

Susanne Küchler

Why images prevail

Much of contemporary thought on the nature and significance of the image has been shaped by the ideas of Aby Warburg, first defended as methodological imperative in 1912. Warburg's vision was of an alternative to what he called a "panoramic view of history"¹ comprised of chronologies, influences and the occasional genius, to be replaced with a methodology that is sensitive to the image's own capabilities to extend itself in time.² This other methodology, referred to by Warburg as capturing the image's '*Nachleben*' has become known in its translation as the 'survival' of the image.³

The term 'survival' credits Warburg's methodological ideas exclusively with temporal connotations, yet fails to do justice to his encounter with an anthropology that shaped his interest in "the necessity of the image and the role that it played in thought processes and in the constitution of a tradition".⁴ Warburg's encounter with Navajo ritual performance and his personal acquaintance with anthropologists established in America, via his meeting with Franz Boas⁵ and his familiarity with the nineteenth writings of Edward B. Tylor⁶, are well known, yet although Didi-Huberman's scholarship shows how Warburg's notion of survival draws upon Tylorian anthropology, this has not led to a reappraisal of his method; in particular, his recognition that the image is akin to epic poetry, in which all pasts are equally present.⁷ It is crucial to the argument of this paper that Warburg, arguably following Tylor as well as Boas, was not so much concerned with the recurrence of certain forms, as

1 Warburg 1999, 585.

2 Didi-Huberman 1990; 2002.

3 Didi-Huberman 2002, 61.

4 Severi 2015, 39.

5 Boas 1915; 1955 [1927].

6 Tylor 1871.

7 Severi 2015, 39; Didi-Huberman 2002, 63; Tylor 1871, 64.

with showing that the psychological efficacy of form, or its capacity to abduct associations, is intrinsic to the form itself.⁸

Against the backdrop of Oceania, with its rich archives of ethnographic information and images, this paper will address the question of why images prevail. The answer will emerge from left field, namely from considerations of the labor process, and how it directs attention to a nuancing of temporal sequences, modeled by a gesture-like image that is executed with transformational and geometrical precision, leaving the image to signal forward and backward in time, while allowing for the contemplation of operational sequences that inform mundane practices such as the trading of goods, the building of houses and the making of images. It is the model-like quality of the image across Oceania that has left us with both ubiquitous collections of artefacts (as the individual artifact is dispensable, while its prototype becomes the most coveted form of intellectual property), while at the same time resisting conventional interpretative analysis.⁹

The anthropologist Frederick Damon draws a parallel between the experience and observational skills infusing boat-dominated economies of Oceania, and other productive regimes, such as rice cultivation in Asia, and pre-industrial as well as laboratory cultures in the West, all having in common the repeated reissuing of prototypes via ‘intelligent adjustment and elaboration’.¹⁰ A singular artifact – whether rice paddy or calligraphic symbol – is understood as a totality that holds immanent, within its own composition, relations that have the potential to amplify; and it is this capacity to be both singular and yet intuitively recognized as a multiple and inherently transformational entity that sets the image apart from script.¹¹

Unlike substitutionary forms of script, where graphic elements stand in for a linguistic sign, the image gives form to a sequence of what Gregory Bateson called a process of “double description”.¹² This description abducts attention, in that attention is shifted from identifying patterns of similarities and differences to relations associated with higher-order precepts, concepts, and normative rules. The properties of this kind of image with its capture of temporal sequence, at once fluid and holistic, arguably attracted Warburg, in that it provocatively opposed a substitutionary notion of objectification, which the machine age had imposed the labor process.¹³

8 Bing 1999, 81.

9 Brunt – Thomas 2012.

10 Damon 2012.

11 Damon 2012, 183; Wallace 1978, 382–383.

12 Bateson 1979.

13 Wallace 1978.

The image and its permutations

The image Warburg had in mind when developing his ideas of a new methodology was also alive in the work of Walter Benjamin, where it captures in more or less material ways the rhythmic, relational, and transformational qualities of poetry and music.¹⁴ In Benjamin's theory of the object, the image shares with script a logic of composition that transcends or is prior to its use as an enabler of contemplation, and as the bearer of an interplay between memory and creativity. Yet while script transports the visible and the experiential, the image rendered as object enables the thinking of the invisible.¹⁵

Von der Lühe's essay on Hannah Arendt's poetry argues that Arendt read Walter Benjamin as a poetic thinker who, like a diver searching for pearls, brings to the surface thought as fragments, or "immerwährende Urphänomene".¹⁶ The art historian Natasha Eaton¹⁷ deploys Arendt's metaphor of the pearl in order to explore the magical aspects of labor shaping the elite consumption of the pearl in East India's British colonial visual economy. In this essay, I will employ an analogous procedure to expose the complex underpinnings of a political economy of the image made visible (crystalized, so to speak) in iterative and transitive structures, whose magical temporal reversibility and measured multiplicity delivers the promise of wealth and fortune, via fragments of an invisible underworld from which it is wrought by thought alone. It is the pearl's multiplicity, measure, heterogeneity and propensity for assemblage that casts light on ideas that are as germane to sustaining life as they are adaptable (as ecologies of thought) to varying conditions of life.

Nowhere is the pearl more clearly associated with forms of sociability that are mimetically elaborated in art, than in Asia and the Pacific, notably the Austronesian-speaking diaspora across island Oceania. Ethnographies offer rich descriptions of image-based polities that manage forms of wealth, be it intellectual-ritual property, movable and immovable property, or relations of labor or loyalty. With their distinct aesthetic forms, images here are far more than just by-products of forms of social organization or labor processes, like pearl fishing or the cultivation of rice paddies. Rather we must heed Damon's¹⁸ reminder, that it is the very elaboration of these images which demands a certain modality of attention, whose cultivation pervades culture, society, and ecology.

14 Bracken 2002.

15 Von der Lühe 2015, 100.

16 Arendt 1989, 258.

17 Eaton 2016.

18 Damon 2012.

Recent work on hunter-gatherer societies foregrounds an understanding of images as vehicles for contemplating modes of objectification, in ways which challenge received notions of how aesthetic forms relate to types of political economy. This research considers fluid groups of co-residing/co-working individuals, symptomatic of ‘small’ societies across Oceania, and arrives at the conclusion that they are “not drawn from a small well-defined community or ethnolinguistic group, but rather from networks of social organization maintained in relational, rather than material, wealth accumulation”, and that the wealth people build and inherit is “stored in social networks”.¹⁹ In other words, the way social networks store wealth, and by implication distribute and transmit it, takes the form of an image. This conclusion reminds one of the classic insight espoused by the anthropologist Roy Wagner, who said of the image in Oceania that it “figures sympathetically its field of reference” and “becomes that which it expresses”.²⁰ The image matters here, because it is the network, and not just its transient expression.²¹

Images that are “in a constant state of adjustment and elaboration”²² like the processes which they mimetically reference, confront assumptions about how images work and what they do. The first assumption is the idea that when the image is held to be subject to living memory and passions, it is unable to serve as authoritative archive, capable of competing with written text.²³ Instead of tracing the elaboration of images as evidence of what Warburg called *mnemosyne*, whereby the image recalls its own becoming, we tend to impose on the image an understanding of remembering developed in the laboratory context. In the words of Cambridge psychologist Fritz Bartlett,²⁴ whose early 20th century study of remembering shaped subsequent research on the topic, the elaboration of the image is the by-product of the successful conduct of an act of recollection, which standardizes content into inter-subjectively understandable expressions. The idea that the image serves remembering, but is not itself active as informational gesture (capable of generating variations of itself, as well as new versions of itself over time) became a dominant trope shaping the design of information technology, and sees the form or aesthetic elaboration of content as a contingent, necessary, byproduct of communication.²⁵

This notion of the image in the service of information-processing loses sight of the gesturing capabilities of the image, which signals forward and backward in time,

19 Bird et al. 2019, 96–97.

20 Wagner 1986, 6.

21 Küchler 2015.

22 Damon 2012, 190.

23 Pomian 1999, 47.

24 Bartlett 1932.

25 Wiberg – Robles 2010.

in a manner recovered by Aby Warburg.²⁶ It is the kind of informational gesturing afforded by images, to which this essay will now turn, in order to answer a question: in what way do images work differently to script, and what does this work do so that it is not encompassed by script? We will see that the image invites experience and acute observation not unlike the skill required by calligraphy,²⁷ and how like music, it extends beyond itself by conjuring up a totality, the understanding of which withholds itself from those unaccustomed to its composition, as keenly as it ignites recognition among those practiced in its contemplation.

Ethnographic data from Oceania are ideally suited to exploring this gesturing capacity of the image as we have both rich ethnographic accounts and large archives of exemplars. Both of these testify to the longevity and regional expansion of image-based polities that manage the distribution of scarce resources to great effect, by pooling relations of labour and loyalty in ways that are future-directed and open-ended. The reference to relations of labour and loyalty is not to suggest a reductionist argument, but to underscore that a sense of trust in the nature of relations supporting the predictability of future returns is managed by the image in ways that go beyond the information-processing and transmission capabilities of script.

Societies in Oceania are famous for investing in prospective strategies that are predictable and reliable, sustained by a sense of “paradigm certainty”,²⁸ and given testimony in images that form the core of gift-based political economies, uniquely governed by the principle of distribution. The nature of these distributive economies, within which images do their work, has been the subject of a now classic study by the geographer Tim Flannery²⁹ on the ecology of Australasia and Oceania and its constraints upon the organization of political economies. His work *Future Eaters* sets out to capture the distinctiveness of ideas that enabled the settlement of wider Oceania, directed as they are toward securing future returns of wealth via relations of credit based on friendship and trust, rather than kinship and marriage. Europeans, explains Flannery, came out of an environment conducive to the exercise and use of raw power, as the landscape was rich and extractable. By contrast the flora, fauna, and human inhabitants of Australasia had to learn how to make a lot out of a little, to husband scarce resources by seeing how far they could be extended, rather than how quickly they could be extracted.

In approaching the role of the image in terms of its triangulation of ideas, mathematics, and ecology, this paper will seek to be mindful of Flannery’s observation, that such distributive economic systems call into being the use of contemplative

26 Severi 2015.

27 Damon 2012, 183–185.

28 Wagner 1986, 56.

29 Flannery 1994.

models that are inter-subjectively shared, and yet also adjustable, scalable, and translatable, being grounded, ultimately, in the conduct of familiar technical operations.

The paradigmatic image

It will come as no surprise to learn that the introduction of script, used for all kinds of technical purposes such as the recording of oratory or quantities of different valuables involved in transactions, has not replaced the work of the image in Australasia and Oceania. To understand why the image has prevailed, we need to have a closer look at the image itself and the qualities that enable it to serve as a model for how to think about, manage, and extend relations across vast regional networks.

The diversity of Oceanic and Australasian image-making is famous and well documented,³⁰ yet the underlying reasons for this evident variability remain poorly understood. Existing analyses still largely shy away from the complexity that resides within the image, visible only when studying a corpus and its unfurling into variations and iterative transformations. This unfurling into generative variations, however, allows us to contemplate the periodicity and interconnected rhythms of phenomena as diverse as the complex seasonality of an interdependent chain of island ecologies, the distribution of variegated rights in usufruct, the patterns of genealogies or the exploits of ancestral spirits, to name just a few.³¹

To unpack the image's own temporality, in the spirit of Aby Warburg, and the image's poetic and immanent relational nature, in the spirit of Walter Benjamin, and to carry out an analysis comparatively across the region's diverse image-based polities, would surely go beyond the scope of an essay. A sketch will have to suffice, as a means of outlining the different ways in which images capture the periodicity and rhythm of processes whose interconnection, prediction, and advanced recognition is essential for distributive economies to work.

An intriguing, and in some ways, elementary example of the kind of image we are dealing with is stone money on the Micronesian island of Yap. The stone boulders, carved in a rounded shape and hollowed out in the center, were first described by the American explorer William Henry Furness III who spent two months on Yap in 1903.³² The boulders come in varying sizes, and are positioned in front of houses, having been transported to their positions from distant islands via arduous sea journeys. Furness made a most perplexing observation, namely that Yap had an economy based on money in the form of these large, solid, and round stone boul-

30 Brunt – Thomas 2012; Myers 2004.

31 Damon 2016.

32 Furness 1910.

ders, called ‘fei’, which range in size from between two to twelve feet. Although ‘fei’ guarantee transactions, the stone, taken from quarries by canoe from islands outside Yap territory, were never, or rarely moved. This is because, rather than serving as quasi-commodities in barter-like exchange, they in fact served to make manifest the potential for future transactions of the household. The measure of a stone wheel thus denoted, not a relation to a hypothetical set of commodities purchased with it, but a temporally structured system of credit and clearing – “a tangible and visible record of outstanding credit the seller enjoyed with the rest of Yap”.³³

Yap stone money is a classic example of an economic system that extends itself via images, materialized in perhaps the most permanent way possible. In its rounded shape and central hole, the aesthetic and formal qualities of the worked stone recalls the strung together assemblages of stone and shell beads carried close to the body, and harbored as personal possessions whose exchange extends the name of persons. Yap stone boulders thus draw out the artificial nature of sociability and underscore the importance of trust that is at the heart of the credit bearing and credit clearing system.³⁴ Systems of this kind, documented across Oceania with the abstract idea of debt at their core, have their match in an equally abstract idea of relation, one that finds its expression in the most complex kinship systems described by anthropologists, and in a correspondingly complex relation between image and exchange.³⁵ What is distinctive about the exchanges that distribute resources is their focus on relations of trust, which are codified in and abducted via images, as easily recognized and as they are remembered. Even the seemingly straightforward geometry of the Yap boulder makes debts as tangible and lasting as the stone which holds their memory.

Circular disks shaped from shell and strung together to form strings of varying length and thickness are a necessary accompaniment of exchange in areas of the Pacific, where relations span islands and diverse ecosystems held together by systems of credit similar to that described by Furness for the Micronesian island of Yap. The relation between large and immobile boulders and miniaturized disks held together on a thread shows up differing velocities of circulation and their relation to different ‘densities’ of social relation.³⁶ As Annette Weiner argued in her comparative research on inalienable possessions in Oceania, the more ‘dense’ relations are, the more inalienable the possession at the center of exchange. Weiner understood the image to act as a guarantor for the kind of relationship its making foreshadows. She illustrates how relations come to inhabit the image, using the example of Samoan fine mats.

33 Martin 2016, 12.

34 Simmel 2005 [1916].

35 Myers 2004.

36 Weiner 1992; 1994.

Woven as an essential gift at life-cycle rituals, mats are perpetually gifted, yet kept folded and stored in the roof of the house where over time they form an indissoluble entity, the size of which is commensurate with the spatial and temporal extension of the network, very similar, in principle, to the Yap stone boulders. Weiner's³⁷ formative research was in the Trobriand Islands of the Massim, a region lying south-west of mainland New Guinea and a society famous for its regional exchange system known as the *kula*. Previous research had concentrated on the complexity of the inter-island exchange system, punctuated by the circulation of arm-shells and necklaces as memorable touchstones of long-lasting partnerships between men and their islands. Weiner, on the other hand, contributed an understanding of women's wealth in the form of banana-leaf bundles that manifest the reach of a matrilineal clan (*dala*). Stacked and left to rot, the size of gifted bundles manifests the credit accrued in a matriclan; the material itself being recognized for its association with the self-seeding renewal of banana palms, grown by its members.

What we have here are images that literally accrue relations as they are bound and tied to a place where they are immobilized, and yet show the passage of time, whether through the accumulation of patina or by decomposing. As such, they allow the complex nature of credit networks to be contemplated and understood. It would, however, be wrong to say that distributed relations and relations of trust are operative solely via images rendered physically immobile. This is illustrated by perhaps the most iconic image in Oceania, which is the boat, and there is no other type of boat so intensely studied as the one built for sailing between the numerous archipelagoes of the Milne Bay area of Papua New Guinea, enabling overseas *kula* expeditions.³⁸

The *kula* canoe³⁹ is a model par excellence of how social, economic and political life in this island world works, and the lens through which its workings are contemplated and its outcomes predicted. Itself produced to be exchanged in ways mapping onto inter-island relations formed through marriage, the boat forms the standard – at once experienced, observed and imagined – through which the social system creates and understands itself.⁴⁰ The *kula* canoe is designed for sailing with heavy loads, transporting people, produce, and goods across the diverse island ecologies whose interdependence is tangibly manifest in the interlocking parts of the boat, which themselves are the point of discussion when thinking about the distribution and

37 Weiner 1976.

38 The societies in the Milne Bay have given rise to a sustained and numerous ethnographic studies in a single area. For bibliography and a rich account of the epistemic role of the canoe in the island region of Milne Bay see Damon 2016. For analyses of the *kula* canoe as art form see Scoditti 1989; Campbell 2002.

39 There are three distinct forms, one product in the East of the region, the other in the West and one introduced from outside.

40 Damon 2012, 178. b.

differential use of island resources, the layout of villages, or the positioning of houses. The boat is a manifestation of the imagined totality of the *kula*, understood as a system of temporal operations, epitomized by the circulation of shell valuables in clockwise and anticlockwise direction around the thus-enchained islands of Milne Bay.

As a vehicle enabling the movement of *kula* valuables, the *kula* canoe and its journeys around the islands are associated with the keeping of time in villages, and with creating time in its ontological form, as the passage of shell valuables effects the escalating fame and rank of their owners.⁴¹ There is no space here to elaborate on the construction, or on the formal and epistemic properties of the boat, whose parts mimetically capture working elements of the human body (its lungs and heart), nor the processes of exchanging labor and loyalties that help sustain the social body over time. The *kula* canoe as an artifact that is produced, reproduced, sailed and imagined; it absorbs people's attention because of the "effective complementarity, the conjoining of differences, a mimetic of the encompassing purposes these crafts enable".⁴² What is important to grasp, here, is that the boat and the valuables it transports around the island allow the contemplation and nuanced understanding of a temporally structured system of credit and clearing, in which the probability of future returns is evidenced by, and commensurate with the abductive capability of iconic forms.⁴³

To understand how the image models, not just the abstract qualities of operational systems central to sustaining social life, but in fact hones in on the temporal nature of these operations, making manifest sequences that are covert and yet essential to the system, we will now turn to the example of *malanggan*.⁴⁴ Here, as we will see, an image is held in memory, while simultaneously being fanned out across a network managing the leasehold of distributed and internally differentiated land rights; its extension in time and space made visible in the periodicity, rhythm, and repetition of its manifold compositions. A brief glance at how the image works will help us to understand how 'membership' in the system is an internalized affair, which an image – temporarily made visible – both reveals and occludes, making adjustments to entitlement possible through its constant extension.

In doing so, and in thinking ahead to the second part of the present volume ('Reconfiguring image and script'), it is also worth noting in advance how, in the case of *malanggan*, to fix image sequences via script would be tantamount to closing down

41 Munn 1986.

42 Damon 2012, 179.

43 Martin 2016, 12.

44 Küchler 2002; 2015.

the distributive and transformative capability of the system itself, which is undergoing perpetual renewal and elaboration.

Folded time, and the unfolding of the image

There are more than 25,000 *malanggan* figures carved from wood⁴⁵ in museum collections worldwide. All of them are collected from the island of New Ireland, at the northern most end of the Bismarck Archipelago Northeast of mainland New Guinea, in the main between 1875 and 1930, with fewer artefacts collected thereafter because of the cessation of merchant shipping in the area.

Parallels can be drawn between the performative role of these figures made as effigies, and the description of effigies used in performances that accompanied the funerals of medieval French and English Kings. As described by the historian Ernst Kantorowicz,⁴⁶ such medieval effigies stood in for, and were treated as if they were the king's body until a successor had been announced, separating the office of kingship from the mortal body of the king and thus establishing the notion of the social body composed of offices and institutions that came to form the foundations of the modern state. Similarly, the *malanggan* effigy effects the separation of forms of ownership from mortal titleholders. The death of an elder marks the process of transferring rights and responsibilities concerning resources and their distribution. The way this happens is again very similar to the medieval case described by Kantorowicz. Again, the image possesses a generic rather than physical likeness that captures the idea of the institution, rather than the person incumbent; and, again, it contains all past relations of labour and loyalty associated with usufructury rights to land. The first image realized in an effigy after the death of an elder, issued forth, usually, by his sister's son, thus folds time into its fretwork, to be unfolded again in the form of effigies realized across the sister's son's life-time, in exchanges that renew and extend the usufructury rights held by his mother's brother. The image people use to discuss this folding and unfolding of time in effigies is that of binding, with the knot acting as an object or vehicle to think through the transformations undergone by the image.

Other kinds of parallels can be drawn between *malanggan* and the boat-centric imagery of the *kula*, discussed above; primarily insofar as canoes, shell valuables, and also *malanggan* images are made for exchange, gifted to open a new path to be

45 A few woven *malanggan* are held in collections, but these are rather the exception as most woven *malanggan*, usually made for female or juvenile deceased, were burnt soon after their public presentation. There are no transactions over usufructury rights associated with woven *malanggan*.

46 Kantorowicz 1957.

followed by people and things. In the case of *malanggan*, the path is formed by the memory of an image as it is unfolding into its component parts, each gifted to near or distant villages in exchange for rights to use the land to grow gardens, harvest trees, or fish in the lagoon.

Malanggan is, in fact, the generic name for a secondary burial, the third and final stage of a long process of completing ‘the work for the dead’. As such it takes place years after the initial burial, with the actual preparations of planning for a ceremony – involving the planting of gardens, hiring of the carver, the fencing of two enclosures, the building of cooking houses and shelters – beginning in earnest with the interment of an elder in the local cemetery. Once made and exchanged to underscore an existing, extended, or new leasehold, those who are in receipt of a component can further partition it or project it in a different dimension and scale to initiate further leasehold relations.

Each image is thus a witness to transactions of rights in land, while also projecting forward the possible future extension of a rhizomatic leasehold network, within which resources are distributed and wealth accumulated over time. Like the *malanggan* image, the leasehold network is under constant construction, held together by the logic underpinning both images and their evolving polities. The idea that *malanggan* folds time into images, which in turn allow the unfolding of time, overlapping with the biographical lifecycle of persons, allows us to see how the notion of the image as abstract totality (present within each and every one of its component parts, as so visibly manifest in the *kula* canoe) has more radical implications for our understanding of the necessity of the image than were so far apparent. *Malanggan* is nothing less than a means to conceptualize the permutations of a social polity through generative and logically contingent compositions, which are like fragments and permutations of a melody, inherently recognizable, while open-ended in their articulation.

This perspective on the image and the relations it holds internally – made manifest in a periodic and rhythmic fashion, that reflects the temporality of the distributive system in which it operates – exemplifies ideas that are found elsewhere in wider Oceania. Most important, perhaps, is the collapse of the distinction between the singular and the multiple, much discussed in relation to cosmology and concepts of personhood.⁴⁷ Here, multiplicity underpins a relational conception of number, whereby individual elements serve as connectors or operators, generating sequences of elements, the totality of which is subsumed in its parts. This system provides an economical way of generating infinite combinations out of a limited number

47 Wagner 1992; Mimika 1987.

of elements, just as described long ago by the anthropologist Nancy Munn⁴⁸ with reference to Australian Aboriginal sand drawing.

Rules underpinning the combination of graphic elements in Australian Aboriginal drawing are such that the resulting image system behaves neither like a visual system, in which images merely reference what is known independently, nor like a script, in which elements are combined in stable, rather than infinitely transformative, ways. Aboriginal peoples in Australia share a topological coordinate system with people in wider Oceania, one that allows for the mapping of relations while holding multiple levels of action in view at once, permitting the workings of complex kinship systems. Not only does this system permit the integration of the local with the global in ways that force us to rethink preconceptions of such societies as small-scale. It also points to the unique significance of the image system informed by the coordinate system, as a means to extend ego-centric networks through time and space, in a predictable fashion.⁴⁹

The key point here is that spatial cognition, the reckoning of social relations, and the making of images work together by drawing on an independent geometrical object, shaped by number sequences and their combination, the nature of which was uncovered by the anthropologist Claude Lévi-Strauss⁵⁰ in the 1960s, using the then new powers of computing to analyze data made available by ethnography. Although anthropology has not followed Lévi-Strauss's lead in tracking the mathematical and geometric ideas underpinning kinship, contemporary ethnography concurs that images work as temporal maps of social relations, abducting attention and thus allowing people to contemplate the interlacing of relations, of processes and practices that are experienced, acutely observed, and carefully elaborated at every step.

To be explicit, images in Australian Aboriginal society do not so much transmit information about social relations, as model the cognitive basis on which relations can be understood recursively, and thus predicted. Seemingly small scale, yet distributed, its politics model productive social relations via a grid-based, generative, and transformational image system that ingeniously permits relations to be understood and predicted, independently of the particular position one inhabits.

Munn's work on the way relations are modeled via a coordinate system, the workings of which shape graphic imagery, drew on the earlier work of Claude Lévi-Strauss in his analysis of myth.⁵¹ The logic to which Lévi-Strauss drew attention is, in turn, that of an algebraic system that uniquely allows for a relational conception of number and its translation into a geometric shape, elaborated across a variety

48 Munn 1966.

49 Levinson 2003; Gloczweski 1989.

50 Lévi-Strauss 1969.

51 Lévi-Strauss 1963.

of media. Known in mathematics as a ‘non-commutative group’ or ‘Klein group’, based on quaternion number systems that permit rotations in three-dimensional space (à la Rubik’s cube), the abstract qualities of this algebraic system are not widely known outside of pure mathematics. It is therefore to the relation between geometric imagination and the fashioning of an image-based polity, at once distributive and accumulative, that we must finally turn.

The geometry of the image-based polity

Constrained by a physical world ‘out there’, and by the psycho-biology of the human visual system and upright posture, western traditions of scientific and philosophical thought assume the human body at the center of the universe to be a natural disposition, congruent to a child’s conception of the world. Anthropology’s generic adoption of this ego-centric, relative, and anthropomorphic position ignores the theoretical and methodological challenges of its own ethnographic accounts, which point to the contrary. The idea that space can be conceptualized in absolute terms by peoples who operate in the world on par with post-Newtonian scientists, independent of any objects that space might contain, is still easily brushed aside today by those who are not equipped to handle the complexities of image-based polities in the Pacific, and arguably also elsewhere.

As Lévi-Strauss had realized, societies in Oceania utilize the topological and rotational capabilities of an algebraic system that foregrounds the relational quality of number sequences and their calibration, in order to model temporal sequences underpinning relations between six classes of kin. Kinship in these societies is thus a matter of recursive actions rather than classificatory types. Since kinship here is not based on classification, but rather on sequences unfolding over time and in space, script would be inadequate to contemplate the workings of the system and to have what the Roy Wagner⁵² termed ‘paradigm certainty’, which allows for trust in the probability of future returns. Drawing on research into the spatial cognition at work in these societies, and having uncovered the mathematical logic underpinning the topological conception of space, we can now go a step further.

Common to societies in Oceania is the epistemic significance of navigation, and a resulting conception of space that, unsurprisingly perhaps, confounds our expectation. This is because Oceanic navigation relies on the conception of space as curved, comprised of points arranged in sets of relations or neighborhoods.⁵³ Math-

52 Wagner 1986.

53 Hutchins 1995.

ematically understandable via tools we know as differential geometry, the idea of the curved surface is radically distinct from the perception of flat space. This is because curved space comprises points in a relation to one another that is both heterogeneous and multiple. The topology of points in curved surfaces is made understandable and knowable by representing it in objects such as ‘stick charts’ used by Micronesian seafarers, or in piecework coverlets of Eastern Polynesia used for the reckoning of complex genealogical relations, critical to the transmission of land rights and political authority.⁵⁴ These objects evince the idea of a ‘neighborhood of points’, related to one another in ways that allow for a simultaneous conception of their inside- and outside-ness, disjunction and connection, and for the contemplation of these relations within motor-sequences based on the actions of folding and tearing. It is via images that people move, not through, but in space, simultaneously and sequentially, rather than via fixed points along a trajectory.

Across Eastern Polynesia, the image takes form in pre-coloured cloth, which has to do with the association between clothing and the creation of a social body that reaches back to pre-Christian times. The labor of stitching (approved of by missionaries) provided cover for the transference of political economies from men to women, and from a vertical hierarchy defined by distinctions of age and origin to a lateral one, in which households compete over the scale of networks they control.⁵⁵ In the Cook Islands, where both genealogy and hierarchical distinctions are most complex, differentiation between and extension of ties across households matters hugely, and these are discussed against the backdrop of work, the stitching of shrouds for the dead, that consumes the attention of every household. Stitched collectively and competitively, uniting households and opposing them according to rules that have more to do with friendship than kinship, fabrics are large and complex, falling into three types distinguished by the manner of attaching assembled pieces to one another.

Although not dissimilar to coverlets fabricated elsewhere in Eastern Polynesia, those of the Cook Islands are known for the fiendishly complex construction of piecework known as *tivaivai taorei*, made by assembling tiny geometric colored pieces of pre-dyed cloth into iterated, self-similar and transitively arranged motivic elements. Like the motivic elements of the *malanggan*, the pieced-together elements replicated across the surface of a *tivaivai* are seemingly representational, depicting flowers in the main. However, the views depicted are impossible ones to have, unless one presses and thus flattens the flower, splitting and reassembling its parts in ways that allow us to see it in the round, while laid out on a two-dimensional surface.

54 Küchler 2017.

55 Küchler 2009.

Rather than working as a drawing, the *tivaivai* is an image of hyperrealism, with pollen and stamen embroidered in bewildering detail, and of abstraction, with colored patches arranged as mirror image of themselves within a single motivic element. Attention is thereby drawn to what matters most and this is the assemblage itself, rather than its veracity as representation.

Assemblage and patching as graphic gestures, constitutive of connectivity and continuity, touch at the core of a sentiment that pervades Cook Islands' social polity. Nothing can quite convey the sense of disparateness that exists between households populating the tiny islands, where proximity alone would seem to condition people to think of themselves as related. One reason for disconnectedness, as pervasive as the artificial connections made visible in the *tivaivai*, is the practice of adoption from beyond the island. So-called feeding children are taken into a household by a couple in their later years, to raise the child as the spiritual owner and guardian of knowledge that connects the living with those who came before. Every feeding child repeats the journey of a foreign ancestor whose identity is key to the transmission of land. The existence of dual genealogical connections, one recalling a foreign and the other local ancestor, makes the Cook Island genealogical system the most complicated one in the Maori speaking world.

The exact position of a household in relation to the dual principle of descent is calculated using a technique for maritime navigation, which involves the assigning of spatial values to temporal relations. Motivic elements that constitute a piecework manifest the resulting number sequences in the form of colored patches that can be contemplated via the patterns, which become apparent when two sides of a triangle are commuted in relation to one another. The sides of each triangle, remembered as sequences of numbers of colored patches, are called out to the sewing bee, allowing it to stitch identical squares, with women making one triangle each before the whole is assembled into an iterative, transitive, and recursive image. By sewing such a coverlet together, women become one body, resembling the cosmological unity of the social polity encompassing the living and the dead, as each has to pull the thread with the same strength in order for a flat coverlet to be rendered from sequences, which are imagined as constituting a geometric object.

The piecework coverlet of the Cook Islands is but one example of the geometric imagination that underpins image-based polities, whose navigation demands the capture, through images, of a relationship between the visible and the invisible, thus allowing islanders, as Anneliese Riles has observed, “[to] hold multiple levels of action in view at once.”⁵⁶ Understanding the nature of these images, their formal properties and logic of composition, their multiplicity, coherence, and potential for

56 Riles 1998, 379.

transformation and extension across diverse domains of social life, enables us to understand how they work, and how they continue to matter in supporting trust in the probability of future returns, amidst the manifold uncertainties of life under conditions of monetary economy and rapid environmental change.

In conclusion

I have argued that image systems in Oceania run alongside narrative systems, partaking of the same rhythmic periodicity and mathematical structure, without being overtaken or replaced by language.⁵⁷ Acknowledging the use of an absolute conception of space, alongside an egocentric one – where the idea of relation is inseparable from its shape – has far-reaching consequences for our understanding of how image systems work, and the difference they make to society and culture, given the paradigmatic relation that exists between image-forms, and forms of labor and loyalty. The first point to note is that image systems such as the ones discussed here are for contemplation, and not for communication. In this way, they are consulted for verification and adjudication of the truth value they instantiate, and also the certainty they issue over processes whose probable outcome is vital to livelihood, and to the sustainability of life more generally, in political economies where successful actions of distribution are the guarantor of future returns.

Secondly, given that the images under consideration model spatial and temporal relations in absolute terms, yet expresses them qualitatively, the composition of the image and its unfolding as “folded time” is critical to the modeling of processes that, by definition, demand attention to sequences of operation. This paper began by invoking Aby Warburg’s call for a methodology sensitive to the image’s own temporality, and the snapshot given of just a few case-studies reveals how much work there is still to be done, to move away from analytical preoccupations with classification toward a comparative study of modalities of attention.

Third, and finally, the image’s identity as an image system, holding immanent within its own form relations between past and future images, was shown to result from acts of calibration, rather than enunciation, leaving us free to reconcile the fluidity of the image’s formal properties with the stress on its continuous elaboration. The (temporal) logic that propels the image, attended to as a model of how to be ‘in relation’, therefore invites us to return to a concern with form as independent of language, and yet sharing with language certain properties – musical, rhythmic, and

57 Cf. Severi; Wengrow, this volume.

sequential – further consideration of which may enable us to think productively about why it is that images prevail.

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