

The Sovereignty of the Line: A Case for the Indigenous Swirl

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The Conscious Line

The cultural creation of images and patterns, their reflection of knowledge and their expression in unique realities of time and space, provide the independence of thought from which a people's human rights and lives are reflected. Graeme Were describes patterns as being "a system of relations, not differences, generated by style." Deviations in patterns in this sense are still tied to a cultural corpus of style. A distinctive people's expression of these patterns is reflective of the ways in which peoples acquire reality in unique contexts – thinking through images and the patterns that in their variations express ideas that transcend the physical object. Were's study of the kapkap shell of the Nalik people in Papua New Guinea, for example, stresses the patterned expressions of contemporary ties to land and ancestors and for the recollection of history – all of which simultaneously constitutes the creation of a material form of knowledge.



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The material world and thought processes that provide expressions of these patterns are integral to the cultural realities from which they originate. After all, it is here that the historical, neocolonial conflicts in the institutional expectancies of Western mathematics inherently diminish the intellectual life found in cultural objects. In so doing, one undermines the independent, formalistic histories of an indigenous intellectual life. This is revealed for example in mistaken ideas about African fractals (Eglash, 1999) when scholars have privileged Western mathematics as a point of origin for these fractals when in fact, as in the case of Africa as well as in the Pacific islands and indeed around the world, the origins of patterns and their indigenous modes of mathematical expressions are environmentally responsive and are not dependent or influenced by Western sources. Were emphasizes the "complex relation [that exists] between the mental and the

material” as patterns demonstrate how contextual mathematics are “fundamental to structuring this knowledge” of indigenous peoples (Were, 2010, p. 18).

Benedetto Fontana remarks in his discussion on structures of cultural hegemony and the roles of Gramsci’s “intellectuals” or Machiavelli’s “armed prophets” in a political society, that “if the subordinate groups cannot attain consciousness through their own actions, and if the party is the subject that in its consciousness of the world acts in it and transform it,” the subordinate – let’s say the native – will always remain “passive” and “unable to acquire the knowledge and culture necessary to rule.” Movements in this sense of social consciousness depends upon praxis – a linkage connecting this consciousness with the universalized experience of becoming evident in practice and the fusing together of knowledge, control, and, ultimately, a dependable awareness of this consciousness (Fontana, 1993, pp.150-151).

But at the same time, the intentional appropriation of Western mathematical approaches or thinking by indigenous peoples becomes a somewhat different matter – a matter of a consciousness that renders the “intellectuals” more passive and seemingly more dominant in their ideas of subordination. And it is ironic of course that Western adaptations of indigenous patterns - such as the European borrowings of Maori tribal based patterns or Australian Aboriginal dreaming patterns - seem to be somehow less jarring in its nature than is the depiction of appropriations by indigenous peoples. Pattern’s ideological role in an indigenous social and cultural capacity becomes in this case of Western appropriation of indigenous patterns a very different, contradictory and even harmful representation of origin and original purpose.

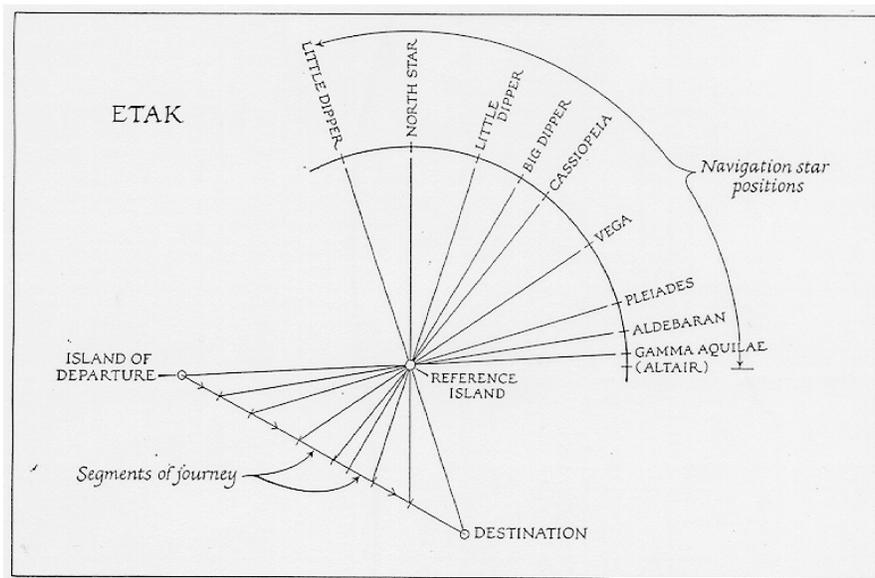
There are many examples in the Pacific of mnemonic patterns and devises that were and are dependent upon the internalization of patterned thinking in the context of a social, cultural, and historical world that can only really be replicated in that environment. Historical genealogies of pattern styles and their variations are integral to efforts to expand upon this society’s knowledge base as history and indigenous issues require. Cultural objects are basic not only to the communal standards and messages of patterns but to the very freedoms of thought that make mathematical related ideas truly readable in their own environments.

Not only are these indigenous patterns created by the use of lines that form the messages embedded in patterns, but the line itself – which is often taken for granted as one might take the presence of feet as an inherent but unexamined component necessary for forward movement across a landscape – the line itself forms a crucial means for contemporary resistance against colonialism – both in terms of practice and thought – and the means of truth, strength, and the rights inherent in indigenous history, values, and concepts derived from their unique environments. It is therefore the line – the simple, seemingly straightforward line – upon which I would like to focus on.

The line can be what it seems to be – a means by which point A is connected with point B. It assumes that the surface upon which the line is drawn is as uncontestable as air is uncontestable as a means for breathing. But that simply enforces a neocolonial interpretation or really un-interpretation of the line because it gives this surface upon which a line is drawn a cooperating but quiet and underlying coalition that simply measures across a distance and gives us the idea of where Point A is and where Point B is and in a seemingly but tragically conclusive idea of this simple line, the distance between Point A and Point B. But in the context of indigenous peoples’ visions of themselves, their histories, their realities, and the means by which all of this must be perpetuated in a caldron of modernity, the line must also take on visionary and metaphysical properties. Metaphysical properties of the line transcend the dominating idea of these points through which no voyage, no techniques of wayfaring, no integrating roles of the actual experience of moving from Point A to Point B and the holistic, communal vision and interpretation of the

system of the voyaging from Point A to Point B and its intimate relationships to any other point – either real or metaphorically – is possible. Colonialism in this sense is really the controlled integration of lines and the subsequent construction of structures that dominating forms of habit and experience endeavor to enforce.

To free ourselves from the linear and empty line that simply connects Point A to Point B and possibly all the way to Point Z, we can perhaps begin with the liberation of the line from surfaces. Star constellations are formed through ghost-like applications that create forms which tell stories integral to a people's cultural knowledge and, in some cases, provide the means for determined movement. This is certainly true in the Micronesian *etak* concept through which an ocean voyager can undertake a journey from Point A to Point B by using stars to the left or the right of the canoe to organize the voyage into recognizable segments.



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A voyage with six segments in it for example can reveal its mid-point in this manner while also in some cases giving life to metaphorical creatures at the point of any segment which not only adds life to the voyage but doubles as a means for understanding the location of the canoe in its movement (Riesenberg 1972). The songlines in the Aboriginal Dreamings of Australia are often understood by Western people to be imaginative stories that are fastened or pinned to the landscape when in fact the Dreamings created the surface and features of the entire Australian continent. In other words, these songlines are the surface. The encircled points on this landscape, whose inner circles mark the movements and stories of dreamtime ancestors, are actually not points because the surface of the continent has been consummated because of these points. These points are these surfaces upon which tracks from one encircled point to another created the surface that we now know.

The lines on embroidered surfaces across many unique cultures and societies are often seen instead as threads and not as lines on a surface providing traces of something. The threads and the designs that they construct are that upon which our idea of lines may lie. But in fact these threads that construct the structure of the cultural object have consumed the line and have in the process

composed themselves as the surface itself upon which we now see the designs and perhaps the stories that these objects carry. Tim Ingold (2007, p. 50) notes that the Yarralin people in Australia's Northern Territory see lightening – another form of a line and upon which kind of surface does it travel? – and long streaks of light that appear at sunset like 'strings' as providing the means by which the dreaded *kaya* mediators between earth and sky and between life and death are transported to the surface to take people up. In this sense the Aboriginal cosmos is also integral to the dreamings of the surface of the landscape, providing both a thread and a trace that pull the surfaces of the sky and the surfaces of the earth together. Hunters follow their prey not only through traces left on the ground but through the threads of the smell of the prey. And so on.

What is the movement behind the line or rather what is the force that gave it life? Modernity has so often broken the line into fragments wherein transport dominates over the story based and experience constructions of the line that have made the points of destinations – i.e. Point A to Point B the sole purpose of travel and even of movement itself. The route that was drawn by the wayfarer through which storytelling gave the route from Point A to Point B its cultural identity and strength now becomes instead the means to an end. Maps become based upon points of destinations and not upon the means and experiences of destinations. The world becomes regulated in this sense.

In other words, the movement that gave life to the line becomes lost and the line becomes a "succession of points or dots." The textuality of storytelling is "replaced by the pre-composed plot" (Ingold, 2007, p. 75). Let us then turn from this network of points between which no life exists to the walk itself. Ingold notes that for the Inuit people of the Arctic, "as soon as a person moves he becomes the line" (Ibid.). The Inuit move through their world *along* paths or the way to destinations. This is the exact antithesis to movement *across* a path. (Ingold 2007). In fact, going across a path to points is not movement in the traditional wayfarer practice of travel but simply transport that brings a traveler in a line that connections Point A to Point B in a comprehensively controlled world in which movement is merely the means to an end and that end being Point B and any Point beyond.

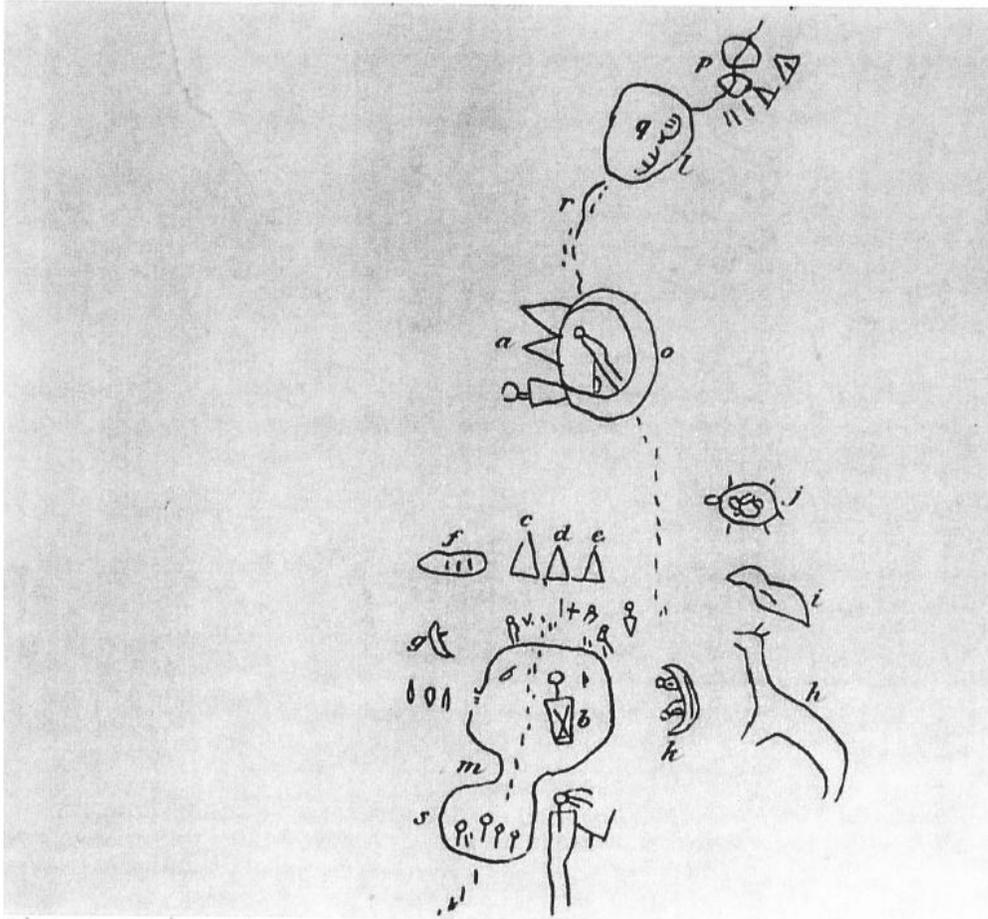
As Peter (2000) notes in a specific, Chuukese communal context, this process of walking – *aipwa* – involves following footprints to not only recreate and retrace someone's movements but to also rediscover and recover "courses of travel" that offer the searcher "an appreciation of the meanings behind these locally determined travels" (ibid., 256). And as such, these walks of path-line discoveries contribute to a greater understanding and awareness of local movements and boundaries of spiritual, political, and action based elements that help circumvent the nature of the "aimless wanderer" or *likoepi* who can experience the state of being lost – *pautilo* – on land or, as a navigator at sea, whereupon he is "consumed by the spirit of the space" (ibid., 263). Not only is space in the context of all of this walking or voyaging a determining force in the achievement of understood paths or lines, the factor of communal connections – finding none in a concluding place constitutes *pautilo* – is a demonstrative factor for retracing movements or finding and following communally tested lines through space.

The wayfarer is also the movement and the line that he or she creates. The wayfarer grows and develops *along* this line and as this line while simultaneously – or perhaps even secondarily – making progress to Point B. As Klee explains, it is the line itself that goes out for a walk. Transport on the other hand is entirely orientated toward a destination (Klee, 1961). Period. One only needs to look at modern road or nautical maps to see the truism in this. One is either *at* sea or is more predictably and probably more comfortably moving *across* the sea to an obsessively focused destination – Point B on the dotted line of modernity.

Cartographic Consciousness

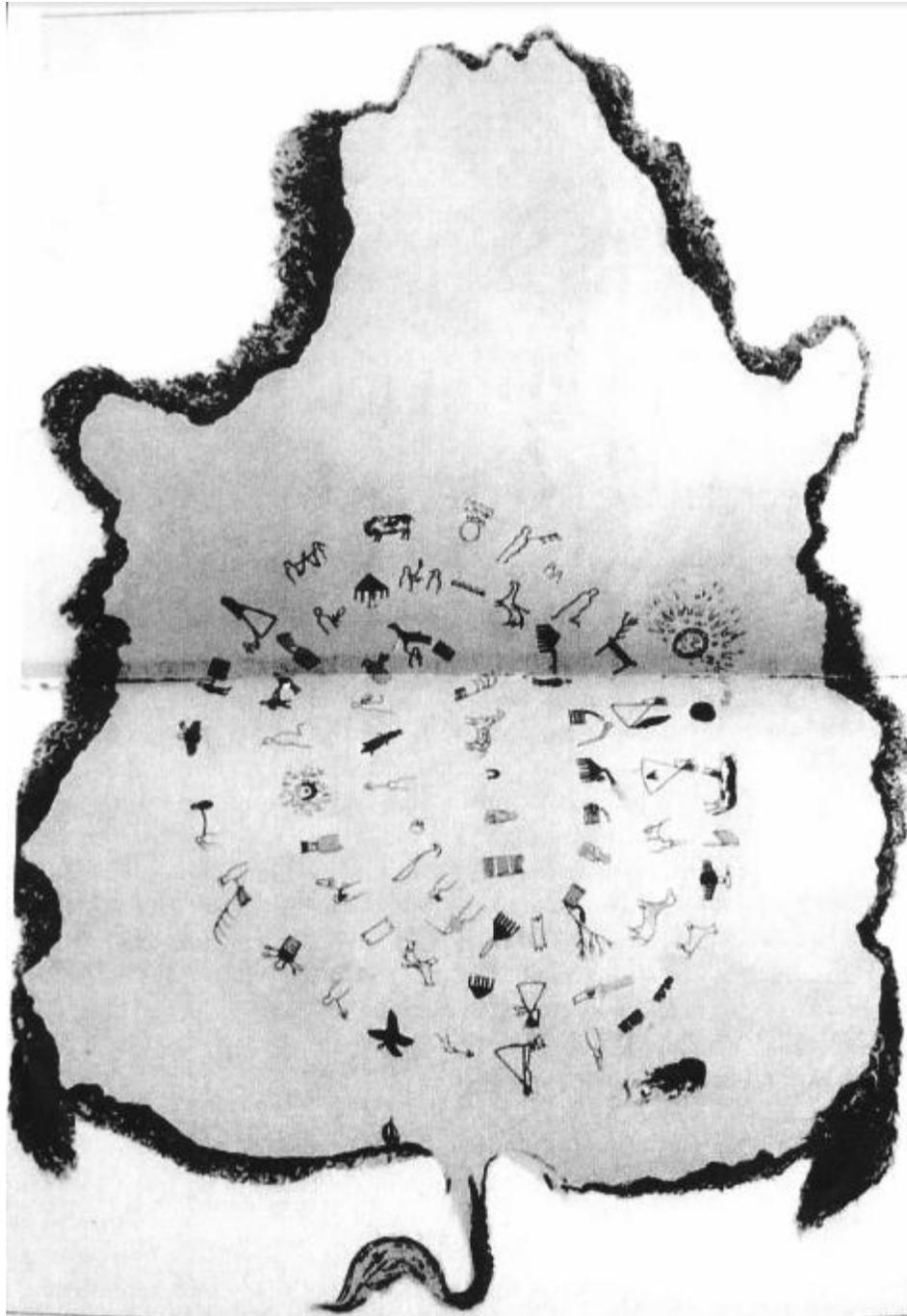
The history of the American West is fundamentally grounded not upon only the displacement of Native American peoples from the lands that they had functioned upon for many centuries. It is also the history of a neocolonialist conceptualization of space that depends upon a regularity of standards in how the line can encapsulate and control space in ways that were utterly in contention with Native American conceptualizations of space both in a physical and a spiritual sense. U.S. Congressional control over native lands through treaties with Native American peoples that were almost inevitably adjusted to further reduce spaces for Native Americans and expand them for the United States government, required both the creation and the imposition of maps whose lines determined where pieces of mountains, streams, and one could imagine in native consciousness, the clouds could be transformed in this nebulous concept of ownership. It is no wonder from this conflict that one does not find references to and examples of Native American physical maps until late in the 18th and early 19th centuries that are in themselves based upon traditions that have no bearing in Western preoccupations with controllable spaces. They are pictures of experiences; results of battles, spiritual beliefs – in short, the multidimensional nature of the world in the Native American consciousness usurped any possible grounding in lines containing spaces. Lines were instead the traditions of voyages and of walking, the experiencing of the landscape that in most innate, soulful basis were mental maps of history, mythology, and spiritualism of which Western maps were the direct contradiction of. Although battles and more elongated campaigns of control over landscapes between contesting tribes created discernable boundaries such as those that kept buffalo herds within the context of controlled spaces, Native American peoples were also largely or perhaps more clearly, innately prone to sharing the landscape experience since experience in and of itself cannot be confined to maps of linear distinctions.

Maps that were often drawn by Native Americans in response to involvement with Europeans and their spatial priorities and ways of seeing, continued to contrast with the Western line of boundaries largely because of the integral nature of landscape experienced in the Native American mind of values and reality. Maps that were not responsive to European presences – such as those drawn for European explorers and then redrawn from birch bark to satisfy some point of required formality – were maps of consciousness and conceptualizations meant to be ultimately discarded. Those that came into European hands became material objects for preservation. These maps conveyed the mythology and histories that formed the routes, the lines to points that were secondary after these conveyances and not before. Oral records move battles or peoples or both indeed in a particular direction to a particular point although that point was often the embodiment of a landscape that expanded beyond any liberal allowances for the definition of a point. Geographical features such as rivers or mountains were often bent to fit the surface of the object upon which the map was created, regardless of whether the landscape experience that was being conveyed was large or small. And while such a map in contemporary cartographic contexts would be seen as being extremely distorted, it was the strength of native oral traditions that gave this space – let's say a large space encompassing two contemporary Midwestern states – its viability both in terms of practical way finding and of expected native traditions of history and thought.



Warhus, M. (1997). *Another America: Native American maps and the history of our land*. New York: St. Martin's Press. P. 14.

This Ojibwa map of a battle fought in 1797 for example exemplifies these features. It is not a map drawn at the time of the battle. It is rather an oral history rendered in 1888 when an Ojibwa Indian described to an anthropologist the history of the battle between the Ojibwas and the Dakotas ninety-one years earlier. This is a reflection of the oral history retained among the Ojibwa people using various pictographic elements such as lakes and canoes as well as a route moving northward that is heavily embedded and contextualized by the important elements of the battle itself and not by destination points. The various letters of the alphabet that you see on the map were superimposed by the anthropologist to locate the events of the battle. The deer (h), the grouse (i), and the turtle (j) depict game that was hunted during various seasons and the canoe (k) indicates that hunting often occurred along the shore and among streams that connected the three lakes shown to the north. Probably the most important thing to take away from this map is not only the way in which an oral history has interacted with graphic images but the way in which those graphic images have determined both the context and the shape of the map that is dominated by the upward movement of a route enmeshed with the events of history.



Warhus (1997). p. 18.

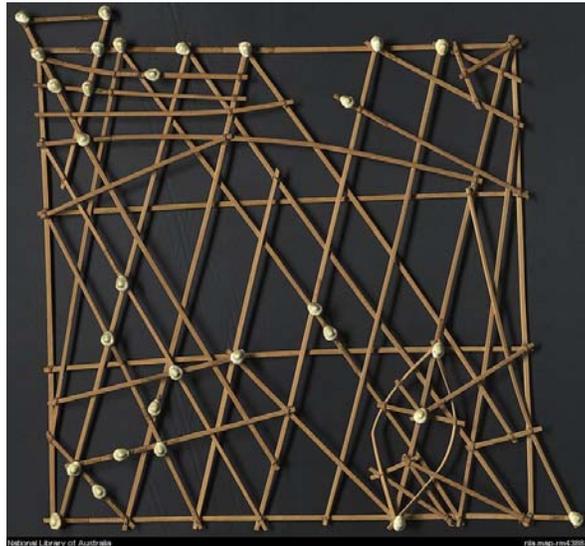
This next map is a winter count of distinctive events that mark the passage of the years. Its line of consciousness moves as a counterclockwise spiral beginning with the thirty lines in the center that represents the number of Dakota killed by the Crow Indians in the winter of 1800-1801. Its spiral begins with the next image – a figure with spots depicting the arrival of smallpox among the Dakota in 1801 to 1802. The spotted horse, two images later in the spiral and representing the winter of 1803-1804, depicts a successful horse raid against the Crows. The outer circle of images encompasses distinguishable historical events from the 1840s through 1871. At the top of the

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page, next to the buffalo with a human figure inside that has been interpreted as a Dakota religious symbol, is an image of two figures with different hair styles and arms holding peace pipes that extend out to each other. This represents a peace treaty that had finally been made between the Dakotas and Crows in 1851. The winter count ends, however, not within the spiral's counter clock movement but to the far right of the spiral where a dark spot with two smaller dots to its upper right represent a solar eclipse that occurred over Dakota territory in the summer of 1869. Above this eclipse is the final image of the winter count - a circle surrounded by rings of small lines. The circle is a Crow village that is being attacked by the Hunkpapas band of the Dakotas. The circles of small lines represent both the Hunkpapas and the bullets they shoot at the village – the first time on this winter count that Indians are depicted using guns.

Now it is tempting to make a connection between the proximity of the black, solar eclipse to the battle of the following year that essentially negates the peace treaty achieved between the Crows and the Dakotas nearly twenty years earlier. And while we are free to do so, whether or not we would be right is beside the point. Rather, it is the circular line of consciousness in this map of time and history that offers us an alternative to the neocolonial impositions of the line joining Point A to Point B. This is a map of history that also maps the movement of a people's consciousness in time and is at its very core the means and the depiction of a freedom of thought in indeed the depiction of a direction of a culture and society's inner life.

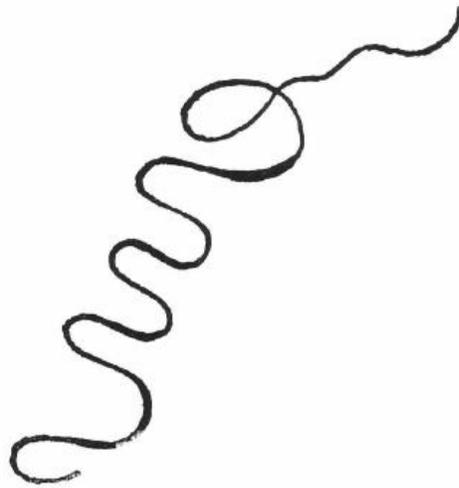
This freedom of consciousness and its depiction in a line of events that moves circular in nature is at the very essence of the validation of a distinctive reality that every culture and every peoples yearn to convey. I can pick for example the stick charts of the Marshallese people.



Retrieved from <http://dataphys.org/list/marshall-islands-stick-charts> “Added by Pierre Dragicevic on September 4, 2013.”

It is not simply a movement of the swells from specific atolls that one can use to situate one's self as well as to set directions for the wayfarer. The “sticks” that depict the swells are of themselves the core of the walker or, rather, the voyager whose means of conveying the movement of swells from and between atolls within the Marshall Islands is derived from the social reality and history of the atolls toward which he aspires to arrive. The sovereign nature of this means of conveying the lines of swells is as integral to this particular social marriage to the sea as is the line

that flourishes from the hand of the Corporal in Laurence Sterne's 1762 *The Life and Opinions of Tristram Shandy, Gentleman*.



Ingold (2007) p. 72; Sterne, L. (1978). *The life and opinions of Tristram Shandy, gentleman*, Vol. VI, M. and J. New, eds. Gainesville: University Press of Florida [original 1762].

The Corporal flourishes his stick in the air and traces the following line in the air (Sterne, 1965, p. 552). The dynamic nature of this line is in and of itself a free expression that begins from a point and flourishes upward where it will. And it is only because Sterne committed this flourishing line to paper that we can see it as such. Its independence of thought as well as of movement is self-evident.

Ingold however notes that by then cutting this line up into sections and having each section replaced by a series of dots that, while faithfully replicating the shape and direction of each segment of an original flourishing line, becomes a process of connecting dots, each of which is separate and isolated from the next dot (Ingold, 2007, p. 73).



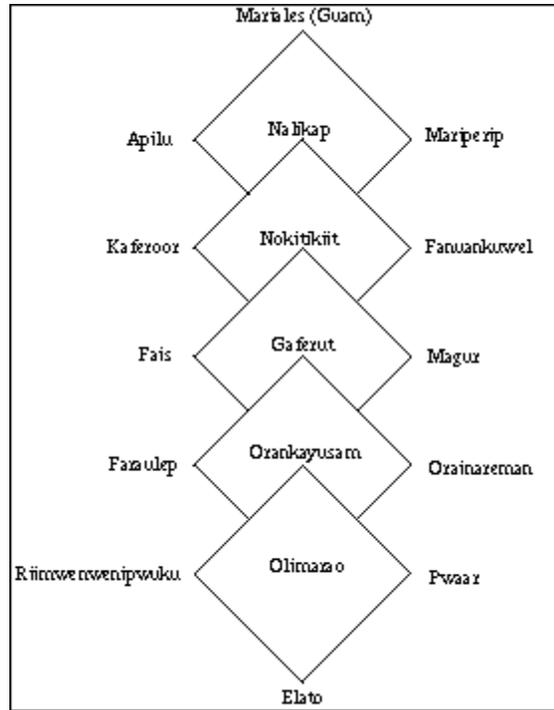
Ingold (2007), p.73.

The original flourish, the original walk of the line in the air and its depiction on a surface is lost. What we have instead is not the movement that gave birth to the swirl but rather a line connected through fragments and points – not unlike modernity’s sway upon the cartographic placement of points to replace the wayfarer’s journey or the Ojibwa’s historical movement through a battlefield and its subsequent consequences or the Marshallese swell lines that through cartographic knowledges carries the navigator to his atoll.

The lines encompassed in the Micronesian *etak* way-finding and position establishing strategy is composed of segments but unlike the segmenting of the Corporal’s flourishing stick in the air that is reconnected but utterly transformed by connecting the segments, *etak* segmenting lines are integral to the culturally practiced epistemology that gave birth to the strategy. *Etak* cannot function without its segments because they are integral to the composition and to the movement of the strategy between specific islands. No matter how hard one might try, the segments cannot be violated and redrawn to take cultural life out of it and replace it with modernity’s strategy of destination points.

The same holds true for the lines of the celestial star courses of the Polowat navigators which are indeed points in a system but are just the same, if you will, indigenous points that are sovereign in their origins and sovereign in their execution and cultural preservation. While we can have modern navigational maps for the same areas that the *etak* system covers, there is no way to disassemble the *etak* system so as to transform it into a purely modern nautical map to bring us from Point A to Point B.

The Polowat mnemonic scheme that uses the metaphor of a giant trigger fish envisioned as a diamond can also cover enormous areas of the sea and provide a rich variety of mnemonic centering agents along whatever journey is undertaken through this diamond (Riesenberg 1972).



Riesenberg (1972), p. 31.

These agents are often either geographic markers or real or imagined (often fantastically so as a two-headed shark surely would be) marine life that function doubly as elements along the line of the back of the trigger fish between two islands and as mnemonic functions for recalling chants, spells, oral knowledge – surely epistemologies – that like the Crow map of historical consciousness are also sovereign elements of a line that not only move in a predictable direction but also embody the full sovereign nature of an indigenous people’s movement and purpose. In its purest understanding, the trigger fish, stretched across the sea and expressive of the history and the lives of ancestors that ultimately gave rise to this strategy, is as free and as sovereign as the swirl the Colonel’s stick makes in the air. And in a Chuukese spatial sense that recognizes the transposition of boundaries that voyagers or travelers make, boundaries themselves are not “necessarily measured by physical distance but rather by the spirits inhabiting them that in turn sustain the characteristics of these boundaries or spatial constructs” (Peter, 2000, 265).

In going back to Were’s studies of the kapkap shell of the Nalik people, we are reminded again of the functional nature of the lines that enable the kapkap patterns to convey expressions of contemporary and historical ties to land and ancestors – patterns of indigenous thought and representation – a cultural swirling of the pen in the air if you will. The surface is the consciousness of a people whose subsequent patterns cannot be broken up into points and then reconstructed into lines that have no bearing to the original swirl. Instead, like the Dakota winter count map, its manifestation is of itself both in terms of its birth and its functionality. There is no other manifestation to be born. One could overlay a contemporary nautical map over the area covered by an *etak* strategy but then we have overlaid this particular portion of the sea by an entirely different reality.

Hawaiians understood cosmology to be a number of circular and domed heavens. Like people of the Tuamotu Archipelago, the Hawaiians had a division of nine strata. Each Polynesian society had distinctive understandings of these strata and their hierarchical structures in relation to

the heavenly bodies that inhabited each level. Part of the Hawaiian word for horizon – *kukulu-o-ka-lani* – *kukulu* – refers to a “‘wall’ or ‘vertical structure’ and was used to denote the four pillars that were the principle supports of the heavenly dome.” (Akerblom 1968, p. 15) Hawaiians also had a concept of a celestial sphere composed of four zone divisions with each division defined by the “parallels of declination” that denoted the sun’s paths at the points of the summer and winter solstices as well as the celestial equator and as one writer describes it, “a southerly parallel of declination whose angular distance from the equator was twice that of the other two parallels” (Ibid., p. 19).

According to anthropologist Ward Goodenough who was one of the first anthropologists to study Chuukese culture and society after the end of World War II, the Chuukese people also had a sky world in their cosmology and called it *Kachaw* which was often mistaken as a Carolinian name for Kosrae (Goodenough, 1986). P. Laurentius Bollig, wrote in 1927 that this sky world was conceptualized as a “disc bounded by the horizon” and the “expanse of heaven . . . likened to a great, upturned bowl. The space between the world below and the zenith was divided into several layers or distinct heavens” (Goodenough, 1986, p. 557). These layers began with “Soaring Heaven,” composed of winds, air, and birds and the “Singing Place” that lay next to a path the souls of the dead followed on their way to heaven, although the path itself turned these souls to irresponsible dance and song that distracted them away from their final heavenly abode. Two other lands above the “Singing Place” provided places of rest for souls traveling to their final resting places. Goodenough noted that “as objects,” these places “may have been the evening and morning star” and described layers beyond these transitory levels that were occupied by the gods, including the center of the Under Vault or Under Brow level where the chief of the gods resided. From the Chuukese perspective, “the sky world and the sea world seemed to merge at the horizon” beyond which was a “vast, unified expanse” (Ibid., p. 558).

The Sovereign Space Beyond

And so one might say – without leaving the swirl or *etak* – that one is justified in leaping – or even walking across but not along – to the nuances of common indigenous experience in the sense that these cultural, physical, and historical distinctions are not theory or perhaps even practice as they are aligned to theory. The dominating ideology of Gramsci’s “intellectual,” the organizer in all of its coordinated and unconsciously assimilated parts has as its life force, the engrained consciousness of the subjugated. The American sources and influences – the development aid programs, the installation of not merely schools but the substance of thought to be taught through American based curricula for the greater good of cooperative subjugation – encouraged Micronesians to be “co-conspirators in their own victimization” (Hanlon, 1998, p. 129). In encouraging the Congress of Micronesia for example to reflect the United States Congress, American “intellectuals,” at least in theory, attempted to cleanly emulate its democratic ideologies. Those most critical of American political and economic influence in Micronesia would also point to the creation of indigenous “intellectuals” or “mimic men” as V. P. Naipaul might have called them (Ibid., p.132).

However, these Micronesian elites, functioning in the structure of this democratic model, were not only organically linked to their own indigenous kinship organizations and obligations – distinctive to each “district” of Micronesia with their own sociocultural dimensions - but linked also to practical strategies that, in the language of the colonizer, created a Micronesia that each Congressional representative knew didn’t actually exist (Hanlon 1998). Its existence however in

this language of the American “intellectuals” and in this practical nature of Micronesian postwar lives with America and the feigned belief in an American democracy, made the tactics employed in this illusion satisfactory not only to its American sources - its “intellectuals” - but also, over time, the political and linearly dictated boundaries of “Micronesia” actually strengthened the tactical field of the controlled. The colonial, American influence in Micronesia is perhaps grounded in the practical but silent applications of a multiplicity of historical and contemporary hegemonic forms and forces that lead to acceptances, rejections, and tactics of both compromise and control, as well as the many senses and ideas of surrender or control that are in themselves the evolving frameworks of indigenous distinctions across this great ocean expanse. The boundaries – physical, spiritual, mental – that colonial forces created and restricted in this huge oceanic expanse – are not only disruptive of traditional routes and lines of travel but add political dimensions to their representations (Peter 2000).

One is cognitive not only of the long ago European drawn “lines” that embowed the roaring ocean into the shapes of Micronesia, Melanesia, and Polynesia that we still know today but also of peoples’ placements into these shapes that have had such assumptive power over what constitutes the reality of space and thus directly over their positioning and their restrictions within both space and indeed reality as it was conjectured and accepted through these lines. But of course as we now know, conjectured oceanic space cannot be held together. The human lives that supplement the massive natural life from within this space are in themselves dynamic beyond these conjectured lines which, as Epeli Hau’ofa reminded us, are demonstratively depthless in the historical interpretations of these linear boundaries. Histories of indigenous pasts are by their very nature non-linear and interactive – attempts to impose otherwise along a chronological line have ignored the swirled methods and responses of indigenous adaptation and rejections of external sources and borrowings or not. “Micronesia” and the acceptance thereof by Congressional representatives or not are but one obvious example of this living of dynamic lives beyond the space of conjectured lines. Hau’ofa in fact suggests that “for the reconstruction and analysis of historical processes . . . we could use the notion of the spiral [the swirl?], which connotes both cyclic and lineal movements” (Hau’ofa 2000, p.462). The imposition of lines and the deterministic creations of space might very well merit a similar application.

Contact between cultures throughout history and specifically in colonially contexts have frequently been imbued – and if not imbued, then plagued by the dominance of a consciousness based upon the forms of power that this consciousness finds in its foundations, its subsequent justifications, its actions, and ultimately its results, both empirically and politically. Science and mathematics have so often also followed the wings of this dominant consciousness and have made their established bases and influences the core consciousness of actions that form structures of control over those cultures that are not simply dominated but expected to adapt to all the assumed justifications of adjustable universality that these scientific forces expect. Often swept aside is also the capacity to simply remind ourselves of the religious, social and political dimensions that have historically colored the origins and usages of mathematics in the wide spread cultural worlds that have given structures to western and eastern consciousness. Folded into all of this is the assumptive nature of power that takes universality of application as a tool to dominate or to even vilify, consciously or unconsciously, smaller and marginal societies, leaving social and political doors open to all kinds of hegemonic and peace-less encounters that weaken the humanistic aspirations of us all.

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