic attentions of their own disciplinary toolkit: the detailed study of distribution, principles of assemblage, morphology, taphonomy, and depositional context.[44] One such exception is the field of prehistoric rock-art studies.[45] At Lubang Jeriji Saléh, on the island of Borneo, image systems executed on cave walls can now be traced back some forty thousand years, to a point considerably older than the much better-known rock art of western Europe.[46] Etchings that survive on stone and ochre from Blombos Cave in South Africa push the surviving record of human image-making back to around 70,000 BC. Of course, this is still a very late point in time relative to the appearance of cognitively modern *Homo sapiens*, which lies well over 100,000 years further into the past.[47]

Contrary to what is sometimes suggested, there is no great mystery here. Quite aside from the lost record of what was thought and done through perishable media, once we accept what is known ethnographically, and what we are told by Indigenous experts – which is, that image systems are no less complex technical achievements than writing systems, that they can express sophisticated dialogical theories of human society and politics, and that their inception is often linked to significant breakthroughs in other fields of knowledge – then the 'mystery' disappears. To claim otherwise is to insist on the commonplace fallacy that image systems should somehow

42 For which, see Houston 2004; Selz, this volume.

43 Interestingly, recent advances in neuroscience show the orthographic coding of most scripts is constrained by cognitive predispositions, which do not relate to language, but rather to the recognition of specific line configurations and junctions (the "visual word-form area"; Dehaene 2009). To date, however, studies of this kind have only engaged to a limited degree with empirical evidence for the earliest development of scripts, a potentially rich area for future research.

44 For a different perspective on this issue, see Knappett, this volume.

45 See also, Pettitt, this volume.

46 Aubert 2014.

47 See Mellars et al. 2007.

have emerged spontaneously at the dawn of history like language, advanced motor skills, or the very capacity for abstract thought. Really this is just another way of trivialising or infantilising the intellectual attainments of people without writing,[48] while also consigning their achievements to an utterly artificial temporality. With images systems now once again in the ascendant, we can ill-afford to lose sight of these deeper histories.

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48 cf. Davis 1986.

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