



laetus in praesens

Alternative view of segmented documents via Kairos

10 March 2012 | Draft

Identity, Possessive World-making and their Transformation Dynamics

-- / --

Introduction

Identity framed by geometric forms

World-making and possession of property

Illusory "re-cognition" of an "Other" by a particular identity/worldview"

Transformation between modes of "thoughtful identification"

Forms of transformation: geometric vs. resonance

Introduction

This provides examples of metaphorical use of simple geometrical forms in support of individual or collective identity. This forms part of a more general discussion, where relevant references are located (*Way Round Cognitive Ground Zero and Pointlessness: embodying the geometry of fundamental cognitive dynamics*, 2012; see alternative [table of contents](#)).

The argument here also explores how the forms can then be used as the basis for the creation of a "world" -- enabling a "worldview" -- with which patterns of ownership and possession may be associated. Also considered is on how transformations in geometrical forms enable changing understanding of the dynamics of identity which may be variously associated with such forms. This is contrasted with understandings of identity understood through the dynamics of resonance, rather than through static forms, whether or not they are subject to transformations.

The following table indicates the forms considered here, as well as other consideration of how they condition comprehension, presented separately (*Experience of Cognitive Implication in Fundamental Geometry: unexamined metaphoric framing of strategic discourse*, 2012).

Identity	World-making	Comprehension (see elsewhere)
point-related identity	point-world	point-framed comprehension
line-related identity	line-world	line-framed comprehension
surface-related identity (2-dimensional)	polygon-world	polygon-framed comprehension
	circle-world	circle-framed comprehension
volume-related identity (3-dimensional)	cylinder-world	cylinder-framed comprehension
	polyhedron-world	polyhedra-framed comprehension
	sphere-world	sphere-framed comprehension
higher dimensionality	torus-world	torus-framed comprehension

Further consideration is given in the main paper to the [dynamic framing of identity within a torus](#) in relation to those above.

Identity framed by geometric forms

The argument in the previous section highlights a major challenge in psychosocial relations, namely the geometric forms by which a sense of identity is experienced and comprehended. **By what form is the identity of an "other" framed? Much follows from distinguishing the identity of an individual or group -- whether one's own or that of another -- as:**

Point-related identity, effectively of 0-dimensionality. This is typical of any rendering of identity of people into "data points" as in surveys, statistical processes, network maps and simulations. It is however intriguing that by so doing they effectively do not "exist" in a 3-dimensional world. Their identity, as they experience it, may not be encompassed ("captured") by this process. An individual may however deprecate the existential significance of personal identity by reframing it as but a momentary point in time. However point identities, lacking "depth", facilitate their manipulation by others to various ends. This is exemplified in the extreme case by the facility with which such a point identity may be "rubbed out". With what form is the identity of the point-maker associated?

Line-related identity, effectively of 1-dimensionality. Clearly individuals can be identified with a conventionally linear career path or trajectory -- and may so identify themselves. As noted above, this may also be evident in the case of "straight arrows" and the "upstanding". Use of [stick figures](#) is a common means of depicting individuals. In geometrical terms, there is also an implication of being "right" or "right-minded" -- possibly in contrast to being "bent", or even "screwed up". Curiously a military parade is an effort to reinforce this linear understanding of individuality. The sense is also held to a degree in the phrase "[line management](#)" -- of individuals, products or services. An individual may then be understood as being "on the line". Again this understanding facilitates strategies to eliminate a [bloodline](#) (as in some understandings of euthanasia, or even genocide) or to exclude consideration of a line of argument with which some may identify. In cyberspace, the latter may be understood in terms of a discussion "thread". With what form is the identity of the line-maker associated?

Surface-related identity, effectively of 2-dimensionality. This is most evident in the importance attached to presentation in communication, whether understood in terms of "interface", "a good face", or even "loss of face" -- all of which have cognitive implications in practice. It is curious the manner in which identity is associated with two-dimensional representation. Identity is readily associated with a circular face, most notably in representation of emotion through so-called [smileys](#). This is even more the case in official registration of identity for security purposes in photographs, photo-enhanced organization charts, or other configurations. This process is echoed in their use on social networking sites (***) Facebook, etc). Identity is then associated with facial representation by others, but especially by the person portrayed. How is the image cognitively embodied? Am I the face I see before me? Associated with two-dimensionality in this way, the person can only "face" one way. It is then unclear what identity is implied by facing "the other way", doing an "about face", or "loss of face". This recalls references to "two-faced", essentially unrecognized in the above portrayal.

How might a "roundtable" of the wise, duly distinguished by identifying images, then be understood? The question is of some relevance to negotiation and decision-making processes. How is such understanding to be distinguished from that implied by the identification of the archetypal [Knights of the Round Table](#)?

Use of a polygonal array to distinguish such identities (as archetypal functions) then raises the question of how an individual engages with such an array when the functions are embodied in the sense of individual identity. Examples are provided in use of the [enneagram](#) or the [Tree of Life](#). As aspects of the integrative identity implied by the central point, a polygonal array can be understood as a configuration of partial identities -- essentially what the individual (or group) is not as an integrative whole. Especially interesting is the approximation of the array to the continuity implied by a circle understood dynamically (*Emergence of Cyclical Psycho-social Identity: sustainability as "psychically" defined*, 2007).

Related understandings are evident in the masonic sense of being "[on the square](#)" and the pejorative sense of "[being square](#)". Curiously, especially for academics, is the standard question of "what is your field" -- with the further implication that, in the event of multiple "fields", these are necessarily contiguous on a common surface for the "farmer" thereof.

It is of course profoundly curious that much, if not all, the territorial identity preoccupation and violence on the "globe" is conceived in terms of a two-dimensional "flat" surface ([Thomas L. Friedman, *The World Is Flat: A Brief History of The Twenty-first Century*, 2005](#)). The limitations of this perspective are discussed separately (*Irresponsible Dependence on a Flat Earth Mentality -- in response to global governance challenges*, 2008).

Volume-related identity, effectively of 3-dimensionality. This is most evident in characterizations of a person as "well-rounded", or possibly a recognition of "depth". The nature of the juxtaposition of multiple "fields" of preoccupation (for the "farmer") might then be understood as planes tangential to a volume, such as a sphere. It is then from the perspective of the implicit centre point of that volume that the "fields" are variously "farmed" and fruitfully interrelated. Spheroid depiction of people is common in comic strips, as in the case of [Mister Blobby](#). A case could be made for the role of both balls and marbles in the process of identity formation.

Following from the facial representation of identity with respect to social networking sites (discussed above), early evolution of the technology suggests the possibility of distributing the images of "friends" onto the inner surface of a polyhedron (see ***). This array then implies the identity of the person at the centre. The question is the sense of cognitive engagement with that wrap-around array -- variously mirroring facets of identity. Again there is the issue of with which face(t) one engages and how attention is distributed between face(t)s over time.

Of relevance to such understanding is current insight into *** nuclear

Use of the torus might be recognized in the slang characterization of a person as a "big wheel". More interesting are the implications of toroidal forms for understanding psychological processes and their potential (*Enactivating a Cognitive Fusion Reactor*, 2006; *Implication of Toroidal Transformation of the Crown of Thorns*, 2011)

Identity of higher dimensionality: This is recognized in characterizations of a person as being of "many dimensions". Google offers over 2,500 results for "a person of many dimensions". As noted by William Cooney, Charles Cross and Barry Trunk (*From Plato to Piaget: the greatest educational theorists from across the centuries and around the world*, 1993):

...if education is to arrive at its ultimate aim, the erection of many-sidedness of interest must be achieved. Knowledge must be exposed to students as an integrated whole, by which students can arrange it in a unified fashion and strive for more. Virtue is attained by the stimulation of mental activity, which creates a person of many dimensions (p. 86)

It is implied in the mathematical case made by Ron Atkin (*Multidimensional Man; can man live in 3-dimensional space ?* 1981). Note also the arguments of Torsten Hahmann and Michael Grüninger (*A Theory of Multidimensional Qualitative Space: semantic integration of spatial theories that distinguish interior from boundary*, 2011). Of interest is how an individual might identify cognitively with such higher dimensionality.

To some degree, the nature of the associated forms of identification has been speculatively explored in the mathematical fiction (noted above), especially in the light of interaction between those identifying with forms of different dimensionality (Abbott, etc)

Comprehension framed by Question mark as " ? " or " ¿ "

In relation to the metaphorical usage explored above it is worth considering the role of the [interrogation mark](#) in its different forms -- and in contrast to the [period](#) as an alternative termination by which a "point" may be made in a sentence. A question asked may, to some degree, be understood as the antithesis of a "point" made. Most fundamentally it is central to the issue of "what's the point"?

Curiously the typography of the interrogation mark incorporates portions of the simplest geometric forms discussed above -- necessarily and appropriately implying the cognitive challenge of a question.

World-making and possession of property

Identification with what is framed by geometric metaphors, when the creativity is felt to be sufficiently radical or fundamental, constitutes a form of "world-making" -- in accordance with the [social constructivist](#) arguments. There is an extensive literature on "world-making", following the work of [Nelson Goodman](#) (*Ways of Worldmaking*, Hackett, 1978). The sense of property associated with a "world" so made may be associated with a need to defend that ownership by legal means as intellectual property.

Point-related "world": The sense of possession in relation to a point made is evident in the expressions "my point" or "our point". This can of course be extended to multiple points, or some collection of them. More intriguing is the sense in which "making a point", or expressing a "viewpoint", implies a perspective and even a "worldview" -- possibly even justifying its defence as intellectual property.

Curiously, as in astronomy, the capacity to resolve the nature of a distant "world" may be so limited from a distance that it is readily described as a "point" -- reducing its complexity in a manner at variance with the experience of those identifying with that worldview. There are many examples of such reductionism, especially where there is little motivation or capacity for recognizing the nature of experience of those holding worldviews held to be remote, if not irrelevant. There is then a curious irony to the contrasting attempts to enter into contact with those on distant planets in order to benefit from the insights they might offer -- an irony analogous to the inability to communicate with those framed as "aliens" on the planet Earth (terrorists, youth, gypsies, etc).

Topography gives particular importance to a "point", whether the end of a peninsula or a mountain peak, which may be a focus for a challenge or a meeting -- "at the point".

Line-related "world": The sense of possession in relation to a point tends to be even more developed in the case of a line as a set of aligned points (as with a defining set of "bullet points"). This may be evident in use of such expressions as "holding a line" and "drawing a line". Mathematicians have speculated on the experience of entities only capable of living along the length of a line as being the nature of their 1-dimensional "world". This experience is echoed to a degree by those who live along a road or railtrack in remote regions.

It could be inferred that those characterized as "straight arrows" or "upstanding" have a corresponding "axial" worldview. This could well be confusedly related with the righteousness of those who believe themselves to be right and see it as appropriate to defend the worldview so defined as being their own.

- line rider -- boundary rider

Polygon-related "world": Property in the sense of territory is typically bounded as a polygon, most frequently in the form of a rectangle or square, to which title is granted. This may be reinforced by fencing or other forms of physical protection to prevent outsiders from "cross the line" -- or to ensure that insiders do not venture out. A "[quadrangle](#)", as a courtyard surrounded by building, may be define the world of a community and a worldview. Metropolitan France is notably termed *l'Hexagone* by the French. The physical frame so created is readily experienced as a "world", especially when inherited and defended over generations. Virtual real estate in cyberspace may replicate such patterns.

Subtler "property", recognized as intellectual or cultural property, may be associated with polygonal symbols, most evidently the triangle or the hexagon. Notable importance is attached by freemasonry to the square. Variants may be of significance in heraldry. Again such forms may frame and define a worldview. Models of tabular or polygonal form, widely developed and protected as intellectual property, can be recognized as establishing a worldview.

Circle-related "world": In this case the sense of world-making is most evident in relation to intangible social circles (as in social networking), possibly protective of an "inner circle" or instigated by it -- as upholding and articulating a particular worldview. At the international level, the UN Security Council, the G8 or the G20, might all be so described. The widespread existence of buildings called "centre" implies, to a degree, the focus of such circles.

Such circles readily give rise to "turf wars", replicating those with respect to physical territory. Just as entry to physical territory may be controlled through gateways, analogues can be recognized in the procedures for access to such circles and their inner circles. Of particular interest is the manner in which legislation and social norms protect "closed" circles or require a degree of open access -- most evidently in relation to forms of discrimination.

There are many examples of traditional architecture constructed in circular form, effectively to create and sustain a worldview. Extremes include the stone circle of [Stonehenge](#) and the Roman [Colosseum](#).

Cylinder-related "world": In the form of a truncated cylinder, this has been proposed as the basis for a space habitat, the [Alderson disk](#). The form is basic to the design of another proposed such habitat known as the [O'Neill cylinder](#) consisting of two counter-rotating cylinders. Increasing research on the capacity of astronauts to live in a cylindrical space craft offers another sense of the need to live in a very particular kind of world.

It is appropriate to note the manner in which some are framed as "living in a hole", possibly by, or in contrast to, others inhabiting [information silos](#). The sense of constituting a world, and of reinforcing a worldview, may be evident in the architecture of some skyscrapers.

Polyhedron-related "world": This is most evident in the use of cuboid structures for dwellings of every kind -- and their agglomeration. For many these contexts are their "world", whether it be the room of a child or an office. Great attention may be given to their decoration to reinforce this sense. A similar pattern is evident in the polyhedral forms typical of tents. Symbolically a "world" is effectively created or implied by the use of a square pyramid on the widely used US dollar bill (in that sense earning a living might be understood as "world-making").

In each case the form evokes a marked sense of property and possession. Little use is made of the simpler tetrahedral pyramid, despite its significance for ordering information. It is curious that polyhedral dice figure prominently in the decision-making processes of the widely popular, imaginative, role-playing game *Dungeons and Dragons*.

There is a sad irony to the fact that when the polyhedron is understood as a configuration of "pillars" with which constituencies variously identify, the proprietary behavioural consequences within this "world" bears a marked resemblance to that with the ["monkey bars"](#) in a playground or a zoo enclosure (*Primate Environmental Enrichment: automated reconfiguration of zoo enclosures*, 2011).

Sphere-related "world": In the light of the shape of the planet, the sphere is the form most closely associated with a world -- and by extension of the "world-making" explored by science fiction and space habitat design ([Dyson sphere](#), [Bernal sphere](#), etc). Hollow spherical space habitats offer a curious echo of the deprecated [hollow earth hypothesis](#).

Strategically the sphere is recognized in the process of globalization and various initiatives to make over the world to reflect a particular worldview through establishing, cultivating and extending a "sphere of influence" or a "sphere of interest" within which people "live and move and have their being". This may be seen in quests for world dominance in fulfillment of political agendas, commercial agendas, or religious agendas -- with the world then understood possessively as property whose ownership is not to be contested.

Torus-related "world": Recognition of the toroidal form as a world is rare. Arguably however, the path traced out by Earth around the Sun could be understood as instituting a toroidal form in time.

The form has however engaged science fiction readers through the award-winning *Ringworld* series by [Larry Niven](#), set in his [Known Space](#) universe (and tied into numerous other books set in that space). The form has been used in the design of proposed space habitats, as with the [Stanford torus](#) for housing 10,000 to 140,000 permanent residents.

The form also has associations to the widely popular fantasy series by [J. R. R. Tolkien](#) (*The Lord of the Rings*) through which popular imagination has been "informed". Arguably to be considered toroidal is past use of a [webring](#), namely a collection of websites linked together in a circular structure, typically organized "around" a specific theme. These instances variously involve consideration of territory and property, even the challenge of living in such a context.

*** Of potential significance for world-making are the possibilities -- already evident in design -- of development beyond the conventional usage noted above, as discussed there with respect to:

- **polyhedra**: *Towards Polyhedral Global Governance: complexifying oversimplistic strategic metaphors*, 2008; *Topology of Valuing: psychodynamics of collective engagement with polyhedral value configurations*, 2008; *Polyhedral Empowerment of Networks through Symmetry: psycho-social implications for organization and global governance*, 2008; *Global Street Twimming in Polyhedral Configurations*, 2009.
- **toroidal and spiral forms**: *Enabling Governance through the Dynamics of Nature: exemplified by cognitive implication of vortices and helicoidal flow*, 2010; *Adaptive Hypercycle of Sustainable Psychosocial Self-organization*, 2010
- **paradoxical forms**: *Strategic Complexity ∞ Attracting Consensus: Klein is beautiful ∞ Sustaining identity in time*, 2011; *Transcending One-eyed Global Modelling Perspectives*, 2010
- brane
- drilled toroid image?

Illusory "re-cognition" of an "Other" by a particular identity/worldview

The "re-cognition" of the identity and worldview of an "Other" in the social or communication universe can be understood as constrained by the distance and orientation of the geometric form with which these are associated.

Distance: Clearly, whatever the geometric form with which the identity is associated, if the distance is great enough this will be reduced to a "point" -- if still visible in that universe.

This then offers the striking illusion readily explained by reference to the [constellations of stars](#) in the night sky. According to modern astronomy, a constellation is an internationally defined area of the [celestial sphere](#). These areas are grouped around [asterisms](#), patterns formed by prominent stars within apparent proximity to one another on Earth's night sky. There are [88 standard constellations](#) recognized by the conventions of the [International Astronomical Union](#) (IAU).

A constellation is recognized as such because particular "points" appear to either be "aligned" or to form polygonal configurations. The

illusion lies in the fact that this is a view from a particular perspective (the Earth) and takes no account of the differences in distance from the Earth. In social space, identities may be similarly assumed to be "aligned" into recognizable patterns -- by appropriately "connecting the dots". It is highly probable that this in no way corresponds to the reality of the worldview or perspective of the identities in question.

As with constellations in the night sky, one direct consequence is the interpretation of such configurations and alignments, as notably practiced by the "intelligence services" from their particular worldview. They too, presumably, have recognized "standard constellations".

Orientation: A different illusion results from the orientation of geometric forms with which identity may be associated.

- a "point" may disguise the presence of other "points" with which it is "aligned" -- if viewed "end on". The "point" then obscures re-cognition of a "line" of action towards some distant end.
- a "line" may similarly disguise forms of identity associated with a polygon or circle -- if viewed "edge on". The "line" then obscures re-cognition of an integrated configuration of associated identities and "lines" of action.
- a "polygon" or "circle" may, in the same way, disguise forms of identity associated with a "cylinder", a "polyhedron", or a "sphere". This is obvious in the case of astronomical bodies whose image appears circular, but are known to be spherical.

Arrays: A further illusion results from failure to comprehend how a recognized geometric form may have an unrecognized function analogous to that of a [radio antenna](#). As an electrical device this converts electric currents into electromagnetic waves, and vice versa, thus enabling transmission or reception. Just as the identity of a "radio station" or a "radio receiver" is associated with this capacity, rather than with form enabling it, so it may well be the case that identity is not so much associated with the form as with the communication capacity it enables. This is evident in the manner in which "identity" and a "worldview" are associated with content essentially "intangible" in relation to the enabling form in conventional telecommunications. That said, the particular geometry of the form may be vital to enable such identity. Hence the merit of distinguishing the variety of antenna arrays -- especially in the light of the capacity of [radio telescopes](#) of different designs.

Naming: The nature of "identity" in relation to form is further clarified by the manner in which names are attributed, most obviously to distant "points" and "constellations" in the night sky. Clearly astronomy has been empowered to name thousands of objects it has detected -- often using the name of the person who first detected it. The naming is by convention and from a particular worldview. The name of course bears no relationship whatsoever to the identity of what is thereby named -- if those associated with that identity had views on the matter. This is most evident in the case of the names attributed to features of the night sky in different languages.

The process of naming is of course a subtle means of establishing a claim to a degree of possession of an identity associated with a distant form. Clearly every identity is potentially free to name the features visible from its own worldview, without subscribing to those attributed by others. This recalls the process of psychosocial appropriation of a space at the collective level described by the process of *land nam*, coined by [Ananda Coomaraswamy](#) (*The Rg Veda as Land-Nama Book*, 1935), to refer to the Icelandic tradition of claiming ownership of uninhabited spaces through weaving together a metaphor of geography of place into a unique mythic story. This territorial appropriation process, notably practiced by the Navaho and the Vedic Aryans, was further described by [Joseph Campbell](#) (*The Inner Reaches of Outer Space: metaphor as myth and religion*, 2002):

Land nam ("land claiming or taking") was [the Norse] technical term for this way of sanctifying a region, converting it thereby into an at once psychologically and metaphysical Holy Land.... *Land nam*, mythologization, has been the universally practiced method to bring this intelligible kingdom to view in the mind's eye. The Promised Land, therefore, is any landscape recognized as mythologically transparent, and the method of acquisition of such territory is not by prosaic physical action, but poetically, by intelligence and the method of art; so that the human being should be dwelling in the two worlds simultaneously of the illuminated moon and the illuminating sun.

Transformation between modes of "thoughtful identification"

Contrasting modes: The separate discussion (*Experience of Cognitive Implication in Fundamental Geometry*, 2012) of point, line, polygon, circle, cylinder, polyhedron, sphere, and torus, has in each case indicated or implied dynamics of various kinds. Since the dynamics imply a relationship between the metaphorical use of each, this suggests the value of a distinct treatment -- how each transforms into the other. This is naturally exceptionally well-understood from the perspective of geometry and its conventions. It is far less evident how the cognitive implications of such transformations, as "carried" and framed by the geometry, are understood experientially when an association (or conflation) between the distinct metaphors is implied by those who use them in practice.

A distinction might be usefully made between two language "modes":

- the remarkable *articulation of geometry*, racing far ahead of popular cognitive capacity to engage fruitfully with its insights -- as illustrated by the limited range of geometrical metaphors in use. Logic is then dissociated from cognitive engagement and, necessarily, from any "feeling" for the psychosocial implications
- the remarkable *articulation of psychosocial relations*, racing far ahead of the capacity of geometry to map and reflect those relationships -- as illustrated by the limited fruitful application of geometry and topology to the human condition. (***) Cognitive engagement is then dissociated from logical patterns, as perhaps well-illustrated by the lack of uptake, within internet social networking facilities, of "mapping" and other enabling possibilities derived from network theory.

These modes are readily (if not simplistically) associated with both [hemispheric lateralization of brain function](#) and its [association with gender](#). Thus males (who predominate in governance and strategy development) are seen as having an advantage over females in science

and math, whereas males are held to be at a disadvantage with respect to literacy. Females are held to have an advantage in their left hemisphere with speaking, reading and writing, with the right hemisphere allowing them to feel empathy and to better understand and reflect on their feelings and the feelings of others. Emphasis is made on the use by males of their left hemisphere to recall facts and rules and to categorize, while their right-hemisphere is used with visual-spatial and visual-motor skills, enabling them to excel in topics like geography, science, and math.

Comprehension: Expressed otherwise, the remarkable descriptive capacity of geometry is dissociated from the emerging challenges of psychosocial relations and the forms through which they might be comprehended. As with mathematics more generally, geometry may be upheld as offering the best facility for conveying (relational) information -- exemplified by the fundamental role of mathematics in telecommunications and the information sciences. This focus ignores the social function of [phatic expression](#) so evidently fundamental to the recent uptake of internet social networking facilities -- with which the preoccupations of governance have yet to engage. Ironically, as the mode of choice for "[we the peoples](#)", it might now be held to be more highly valued than the discourse of governance through the United Nations, for example. It is however only too evident that, in seeking election, the mode of choice in communication with the electorate takes phatic form -- judiciously interspersed with what are challenged by opponents as [factoids](#).

It is curious, and appropriate, that governance discourse struggles mightily to formulate agreement in terms of "points" and "lines" -- as the outcome of meetings characterized by considerable investment in "receptions" and "dinners" at which the phatic mode is only too evidently the preferred modality. Long before the emergence of social networking facilities, many have confessed that they only go to such gatherings because of the "networking". Despite the availability of sophisticated telecommunication facilities, including videoconferencing, their relevance to decision-making is challenged by preference for the mysterious dynamics of face-to-face encounters. The argument might be framed succinctly as:

Dialogue perceptions		
	from " logical " mode	from " phatic " mode
of " logical " mode	perceived as "rational"	perceived as "soulless" / "cold" / "alien"
of " phatic " mode	perceived as "nonsense"	perceived as "empathetic" / "antipathetic"

Complementarity: With respect to the metaphorical borrowings from geometry, there is a curious sense in which phatic expression more readily "resonates" with non-linear forms such as "circle" or "sphere" -- felt to be more "holistic". This contrasts with the linear efforts at articulation of strategy through "lines" of action, based on "lines of argument", resulting in budget "lines" -- typically managed through the detail of tabular spreadsheets. This mode is much challenged to ensure a credible integrative approach -- notably when (non-linear?) feedback "loops" are effectively ignored, perhaps treated as "externalities". Use is of course made of "circle" and "sphere", but typically in strategic preoccupation with defensive territoriality -- if only virtual.

A degree of cognitive "marriage" between the two modes is evident in the form of dance (as in [circle dancing](#), or [line dancing](#)) or "formalized" rituals (cf. Mark Johnson, *The Meaning of the Body: aesthetics of human understanding*, 2007; Maxine Sheets-Johnson, *The Primacy of Movement*, 1999). It is also evident in symbolic representations of symmetrical polygons (as with the triangle or pentagram) or polyhedra (as with the pyramid or dodecahedron). Such forms embody a degree of articulation in their approximation to the circle and sphere respectively -- an articulation which is otherwise absent in any (simplistic) focus on the circle or sphere alone. Especially intriguing is any contrasting significance attributed to a "point" in each context.

In practice this situation might well be clarified by borrowing from the insight of quantum mechanics, as articulated through the Heisenberg [uncertainty principle](#), whereby the more precisely one property is measured, the less precisely the other can be controlled, determined, or known. The possibility has been explored by [Garrison Sposito](#) (*Does a generalized Heisenberg Principle operate in the social sciences? Inquiry*, 1969). *** technomimicry

Even more intriguing, with respect to such uncertainty, is the sense in which any formal description of complexity -- the greater the length, in whatever "language", conceived as adequate to "capturing it" -- is typically incompatible with cognitive engagement and comprehension, and tends increasingly to inhibit "getting it". This might be well-illustrated by a manual on how to ride a bicycle.

Forms of transformation: geometric vs. resonance

Any shift or transformation from identification with one geometric form to another may therefore be clarified in the light of understandings from the methods of geometry. However the cognitive implications, and the relevance to psychosocial understanding, may be necessarily more elusive -- as illustrated by the metaphorical borrowings from geometry discussed above. In the quest for a systematic overview of such "transformations", the challenge of articulation in non-geometric language is illustrated by the study by Ute Pinkert (*Varieties of Transformation Discourses and Practices in Aesthetic Education / Theatre Pedagogy*, In: *Hidden Dimensions of Education, Rhetoric Rituals and Anthropology*, 2006).

Forms of "geometric transformation": From the perspective of geometry, the transformations in question are described in terms of [Euclidean plane isometry](#). This is a way of transforming the plane such as to ensure the invariance of geometrical properties such as length. From a metaphoric perspective (as discussed in [Experience of Cognitive Implication in Fundamental Geometry](#), 2012) such a "plane" is closely associated with the recognition of a form of "co-ordination" -- consequent on the intersection of three "lines" (of argument or action) to create a space of discourse, as exemplified in the case of triangulation ([Triangulation of Incommensurable Concepts for Global Configuration](#), 2011).

From the perspective of plane isometry, four types of transformation are recognized which could offer a systematic template for understanding cognitive implications of interest. These are widely recognized in the "transformation" facilities available in standard image manipulation software (eg Adobe *Illustrator* and *Photoshop*) -- to a degree suggesting that these could be explored as a source of

metaphor (*Design of Future Cognition: illustrated metaphorically by Adobe key functions*, 2009). It is with such software (and Microsoft *PowerPoint*) that strategic efforts are currently made to "envisage" and articulate a "heavenly" future. As emphasized by Christopher Alexander from a "design" perspective, and with his own insight into "transformations", such design embodies intuitions of a desirable future "place to be", as separately discussed (*Tentative adaptation of Alexander's 15 transformations to the psychosocial realm*, 2010; *Geometrical configuration of Alexander's 15 transformations*, 2010).

The standard isometric graphic transformations (see Diana Berg, *All About Transformation in Adobe Illustrator*, 2010) are:

- **translation** (movement), implying potential cognitive and strategic significance to:
 - metaphoric movement of a "point" along a "line", effectively engendering a strategic trajectory
 - metaphoric movement, along an axis through the centre "point" of a form (in the case of a polygon, a "circle", a polyhedron)
- **rotation**, implying potential cognitive and strategic significance to: *** angle change of orientation engendering
 - metaphoric rotation of a "point" about a "line", effectively engendering a strategic trajectory ***
 - metaphoric rotation, about an axis through the centre "point" of a form (in the case of a polygon, a "circle", a polyhedron)
- **reflection**, implying potential cognitive and strategic significance to: ** complementarity shadow opposition
 - metaphoric reflection of a "point" along a "line", effectively engendering a complementary perspective, whether implying agreement or disagreement (namely polarization)
 - metaphoric reflection, along an axis through the centre "point" of a form (in the case of a polygon, a "circle", a polyhedron)
- **glide reflection**, implying potential cognitive and strategic significance to: ** spin slippery twisted the argument
 - metaphoric rotation of a "point" about a "line", effectively engendering a strategic trajectory ***
 - metaphoric rotation, about an axis through the centre "point" of a form (in the case of a polygon, a "circle", a polyhedron)

Forms of "resonant transformation" ? : The fourfold pattern of geometric transformations above can indeed be metaphorically mined in the light of the arguments of Susantha Goonatilleke (*Toward a Global Science: mining civilizational knowledge*, 1999), as discussed separately (*Enhancing the Quality of Knowing through Integration of East-West metaphors*, 2000). Such an exploration can however be fruitfully extended by taking into account other recognizable forms of transformation only partially evident in the use of graphic software. It is these which might then better correspond to "forms" appropriate to the much-valued phatic expression of everyday social discourse.

Possibilities of interest, in the light of associated metaphors, include:

- **existence or non-existence**, and the alternation between them. This reflects the sense in which a "point" made, or an advocated "line" of action, may exist for a limited time only. They may well cease to exist, through being forgotten or ignored in subsequent discourse -- or specifically and pejoratively declared "not to exist", or through the feeling that one does not "exist". This may be "felt" in ways associated with reference to "alienation" -- recalling the sense in which this implies the absence of a link or bond (a "lien", in French). Note that this is not a feature of the pattern of geometrical transformations above.
- **resonance / vibration**: Reference is commonly made in psychosocial interaction to a sense of "vibration" ("vibes"), possibly in terms of "resonance". Commentary on diplomatic discourse between leaders may remark on the presence or lack of "chemistry" between them -- even "flow". Such resonance may be noted by use of the term "click". Such vibration may be understood as the dynamic sense of a "line". This becomes even more significant in the case of a group or a team -- whether susceptible to mapping as a polygon or a circle (of friends) -- in which the resonance among the participants can take more complex forms. The language of chemistry regarding **resonance hybrids**, such as the **benzene molecule**, then offers insights.
- **charge / polarization**: A "point" in discourse may well be recognized as highly charged -- even a political "hot potato" -- readily evoking antipathy and controversy. The converse may be the case when a "point" is a focus for agreement. Discourse between political opponents is characterized by disagreement -- effectively by the existence of contrasting "points" and the "polarization" of debate. Each may well frame the position of the other as "negative" in contrast with the "positive" nature of its own proposal. In this situation the nature of any "line" between them -- perhaps visualized in a **concept map** or an **argument map** -- might best be understood in electromagnetic terms as the charge of attraction/repulsion between them.
- **mirroring**: The "other" in a dialogue may, under certain conditions, be viewed as "mirroring" the better or more problematic qualities -- with the first encouraging empathy and attraction (possibly recognized in terms of complementarity) and the second evoking a sense of antipathy (possibly recognized in terms of an unconscious "shadow"). The mirror metaphor, as borrowed from optics, is the subject of extensive commentary in certain psychospiritual traditions. Clearly it can be readily associated with the "reflection" form of geometric transformation.
- **engendering / generating**: Implicit in recognition of a "point" or a "line", for example, is the manner in which they may engender a "field of force" (a metaphoric borrowing from electromagnetism) -- understood as circular or spherical in the first case, and possibly as cylindrical in the second. Such metaphoric use of "force" is common in referring to psychosocial experience. More complex, in the light of geometric transformation, is the recognition that the simpler forms may generate more complex forms through reflection or rotation -- possibly in more than 2D or 3D, namely of a multidimensional nature, as indicated in common reference to "multidimensional" personalities.

NB: See separate presentation of relevant bibliographical references.



This work is licensed under a [Creative Commons Attribution-NonCommercial 4.0 International License](https://creativecommons.org/licenses/by-nc/4.0/).

For further updates on this site, [subscribe here](#)