Artefacts, Agency and Global Magic: How Amazonian ‘Ontologies’ Can Illuminate Human-Object Relations in Industrialized Modernity

Introduction

It has often been asserted that anthropology should be not only about understanding the life-worlds and mindsets of other people, but ultimately about using such understandings to better grasp the cultural specificity of the familiar. George Marcus and Michael Fischer (1986) have called such a U-turn of the anthropological gaze ‘defamiliarization by cross-cultural juxtaposition.’ Since long before Bruno Latour (1993) launched the notion of a ‘symmetric anthropology,’ the ethnography of indigenous Amazonia has repeatedly and in many ways provided capitalist modernity with a mirror in which to discover its own idiosyncrasies and blind spots. In this paper I will reflect on some of the things it can teach us about our relations to things. As Karl Marx realized through his own brand of ‘symmetric anthropology’ 150 years ago, human relations to things are always about relations to other humans. Applying a concept originally employed by Portuguese merchants to describe the ‘primitive’ religious practices of West Africans, he referred to this as ‘fetishism’ (Hornborg 2014a). To unravel how we deal with artefacts is to unravel the specifics of social relations. Moreover, as Amazonian ethnography teaches us, social relations include relations with non-human beings. In pursuing a vantage-point from which to grasp the cultural specificity of capitalism, we shall need to consider not only fetishism, but also animism and perspectivism. I finally aim to show that the agency of modern technological objects is not intrinsic to those objects – and independent of human perceptions and deliberations – but that our belief that this is indeed the case is our way of distinguishing the modern from the non-modern.

Although this may sound much like what Bruno Latour and other proponents of ‘the ontological turn’ have been saying, my argument is in fact very different, grounded as it is in political economy. Rather than take ontological differences as a point of departure, I propose that we investigate the political economic conditions that produce particular ontologies. This applies no less to ontological diversity among non-modern societies – e.g.,

1 An earlier version of this text was presented as the keynote lecture at the IX Sesquianual Conference of the Society for the Anthropology of Lowland South America, Gothenburg, June 28, 2014.
between indigenous Amazonia and the prehispanic Andes – than it does to differences between the modern and the non-modern. Political economy fundamentally concerns the social organization of human-object relationships, and thus ultimately how social agency is delegated to artefacts. Such a definition of political economy inevitably implicates our own cultural constructions of ‘technology’ (Pfaffenberger 1992; Hornborg 2001a, 2014a). In unraveling the difference between two kinds of artefactual agency – i.e., whether or not it is contingent on human subjectivity – we discover, contra Latour, that the distinction between ‘subject’ and ‘object’ is much too significant to discard, if we want to understand how relations of social power are embodied in technologies. Paradoxically, although Latour’s focus on artefactual agency is supremely valid, his aspiration to abandon subject-object distinctions presents an obstacle to analyzing the historical transformations of such agency.² To unravel this paradox, I will need to demonstrate contradictions between central contributions of some of the main protagonists of ‘the ontological turn’ in anthropology (Bruno Latour, Philippe Descola, Eduardo Viveiros de Castro, and Eduardo Kohn). Whereas Latour’s rejection of subject-object distinctions is contradicted by his fellow ‘ontologists,’ Descola’s structural analysis of ontologies is less concerned with the role of artefacts. These omissions mean that neither Latour’s nor Descola’s frameworks can adequately account for historical transformations of political economy. Moreover, it will be evident that ‘the ontological turn’ does not represent a coherent or unitary theoretical framework.

I offer these suggestions against the background of more than twenty years of deliberations on technological fetishism (Hornborg 1992, 2001a, 2011, 2014a, 2014c), ecosemiotics (1996, 2001b), and the political economy of indigenous Amazonia and the Andes (2005, 2014b). Although seemingly disparate, I hope to show how these wide-ranging concerns converge in an alternative – and potentially more critical – understanding of human-object relations than that offered by proponents of ‘the ontological turn.’

² Latour’s efforts to deconstruct distinctions between subject and object and between Culture and Nature apparently duplicate those of early German Romantics such as Schelling in the period 1797-1806, and they raise the same philosophical objections (Wilding 2010).
I will begin by going back 20 years in time to June 1994, when, according to Signe Howell, the organizers of the third meeting of the European Association of Social Anthropologists were taken by surprise by the unexpected interest in the ‘outmoded’ theme of ecology. Two years later, Philippe Descola and Gísli Pálsson (1996) gathered several of the papers presented in Oslo in a Routledge volume called *Nature and Society: Anthropological Perspectives*. The prominence of Amazonia in these deliberations was very obvious, represented by classical papers by Philippe Descola, Laura Rival, and Kaj Århem. What most of the papers in the volume had in common was an understanding that the conventional nature-society or nature-culture dichotomy so prominent in European thought can generally not be identified ethnographically among indigenous, non-modern populations in e.g. Amazonia, Southeast Asia, or Oceania. Some papers, frequently citing Latour, also addressed recent trends toward blurring the nature-culture opposition in contemporary science, prompting the editors to ask whether this will ‘imply a redefinition of traditional western cosmological and ontological categories’ (Descola and Pálsson 1996:2). No longer simply relegating concerns with a modernist concept of ecology to the margins, constructionist and culturalist approaches in anthropology were now prepared to apply their perspectives to human-environmental relations and to ‘nature’ itself.

The papers assembled by Descola and Pálsson in 1996 were foundational to the wide-ranging discussions on animism, perspectivism, and human-environmental relations that have preoccupied so many anthropologists since then. Descola’s (1996) structural analyses of what he calls ‘the social objectivation of non-humans’ as ‘a finite group of transformations’ have developed into canonical volumes such as *Beyond Nature and Culture* (2013), characterized in the foreword by Marshall Sahlins (2013) as ‘a comparative anthropology of ontology’ and nothing less than ‘a paradigm shift.’ Descola’s quadripartite typology of ontologies – naturalism, animism, totemism, and analogism – is elegantly generated by the logical intersection of two parameters: here, continuity versus discontinuity in the representations of ‘interior’ versus ‘physical’ aspects of existence. However, Marshall Sahlins (2014) has suggested that Descola’s categories animism, totemism, and analogism are merely three varieties of animism, all founded on a general
inclination toward anthropomorphism. This conclusion is congenial with my proposal, further on, that Amazonian animism and Andean analogism should be more closely related than Descola’s analysis suggests. It also confirms that the central ontological distinction is that between animism and naturalism (cf. Descola 2013:172), a matter to which I will also return. While Descola’s empirically rich and theoretically sophisticated analysis is a magnificent account of global variation in human conceptualizations of their non-human environments, I shall suggest, in very general terms, how it might be complemented with perspectives linking such conceptualizations to political economy.

Århem’s (1996) chapter *The Cosmic Food Web*, which elucidates the eco-cosmology of the Makuna, was a significant source of inspiration for the model presented by Eduardo Viveiros de Castro (1998) in his celebrated article on Amerindian perspectivism in the *Journal of the Royal Anthropological Institute*. Judging from the extent to which the perspectivist model has been adopted and endorsed by other anthropologists, it has had an irresistible appeal to our profession. I suspect that this appeal reflects not only how impressed we are by the elegant cognitive twists of structuralist methods, but even more so the way the model enlists indigenous cosmologies to challenge the mindsets of capitalist modernity. To find, in the indigenous Other, the diametrical inversion of the civilization that many of us deplore is arguably a hallmark of much anthropology. The perspectivist model continues to haunt us, perhaps because it recognizes the possibility of acknowledging, in general terms, the subjectivity of all living things, which has been so bluntly repressed in modern society (cf. Kohn 2013).³ It illuminates how Cartesian objectification of human and non-human Others is ultimately an act of moral *dissociation* (Hornborg 2014a).

Although closely related to Descola’s understanding of animism, perspectivism was contrasted against the latter in a debate in Paris chaired by Bruno Latour in January 2009. Latour’s (2009) brief review of the debate presents Descola’s approach as the more traditional, preoccupied with ordering typological categories in a ‘cabinet of curiosities,’ whereas perspectivism to Latour represents a ‘bomb’ aiming to explode the philosophical

---

³ A fundamental constraint of the perspectivist approach, however, is that it will always remain confined to human representations of non-human perspectives. It will never be able to say anything specific about how non-humans actually experience the world (cf. Descola 2014:272).
typologies ultimately deriving from Western colonialism. Even if Descola’s (2013) classification of human ways of relating to nature includes scientific objectivism – he calls it ‘naturalism’ – as merely one of four ontological options, Viveiros de Castro proposes an even more radical departure from the nature-culture dualism of conventional western science: the complete dissolution of the notion of an objective, universal nature. Instead of assuming that there is only one nature, but many cultures, he argues, indigenous Amazonians hold – and he obviously thinks that we should take this assertion seriously – that there is only one ‘culture’ (or spirit, or soul), but many natures – many different material, bodily forms united by a single and shared form of subjectivity.

Descola’s and Viveiros de Castro’s challenges to western science are enthusiastically endorsed by Latour. Latour’s own work has addressed topics generally classified as Science and Technology Studies (STS), but he often presents his influential deliberations on the philosophy and sociology of science as anthropology. Alongside Descola and Viveiros de Castro, Latour personifies what is now being called ‘the ontological turn’ in anthropology. Although considerable efforts are being made to persuade the anthropological profession that this ‘turn’ indeed represents a significant shift away from whatever anthropology used to be, it is not altogether easy to grasp what the professed shift is all about (cf. Vigh & Sausdal 2014). Part of the confusion derives from Latour’s contradictory notion of ‘assemblage,’ which suggests that the very material, non-human phenomena whose agency he wants us to acknowledge only exist in terms of how humans perceive them (Elder-Vass 2015). But much of the confusion regarding the ‘ontological turn’ stems from the significant differences between the main protagonists. For instance, whereas Latour completely rejects the subject-object distinction, it has been explicitly fundamental to Viveiros de Castro’s (1999) concerns, and implicitly also to Descola’s (2013) focus on ‘interiorities’ versus

---

4 Elder-Vass’ (2015) devastating critique of Latourian Actor-Network Theory exposes its self-contradictions with regards to anthropocentrism and the existence of phenomena beyond human discourse. Condemned by his own propositions to continuous self-reference, Latour’s deliberations can make no claim to account for the specific ways in which physical forms assume the role of ‘actants’ that is not constrained by his own particular vantage-point. But to be compelled to include the human depictor in every attempt to represent something (whether human or non-human) is unreasonable and impossible. To posit, where applicable, a recursive (i.e. mutually constitutive) relation between reference and referent – ‘the knower and the known’ (Hornborg 1996:52) – is not equivalent to positing their conflation.
‘physicalities’. The issue has important implications for our capacity to distinguish between the agency of living organisms and that of abiotic things (cf. Kohn 2013), more specifically between the agency of humans and that of artefacts.\footnote{In a rejoinder, Latour (2014) clearly does not agree. There is a widespread failure in anthropology to distinguish between human claims that abiotic things – such as sacred mountains or mummified ancestors – are animate, on the one hand, and the issue if they are actually alive, on the other. To respect such claims as statements about human sentiments and relations should not be confused with skepticism vis-à-vis biological (or semiotic) definitions of life (cf. Kohn 2013, 2014). Assertions that a mountain is animate may be understood as an appropriate counterbalance to the equally fetishistic claim that a corporation is a person with autonomous intentions and interests (Martin 2014:107), but we should be aware that we are talking about human sentiments and relations rather than attributing personhood to geological formations. It will require profoundly humanist (rather than ‘posthumanist’) convictions in order to establish sensitive and sustainable relations to the remainder of the biosphere. This will entail enhancing our extraordinary human capacity for subjectivity, rather than regressively reducing ourselves to equivalents of rocks and tools.}

To the extent that Latour’s message is to be understood as politically subversive (e.g., Latour 2004), it is not clear who is to be subverted, and to what ends. If, as he has suggested, we are mistaken to think that there is such a thing as ‘society’, ‘capitalism’, or ‘fetishism’ (Latour 2005, 2010) – how could we ever proceed in theorizing power? Latour’s ultra-relativist understanding of fetishism notwithstanding, the answer should no doubt be sought in his general approach to artefacts. In a paper co-authored with primatologist Shirley Strum in 1984 (Strum and Latour 1987), Latour observes that the key difference between the sociality of baboons and that of humans is that human relations can be anchored to partially independent and fixed points of reference beyond the body, such as language, symbols, and – importantly – material objects. Although this is hardly a new observation (that humans distinguish themselves by the extent to which they use language, symbols, and artefacts), Latour’s perspective on the agency of artefacts – apparently emerging from his early studies in primatology – encourages us to reconsider the role of specific properties of artefactual assemblages in generating specific varieties of human social organization. An implication of such a stance, not pursued by Latour himself, is that the power asymmetries addressed in studies of political economy should be possible to trace to specific kinds of human-object relations.
**Artefacts, Ontology, and Political Economy in Indigenous South America**

If, to a large extent, artefacts (including technologies) are indeed the substance of increasingly complicated human social relations, Latour’s preoccupation with their agency within hybrid networks or assemblages is understandable. It raises questions that are central to Amazonian ethnography and the mirror it provides for capitalist modernity. What is the relation between materiality, sociality, and imagination? Or, differently phrased, what is the relation between political economy, magic, and myth? As Santos-Granero (2009b:19) has implied, the role of artefacts conceived of as powerful agents would no doubt be a key to understanding sociopolitical organization in the more hierarchical societies – or, to use an expression from Stephen Hugh-Jones (2009), more ‘opulent object regimes’ – known to have existed in pre-colonial Amazonia. Archaeologists speak of ‘prestige-good systems.’

Prestige-goods such as green-stone amulets (Boomert 1987), shell beads (Gassón 2000), snuff trays (Torres 1987), and feather headdresses (Basso 2011) appear to have been widely circulated in pre-colonial Amazonia, and their significance for regional social organization, hierarchy, and power should not be underestimated (cf. Hornborg 2005).

The pre-colonial transformations of Amerindian societies into chiefdoms, states, and empires, such as those encountered by Spaniards in the Andean highlands, hinged on the political economy of prestigious and fetishized artefacts such as the *Spondylus* shells imported from coastal Ecuador (Salomon 1986; Hornborg 2014b). The Thorny Oyster or *Spondylus* generally occurs naturally not much further south than the Gulf of Guayaquil, but was in high demand throughout the Andean area for millennia before the Spanish conquest. Whether in the form of intact shells or fashioned into ornaments, beads, or powder, it has been discovered in a number of archaeological sites ranging from coastal Peru around 2500 B.C. to Inca-period sacrifices on high peaks in the southern highlands (Paulsen 1974; Pillsbury 1996; Carter 2011). Ethnohistorical sources indicate that *Spondylus* symbolized fertility and water and that one of its primary uses was as offerings to the gods to ensure good harvests (Salomon and Urioste 1991; Blower 2000). Access to items derived from *Spondylus* provided the lords of prehispanic Andean theocracies with a means of claiming prestige and honor in proportion to harvests, and thus to establish claims on the labor of their dependent peasants. The social and political agency of these small but highly valued fetishes was thus
formidable. Much like money in our contemporary world, they integrated vast imperial hierarchies ultimately because most people believed in their magic.

The cultural continuities linking Amazonian and Andean societies have intrigued a number of anthropologists working on both sides of the montaña, including Lévi-Strauss. The difference between Amazonian animism and Andean analogism identified by Descola (2013) can no doubt be illuminated by focusing on historical transformations in the political economy of human-object relations in the two regions. We should begin by asking what the relationship is between ontology and political economy. The fifteenth-century capacity of Spondylus shells to mobilize thousands of Andean peasants was contingent on how they were subjectively perceived; their (symbolic) agency was thus distinctly different from the technical impact of other Inca artefacts such as the foot-plough or backstrap loom. In making this difference invisible, a dissolution of the subject-object distinction, as advocated by Latour, would also conceal the huge potential for intensification and centralization inherent in what we might call ritual or symbolic technologies. The amount of work that can be accomplished with a foot-plough or backstrap loom per unit of time is limited by the energy and skill of the laborer, but the amount of work that can be mobilized by a gift or sacrifice of Spondylus is limited only by human credulousness. The prehispanic ontology of Spondylus was thus inextricably intertwined with political economy.

Descola (2013:268-280) uses Nathan Wachtel’s ethnography of the Chipaya in highland Bolivia as representative of the analogism he identifies as prevalent throughout the Andes at least since the Inca Empire. Their dual organizations and quadripartitions are repeated at every level of inclusiveness, organizing society and the cosmos as a consistent, fractal hierarchy that pervades both human and non-human domains. As Descola (2013:202) suggests, the obsession with resemblances in stratified societies is a way of making a world of ‘infinitely multiplied’ differences intelligible and meaningful, but we also need to ask how those differences were generated that needed to be made meaningful. In the current context, this means asking how the social organization of artefacts and human-object relations in the pre-colonial Andes could generate vast imperial hierarchies among populations who adhered to a fundamentally egalitarian and reciprocal cosmology. The archaeological reconstruction of the emergence of so-called prestige-good systems
addresses precisely this issue: how the expanded circulation of subjectivized artefacts generated new and more hierarchical forms of social organization in prehistory. The political economy of fetishized valuables was a crucial foundation of Andean civilizations (Hornborg 2014b). It is reasonable to hypothesize that such human-object relations have emerged from relations similar to those that are currently being investigated in the less hierarchical indigenous societies of contemporary Amazonia (Santos-Granero 2009a). Rather than understand the difference between Amazonian animism and Andean analogism as an essentialized contrast in world view or ontology, the challenge for anthropology should be to account for the difference in terms of historical transformations of social organization.

Indigenous Andean and Amazonian societies have experienced quite divergent post-conquest trajectories: while Andean communities have remained integrated in the large-scale colonial hierarchies that replaced the Inca Empire, Amazonian groups have been more thoroughly victimized by depopulation and societal fragmentation. However, archaeological investigations in various parts of Amazonia indicate that, prior to exposure to European colonialism, the region was home to densely settled and hierarchical polities that were no doubt comparable to those of the Andes (for an overview, see Hornborg 2005). Extensive areas of raised fields, anthropogenic soils, and earthworks testify to the pre-colonial existence of complex sedentary societies in various parts of the tropical lowlands (Balée and Erickson 2006; Schaan 2012). Although most of the prestige-goods that circulated in and between these polities would have been perishable, there are archaeological indications of long-distance trade in items such as green-stone amulets, shell beads, and snuff trays (Boomert 1987; Gassón 2000; Torres 1987). As Santos-Granero (2009b:19) has implied, the contemporary uses of ‘subjectivized’ artefacts among indigenous groups in Amazonia may represent fragmented echoes of pre-colonial political economy. The agency of such subjectivized artefacts (or fetishes, in Marxian parlance) was no doubt as significant for ancient Amazonian social organization as Spondylus shells were for polities in the prehispanic Andes. If, as Descola (2013) proposes, ‘analogist’ ontologies have emerged to reconcile the myriad differences of stratified pre-modern societies, the distinction between Amazonian animism and Andean analogism cannot be a timeless, essentialized one, but a post-conquest divergence of societies that once belonged to the same continuum. It reflects
a difference in degree of hierarchization, but not a difference in the fundamental character of human-object relations.

In considering what ‘the ontological turn’ might have to contribute to our understanding of such historical transformations, we are struck by two conspicuous omissions in the respective frameworks of Latour and Descola. Latour rejects a distinction between the agency of living subjects and that of abiotic artefacts (cf. Kohn 2013:91-92), and he would thus no doubt also reject a distinction between forms of artefactual agency based on whether or not they are contingent on human subjectivity. Descola, on the other hand, appears to accept subject-object distinctions, but demonstrates little concern for the role of artefacts and human-object relations in generating different ontologies. In offering an alternative perspective on the political economy of globalized technologies, I shall (selectively) retain Latour’s observations on the pivotal role of artefacts in human social organization and Descola’s acknowledgement of subject-object distinctions.

If Sahlins (2014) is correct in suggesting that the essential distinction between divergent ontologies can be reduced to that between naturalism and animism, I will next try to show that naturalism is closely related to the emergence of new forms of fetishism that were fundamental to the Industrial Revolution in eighteenth-century Europe. Although naturalism has been represented as a transcendence of pre-modern, local magic, its approach to the agency of technological artefacts is associated with a different, globalized form of magic. Its ontological foundation is the abandonment of relationism, as illustrated by the assumption that objects (e.g., organisms, or machines) can be fully understood through analysis of their bounded, material forms, detached from the relations that generate them.

**Keys and Coins: Technology, Magic, and the Significance of Human Subjectivity**

I propose that the distinction between pre-modern and modern hierarchical societies hinges on the different roles of human subjectivity in the kinds of human-object relations that characterize the two contexts. If material objects are mobilized as agents in systems of socio-ecological relations, I suggest that we reflect on the difference between their capacity to operate *without* the mediation of subjective human perceptions, on the one hand, and their
capacity to operate by means of such mediation, on the other. This difference is fundamental to the way we conventionally distinguish between technology and magic.

I hope to show that technology is our own version of magic. In this sense, I agree with Latour (1993) that ‘modernity’ is not a decisive break with pre-modern ontologies. The Enlightenment demystification of pre-modern magic and ‘superstition’ was not a final purge of reliable knowledge, but a provisional and politically positioned one. Its understanding of the nature of economic growth and ‘technological progress’ has been a successful instrument of predatory expansion for core regions of the world-system for over three centuries, but the multiple crises currently faced by global society are an indication of the approaching bankruptcy of this world-view. The components of this failing ontology that seem most imminently in line for collapse are its understandings of money and technology—two kinds of fetishized artefacts widely imagined to have autonomous agency.

A prominent role of science is to represent technological progress as ‘natural’, as if capitalist expansion was founded exclusively on innovative discoveries of the ‘nature’ of things, and as if the social organization of exchange had nothing to do with it. Constrained by our Cartesian categories, we are prompted by the materiality of technology to classify it as belonging to ‘nature’ rather than to ‘society’. The post-Cartesian solution to this predicament, advocated by proponents of the ‘ontological turn,’ would be to abandon the categories of ‘nature’ and ‘society’ altogether (cf. Latour 1993). Descola (2013:82), for instance, rhetorically asks, ‘where does nature stop and culture begin’ in an increasingly anthropogenic biosphere. But, I would caution, to acknowledge that nature and society are inextricably intertwined all around us—in our bodies, our landscapes, our technologies—does not give us reason to abandon an analytical distinction between aspects or factors deriving from the organization of human society, on the one hand, and those deriving from principles and regularities intrinsic to the pre-human universe, on the other. For example, the future of fossil-fueled capitalism hinges on the relation between the market price of oil and the Second Law of Thermodynamics, but I cannot imagine that we have anything to gain from dissolving the analytical distinction between the logic of the world market and the laws of thermodynamics.
How can the ethnography of native Amazonia help us to expose and transcend modernist illusions? I believe that to understand Amazonian ontologies in terms of how artefacts are incorporated into the social organization of subject-object transformations can shed light on the specific way in which modern people tend to perceive the agency of their technology. Descola (2013:405) concludes his book Beyond Nature and Culture with the assertion that ‘it would be mistaken to think that the Indians of Amazonia, the Australian Aboriginals, or the monks of Tibet can bring us a deeper wisdom for the present time than the shaky naturalism of late modernity.’ I agree, of course, that their ontologies cannot be transferred and applied, unedited, as it were, to the predicaments of modern life, but I am convinced that a familiarity with the different ways in which humans can relate to material artefacts increases our capacity to critically scrutinize our own constructions of technology. In fact, I suspect that cross-cultural variation in the way humans relate to artefacts could also be analyzed structurally and typologically as ‘a finite group of transformations,’ much as Descola has done regarding what he calls ‘the social objectivation’ of non-human nature. One parameter to investigate might be various modes of understanding the relations between objects and the metabolic flows which generate them. Other parameters might include modes of understanding artefactual agency: whether it requires human delegation, whether it presupposes human beliefs, and whether it implies personhood and intentionality or is content with positing soulless causation.

A tenacious illusion of Enlightenment thought is that a boundary can be drawn between material forms and the relations which generate them, and that it is only the latter that can be contested, negotiated, and transformed. I think this kind of distinction – the reification of things – is more problematic than the distinction between ‘natural’ and ‘societal’ aspects. It is the essence of fetishism. The ‘moderns’ generally perceive tangible objects as given, and as separate from the invisible networks of relations in which they are embedded. Such distinctions alienate humans from non-human nature as well as from the products of their labor, because both are perceived as categories of autonomous objects rather than as manifestations of relations. What our technological fetishism obscures from view is that it is as misleading to imagine machines as independent of global price relations and resource flows as it is to imagine organisms as independent of their environments.
How do we deal with the role of human perceptions in granting agency to ‘things’? To illustrate the second set of parameters I mentioned, it will suffice to acknowledge that both keys and coins have been delegated agency, but of different kinds. Such little pieces of metal can be crucial in providing access to resources, whether by physically opening doors, or by social persuasion. The way these metal objects are shaped – whether as keys or coins – have for centuries determined whether they operate as technology or through magic.⁶ Coins and keys illustrate how social relations of power in different ways are delegated to material artefacts. They exemplify how such delegation can either be dependent on, or independent of, subjective human perceptions. They thus make very tangible the distinction that John Maynard Keynes long ago made between ‘organic’ and ‘atomic’ propositions, the truth of the former depending on ‘the beliefs of agents,’ whereas the truth of the latter is independent of any such beliefs (Marglin 1990:15). It is with this distinction in mind that I would briefly like to compare the operation of modern technologies with native Amazonian uses of artefacts, as elucidated in Fernando Santos-Granero’s (2009a) edited volume on The Occult Life of Things.

Objectification and Subjectification: Human-Object Relations in Amazonia

First, some general observations on human-object relations that are made in that important and useful volume. Stephen Hugh-Jones (2009) observes that although native Amazonia has generally been characterized as ‘object poor,’ there is considerable variation in time and space, and different peoples have quite different ‘object regimes.’ For example, the Barasana recognize an important category of valuables that signal group identity and social rank, and the northwest Amazon as a whole, like the upper Xingú, is known for ‘the intense circulation of ritual objects and ordinary possessions’ (ibid., 35). Joana Miller (2009:76) similarly observes that, in ‘regions where they are involved in wider trade and exchange networks,’ objects produce distinctions within or between social groups, and Terry Turner (2009b:162) shows how traditional Kayapó valuables are passed on over the generations as tokens of social identity. These observations contrast, for example, with those of Philippe

⁶ Significantly, the invention of the slot-machine enabled even coins to assume technological functions, alongside the magic that Marx called ‘money fetishism’: when we buy a Coke or enter a public bathroom we might reflect over the fact that magical objects can be converted into technology.
Erikson (2009:177) among the Panoan-speaking Matis, for whom ‘all artifacts are conceived of as an extension of their maker, and as such, as “inalienable” extensions of their person.’ As several of the chapters suggest, the extent to which possessions are alienable from their owner can be expected to be reflected, in related ways, in separate contexts such as the propensity to exchange them and their disposal in connection with funerals.7

Erikson (2009:183-188) suggests, like Luiz Costa and Carlos Fausto (2010), that the widespread Amazonian concern with ‘mastership’ or ‘control’ over humans, animals, and plants also applies to artefacts. This Amerindian ‘idiom of power’ evoking master-ownership, engendering, and protection (Costa and Fausto 2010) organizes relations between hunters and their game, warriors and their enemies, chiefs and their followers, shamans and spirits, humans and pets, and parents and children, as well as between persons and things. It is in fact as evident in the relation between the Inca emperor and his yanacona servants as in the relation between captors and captives in Santos-Granero’s (2009c) fascinating survey of Amerindian slavery. A central component of this pervasive notion of mastership is the capacity to dispose of persons and things. Much as when David Graeber (2011b) argues that the sovereignty of the modern consumer over his or her commodified objects is modeled on the sovereignty of the medieval monarch over his or her subjects – as both represent an urge to destroy in order to gain recognition and identity – we find once again that human relations to things are about relations to other human (or non-human) beings. Graeber’s reflections on the modern concept of ‘consumption’ as based on the metaphor of eating – the perfect idiom for destroying something while literally incorporating it – are strangely familiar to Amazonianists routinely discussing native concepts of ‘predation’ as incorporation. In both modern and native Amazonian cosmologies, it seems, incorporation is fundamental to identity.

Another reflection stimulated by these illustrations of how power over objects is in fact power over other subjects concerns the very widespread Amerindian myth about the ‘revolt of the objects’ (Santos-Granero 2009a:3). While reading Jeffrey Quilter’s (1990) article in the first issue of Latin American Antiquity on the identification of this myth in iconography from

7 Among the Matis, the reluctance to engage with artefacts manufactured by others is clearly related to their historical experience of epidemics introduced by outsiders (Erikson 2009:179).
the ancient Moche culture (A.D. 200-700) on the north coast of Peru, and looking at the
detailed depictions of animated artefacts battling with their human makers, I couldn’t help
thinking of Hollywood productions like *Terminator*. The attribution of agency and
subjectivity to artefacts obviously has the potential to rouse fears that the objects will
assume power over their makers. Common to the mythological ‘revolt of the objects’ and
*Terminator* is the fear of an inversion of the social relations of power. The latter case clearly
seems to reflect the highly ambivalent fascination with technology on which capitalist
modernity is built, but the way it deals with subject-object transformations can be viewed in
a new light when illuminated by the social life of artefacts in native South America. Moche
iconography from the middle of the first millennium A.D. clearly illustrates that subject-
object distinctions were far from insignificant for pre-colonial Amerindians.

The main theme running through *The Occult Life of Things* is how objects are attributed with
subjectivity. The concepts ‘subject’ and ‘object’ are of course highly contested modern
categories, but any attempt at cross-cultural comparison will require an explicit baseline of
such fundamental categories through which particular life-worlds can be compared. Without
the cognate terms ‘interior’ versus ‘physical’ as baseline, Descola’s (2013) comparative
analyses would have been impossible. It is one thing to observe the psychological, social, and
indeed quite material consequences of *perceiving* certain objects as subjects, and another to
account for such *perceptions* in terms of the observer’s own assumptions about what
subjects and objects actually *are*. Whether we are prepared to acknowledge them or not, we
all *do* have such assumptions.\(^8\) Beyond human perceptions, there are *objectively* biotic
versus abiotic entities, and any attribution of agency or personhood to abiotic objects –
whether by Amazonians or by Science-and-Technology scholars – should be understood as a
statement about social or human-environmental relations.\(^9\)

\(^8\) For a convincing argument in this direction, see Heywood 2012:146.

\(^9\) Chris Gregory (2014:48, 62) notes that posthumanist attributions of agency or even intentionality to
things are, ‘from a Marxist perspective, a classic example of fetishistic thought of an animistic kind,’
and ‘quite literally a form of spiritualism’ that no humanist can accept. ‘For the humanist,’ he
continues, such ‘assumptions are part of the problem to be explained in the current era of
hypercommodity fetishism, not a solution to it.’
Much as Viveiros de Castro’s (1999) seminal analysis of indigenous Amazonian ontology, Santos-Granero’s (2009a) collection of profoundly perceptive ethnographies is couched in the inescapable, naturalist language of ‘subjects’ and ‘objects’. The ‘animist’ perception of all living things as subjects is perfectly compatible with the perspective of *ecosemiotics* (Hornborg 1996, 2001b; Kohn 2013), but the attribution of subjective agency to abiotic artefacts is more correctly classified as fetishism (cf. Gregory 2014). Whether we are confronted with the non-modern ‘subjectivation’ (Santos-Granero 2009) of objects, or to the claims of Actor-Network theorists, we need to retain the capacity to distinguish between sentient actors pursuing their purposes, on the one hand, and objects that simply have consequences, on the other. Kohn (2013:91-92) thus pertinently criticizes STS for not distinguishing between the agency of sentient ‘selves’ versus the mere material ‘resistance’ of abiotic things such as rocks or artefacts. Latour’s general assertions about the agency of artefacts, combined with his dismissal of subject-object distinctions, are tantamount to fetishism (cf. Hornborg 2014a; Martin 2014).

It is symptomatic of the ‘ontological turn,’ however, that no one any longer seems to want to talk about ‘fetishism’. The implicit assumption is that if objects are perceived as subjects, then *who are we* to suggest that it is an illusion? We are all fetishists, says Latour (2010). Yes, Marx said the same thing 150 years ago, but the crucial difference is that he wanted to *expose* fetishism in order ultimately to reject it. He observed that fetishism – the attribution of properties of living things to inanimate objects – could be a means of maintaining social relations of power and inequality. This does not seem to concern most Actor-Network theorists, whose arguments instead tend to amount to an *endorsement* of fetishism. It may be politically correct not to impute ‘fetishism’ to others, but what is the bottom line of this argument if it simultaneously means denying us the chance of exposing *our own* fetishism? 

---

10 It is hard to imagine a more appropriate ideology for neoliberal social science (cf. Gregory 2014). The ideological bottom line of ANT is to shift political responsibility from humans to things (Martin 2014:105-107). Although offered as a joke, it is no coincidence that Latour (2005:5) quotes Mrs. Thatcher’s slogan, ‘There is no such thing as a society.’ A refreshing contrast is Kim Fortun’s (2014) criticism of Latour’s conceptual framework for disregarding the various environmental and medical externalizations that are inherent in ‘industrial logic.’ Although Michael Fischer (2014) largely follows Latour into esoteric and inaccessible language games, he similarly challenges him to address ‘the widening inequalities and devastations of our current cannibal economies, consuming the lives of some for the luxury of others’ (ibid., 349). The widely recognized inability of ‘ontological
In his lucid introductory chapter to *The Occult Life of Things*, Santos-Granero (2009b) sorts out the various ways and contexts in which objects are attributed with subjectivity in Amazonian societies. He notes that some objects are conceived of as persons because they are attributed with a soul and a measure of agency, but agrees with María Guzmán-Gallegos (2009) that objects can be perceived as subjects even when they are not believed to have a soul, and that their agency does not necessarily imply intentionality. As we shall see, it is significant that these qualifications about soul-less subjectivity and non-intentional agency appear in a context where indigenous people are being engaged in the operation of capitalist modernity, quite reminiscent of Michael Taussig’s (1980) account of the baptism of money.\(^1\)

A recurrent phenomenon in native Amazonia is the notion that the subjectivity of objects is an extension of the people who made them, which of course recalls Marcel Mauss’s (1990 [1925]) classic observations on ‘the spirit of the gift.’ As illuminated by Joanna Overing, Cecilia McCallum, Els Lagrou, and other ethnographers of Amazonia, artefacts and children are often viewed as analogous fabrications, both embodying the extended subjectivity of their makers. But objects can also become gradually ‘ensouled’ through contact with their owners, whether or not the owner was also the manufacturer.\(^2\) Some objects need the intervention of humans to activate their agency. The only objects that are recognized as completely inanimate are those with which no communication is possible. As Santos-Granero (2009b:11) observes, ‘Some objects are just plain objects.’

Viewed from within a particular human life-world, objects can be turned into subjects, and vice versa. Rather than discussing the conditions of subjects and objects as nouns, it is thus apt to consider them as *verbs* – as processes of ‘subjectivation’ and ‘objectivation’ that must be continuously attended to, through a myriad practices including shamanism, ritual, dieting, and its political naïvité in general (Vigh and Sausdal 2014:63), raise concerns over its official prominence at recent meetings of the American Anthropological Association.

\(^1\) Note that capitalist violence can also be represented as highly intentional, as illustrated by Santos-Granero and Frederica Barclay (2011) in their article ‘*Bundles, stampers, and flying gringos.*’

\(^2\) In a more recent paper, Santos-Granero (2013) shows that such notions of ‘ensoulment’ are widespread also in Euro-American societies.
and daily routines. Such recurrent practices involve acts of subjectivation as well as de-subjectivation, exemplified by the neutralization of potentially dangerous food, or the destruction of a dead person’s possessions. As Harry Walker (2009) shows, even where potentially dangerous objects are allowed to maintain a measure of agency, they need to be ‘tamed’ or ‘subjected’.13

Technology as Magic: Fetishism in Capitalist Modernity

Whereas modern people would generally consider the treatment of objects as personified subjects an illusion or fallacy (likely to be dismissed as superstition), while perhaps conversely challenging the objectification of subjects (such as animals or workers) as indicating a lack of empathy, native Amazonians take seriously the risks inherent in such subject-object transformations.14 They are, in short, concerned with managing relations. Such a ‘relational epistemology,’ as Nurit Bird-David (1999) has called it, is indeed very different from the rigid subject-object dualism of modernity. A fundamental paradox of capitalist modernity, which we can detect in this cross-cultural mirror, is that its ‘naturalist’ categories of subject and object are so irrelevant to the systems of relations that it organizes – that is, in terms of how subjects are treated and objects understood. Not only does it objectify both human and non-human subjects, and treat humans and nature accordingly – it is equally founded on an unprecedented subjectification of objects. I am not suggesting that objects are generally attributed with personhood, but some objects are attributed with an autonomous agency, which serves to mystify unequal social relations of exchange. As Marx observed, money is thus believed to generate more of its own kind, when deposited in bank accounts. Machines are believed to ‘produce’ on their own account, regardless of the global price relations which make them possible, and which should prompt us to understand them

13 The potential dangers of eating insufficiently de-subjectivized food are clarified in the distinction made by Carlos Fausto (2007) – building on the observations of Beth Conklin, Aparecida Vilaca, and others – between ‘cannibalism’, defined as the appropriation of subjective aspects of other humans, and eating ‘familiarized’ human remains.

14 Rather than dismiss all subject-object distinctions as symptoms of a false consciousness foundational to modernity, as does Latour, we need to understand them as statements about relations of power (cf. Martin 2014:111). Fetishism is the attribution of power – the displacement of responsibility – to objects within networks of social relations where the political agency of humans is not apparent.
as accumulations of embodied human labor and natural resources where the money is. Money and machines may not be ‘ensouled’ persons in modernity, but they are certainly believed to have autonomous agency. We pride ourselves on having abandoned animism, but have organized a global society founded on fetishism. It is a fetishism which differs from pre- and non-modern forms of fetishism by restricting the subjectification of objects to imputing agency to them, rather than full personhood and intentionality, but it is fetishism all the same.

We are now in a position to draw more precise conclusions on the difference between capitalist modernity and native Amazonia in terms of how humans tend to subjectivize artefacts. First of all, ‘the moderns’ spend more of their life handling the kind of artefacts that we call ‘technology’, which I previously illustrated by the capacity of keys to operate independently of human perceptions. The distinction between ‘magic’ and ‘technology’ that I have suggested corresponds to a distinction between societies founded on the energy of human labor, on the one hand, and societies founded on the use of so-called ‘exosomatic’ energy (e.g., fossil fuels), on the other. Where political economy is about the social organization of human muscle power, people have to be persuaded to exert themselves for the benefit of those in power. ‘Magic’ could be defined as the category of social strategies by which such persuasion is achieved. For example, when the Inca emperor offered Ecuadorian *Spondylus* shell to the gods to ensure rain and agricultural fertility, it was incumbent on his many subjects to labor on his terraces and irrigation canals. We can no doubt now all agree that the efficacy of such ritual sacrifices is dependent on human perceptions. The prehispanic agency of *Spondylus*, like that of modern money, was contingent on human subjectivity. But when modern farmers in an increasingly desiccated California resort to high-power water pumps to irrigate their fields, the efficacy of such practices is not perceived as dependent on human perceptions. The difference between ‘magic’ and ‘technology’, we tend to believe, is that the latter is a matter of increasingly

---

15 This was convincingly argued by Alfred Gell, not least in his chapter on ‘The Technology of Enchantment and the Enchantment of Technology’ (Gell 1992). I thank Denise Schaan for directing me to this text. Particularly interesting in this context is Gell’s (1992, 62, n.3) observation that modern technologies are cognate to magic in the sense that they tend to create illusions of ‘costless’ production while displacing social and environmental ‘costs’ elsewhere (cf. Fortun 2014).
sophisticated inventions based on discoveries about non-social nature, which grant our economies the capacity to grow on their own account.

But then, of course, neither did the peasants of sixteenth-century Peru believe that the efficacy of ritual sacrifices was dependent on human perceptions. The efficacy of all magic hinges on it being perceived as independent of human consciousness. Like magic, power over other people is universally mediated by human perceptions, but this is never conceded, except in retrospect. Would it be possible to argue that modernists are as deluded by the magic of their artefacts as any pre-modern people ever were? Can we manage to expose the magic of our technology?

I have elsewhere argued that the ‘Industrial Revolution’ is not exhaustively explained by reference to technological breakthroughs such as the harnessing of fossil fuels as a source of mechanical energy (Hornborg 1992, 2001a, 2011). The conditions of technological innovation were radically transformed in the late eighteenth century. We usually think that the decisive factors were engineering science and the adoption of fossil fuels, but none of this would have been possible without the global social processes which made the relative prices of labor and resources on the world market prerequisite to ‘technological progress’ in Europe. If slaves would have been paid standard British wages, and depopulated American fields had fetched standard British land rent, it is not self-evident that there would have been an Industrial Revolution. Up until that historical point, ‘technology’ was founded on local ingenuity, and understood as such. Beyond that point, and for over two hundred years now, the understanding of technology as founded on mere ingenuity has persisted, but become highly inadequate. Ingenuity is a necessary but not sufficient condition for modern technological progress. Global price relations are systematically excluded from our definition of technology, even though, by organizing asymmetric resource flows, they are crucial for its very existence. Without a doubt, ‘Cartesian dualism’ is at the root of the difficulties we are having in perceiving our technological fetishism.16

---

16 Even in as ‘holistic’ a field as anthropology, it is striking how discourses on political economy, economic anthropology, and cultural aspects of human exchange (e.g., Graeber 2011a) generally have so little to say on the material substance of exchange, and how even discourses on ‘materiality’ tend to avoid questions of materially asymmetric global resource flows (cf. Hornborg 2014c).
When the Inca emperor imported *Spondylus* shells from Ecuador to persuade his subjects to labor in his fields, the ‘productive potential’ of *Spondylus* was symbolic – it was dependent on human perceptions. When the California farmer imports oil to run his water pumps, the productive potential of oil appears to be objective, like turning a key in a lock, independent of perceptions. But here is the illusion of modern technology: his *access* to oil, and to the machinery it animates, is ultimately contingent on the socially constructed rates by which oil is exchanged for American exports on the world market. And whatever economists will tell us, we should never doubt that those rates are dependent on human perceptions.17 Locally, our technology mystifies us by pretending to be productive independently of exchange rates, but viewed from a global perspective, it is *indeed* dependent on human perceptions. Its fundamental rationale is not the ‘solution’ of problems but their *displacement* or *externalization*.

A conclusion from these deliberations would be that we should distinguish between three fundamental categories of artefacts, defined by the specific ways in which they are delegated agency. The first is local, non-industrial technology, which operates without the mediation of either human perceptions or exchange rates. It can be exemplified by keys or by locally produced implements such as the Andean foot-plough. The second is ‘local magic,’ which operates by means of human perceptions, exemplified by coins or *Spondylus* shells. The third is globalized technology, which *locally* appears to operate without the mediation of human perceptions, but globally relies on exchange rates continuously shaped by the strategies of market actors.18 It could also be called ‘global magic,’ and can be exemplified by machines such as water pumps that run on fossil fuels or electricity. If we do not retain our

17 Gregory’s (2014:57-60) review of the approach of so-called cultural economy reveals how *homo economicus* has been reborn as the market’s ‘calculative agencies,’ largely embodied in financial traders as ‘thinking subjects’ pitting hope against uncertainty in their struggle to exploit differences in time, space, and human knowledge. A price, in this peaceful view of the market, is an ‘acceptable compromise’ (ibid.).

18 Although the concept of ‘globalization’ is indispensable in communicating this aspect of modern technology, we should keep in mind that it was introduced to replace the neo-Marxist concept of ‘imperialism’ (Gregory 2014:56-58).
capacity to distinguish between the subjective and the objective, the crucial differences between these three categories of artefacts will remain invisible for us.

I will thus conclude by proposing that, from a global perspective, modern technology is magic. It is a specific way of exerting power over other people while concealing the extent to which it is mediated by human perceptions. In addition to sketching this argument for a radical revision of our Western world-view, I hope to have shown that some tenets of the so-called ‘ontological turn’ in anthropology are not necessarily very helpful in constructing such an argument. Ultimately, the confrontation between Amazonian animism and Euro-American naturalism is a political issue, where the claim of modern science and technology to be objectively superior has proven difficult to deconstruct. Unfortunately, appeals to the virtues of animism are not likely to turn the tables on capitalism. But if Amazonian anthropology can provide us with the analytical tools to demonstrate that the Euro-American technology which is now devastating the Amazon Basin is itself a kind of magic, it would be an irony that I think many anthropologists – and many Amazonians – would appreciate.

More ominously, it suggests that the pervasive assumption of technological progress as the salvation of industrial civilization is no less naïve than other cultural illusions that have sustained pre-modern empires facing collapse. As our anxieties about the future prospects of this civilization become increasingly difficult to suppress, there has emerged the contrary, neo-romantic sentiment that indigenous, animist ontologies could provide us with clues on how to achieve sustainability and resilience. But rather than championing a magical ontology that most of us have irrevocably lost, an anthropological approach is more usefully applied to exposing the unacknowledged magic of our own ontology. Although the project of defamiliarizing and deconstructing our presumptively modernist categories is very much facilitated by juxtaposition with non-modern ontologies, this is not necessarily tantamount to advocacy of the non-modern, but may well amount to an acknowledgement that our categories have not been modern enough.
References


