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Engaging Playfully with Coronavirus through "Organizing" Global Governance?

Eliciting imaginative new thinking inspired by transformations in 3D of the form of the virus

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Introduction

Alternation between disparate forms of governance -- imagined through "organizing"
Mapping transformation pathways and role of music

Introduction

The presentation here follow from an argument previously made (*Reimagining Coronavirus in 3D as a Metaphor of Global Society in Distress: crowning pattern that connects spiky organisms, satellite constellations, nuclear explosions, and egomania?* 2020). There it was suggested that -- in the urgent quest for "new thinking" -- there were insights to be gained from the form of the coronavirus in 3D. In particular this highlighted the possible **isomorphism** between the configuration of protein spikes on the viral form and psychosocial forms potentially characterized in terms of "spikes". This approach was framed as consistent with the original inspiration of the [Society for General Systems Research](#).

That argument was developed in a subsequent discussion (*Cognitive Engagement with Spike Dynamics of a Polyhedral Coronavirus: alternation between assertive arrays and systemic patterns of comprehensible coherence*, 2020). This framed the current question regarding the appropriate form of global organization and knowledge architecture required in a response to any pandemic -- and any crisis of other crises. The argument through visualization was then further developed (*Coronavirus -- Global Plan, Doughnut, Torus, Helix and/or Pineapple? Zome modelling dynamics allowing for uncertainty in perception of order in governance?* 2020).

However, rather than stressing the unquestionable superiority of any one of these approaches to "global planning", the argument concluded with an emphasis on **a need to be able to shift flexibly between geometrical frameworks** as lenses. This strategic nimbleness is usefully understood both in terms of game-playing, which has informed policy development for so long, and a degree of playfulness vital to the comprehension, memorability and communicability of any strategy expected to evoke widespread support (*Playfully Changing the Prevailing Climate of Opinion: climate change as focal metaphor of effective global governance*, 2005).

This playfulness is presented as consistent with a fundamental sense of "organizing" in its particular historical association with the organ as a musical instrument through which harmony is variously explored. There is a degree of irony in this period of crisis in that the enthusiasm for a "global plan" by the highest authorities ignores the current familiarity from an early age with the far greater technically-supported complexity in online gaming (potentially enhanced by musical appreciation).

Such implications follow from recognition that **any future viable global organization is, to an as yet unrecognized degree, an exercise in collective imagination -- if it is to attract widespread popular support**, as argued separately (*Engendering 2052 through Re-imagining the Present*, 2012; *Imagining the Real Challenge and Realizing the Imaginal Pathway of Sustainable Transformation*, 2007; *Imagining Order as Hypercomputing*, 2014). The animation is presented as a catalyst to imaginative "new thinking".

In this spirit an animated sequence of 120 images is presented below -- all derived by common geometrical transformation of the single polyhedral model of the coronavirus elaborated in the earlier discussions. The focus on polyhedra with respect to systems of governance follows from the insight of [Buckminster Fuller](#) (*Synergetics: Explorations in the Geometry of Thinking*, 1975/1979) arguing: *All systems are polyhedra: All polyhedra are systems* (II, 400.56).

There is therefore a case for exploring Fuller's "synergetics" as though it might indeed concern what the words imply -- but in the light of richer understandings of psychology, epistemology and ecological philosophy than are evident in his writings (*Geometry of Thinking for Sustainable Global Governance: cognitive implication of synergetics*, 2009). What might the "geometry of thinking" then imply if understood in this way? That critique notably cites many of Fuller's related references to *Systems as polyhedra*. If global governance merits exploration in systemic terms, then polyhedra may offer insights beyond those explicitly articulated by Fuller..

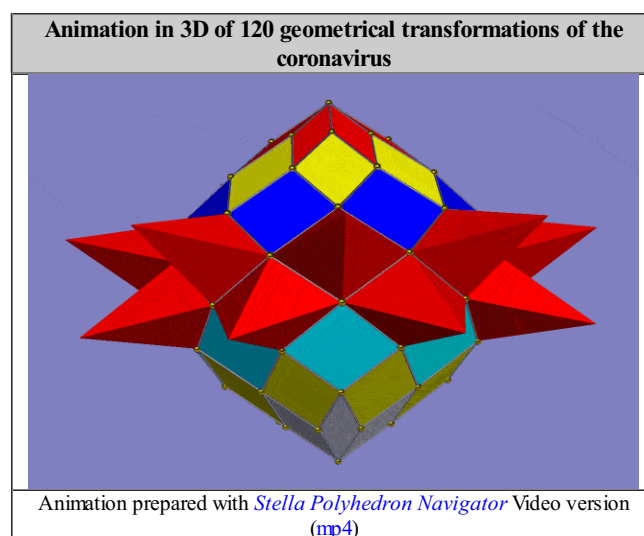
The question is whether imaginative engagement with the form of the coronavirus is preferable to a fearful cognitive mindset inhibiting emergence of new thinking enabling a more fruitful response. It is assumed here that a valuable clue to the requisite coherence of any new thinking could well be enhanced by aesthetic dimensions. This fearful strategy is described separately as what may come to be recognized as effectively a "call to cower" by authorities under conditions of lockdown. (*Cowering for One's Country in the War against Coronavirus: they also serve who only cower and wait?* 2020). The latter includes a discussion of risk aversion, cowardice, collateral damage and the sacrifice required by authorities in time of warfare -- as the coronavirus pandemic has been declared to be.

Alternation between disparate forms of governance -- imagined through "organizing"

As indicated above, the following animation derives from the use of a software application as an "organ" -- namely by analogy with the musical instrument. Such an organ can be understood as being at the origin of later developments into conventional understandings of "organization" and "organizing". Here the interpretation is that different patterns of order derive from a process of "organizing", namely use of the software application to transform one pattern of order into another pattern of order. This recalls the insights of music in transformation of key and the like.

Rather than the relationship between musical tones or notes, here the relationship is between polyhedral forms. The transformations are therefore geometrical along what are effectively transformation pathways between polyhedral patterns. In this exercise the starting form is that of a polyhedral model of the coronavirus with its 72 or 74 protein spikes, as assumed in the earlier discussion. Common depictions of the virus do not however specify the number of such spikes, which may be greater or lesser. The emphasis here is what is suggested by the patterns of transformation from that central point of departure.

The software application is the readily accessible *Stella Polyhedron Navigator*. The 3D model used, as described previously, is the zonohedrified 9-gonal antiprism of 74 vertices (and 72 faces) -- with a geometric dual of 72 vertices (and 74 faces). The latter offers a degree of approximation to the form of a pineapple -- as previously discussed with respect to a pineappled model of governance. The ninefold pattern of both suggests interesting interpretations of the nine so-called "planetary boundaries" -- now understood to be a necessary preoccupation of governance and the creation of a "safe operating space for humanity".



All the forms displayed in the animation above are the consequence of simple menu options of that software -- which offers many others. In "playing" that "organ" -- namely "organizing" the forms displayed, the author was however only too aware of a degree of incompetence in ordering the forms more appropriately, whether from a geometrical or an aesthetic perspective. Greater skill would enable patterns of higher order to become more apparent rather than leaving that to the imaginative appreciation of the viewer.

Mapping transformation pathways and role of music

Maps of the transformation pathways explored by the animation (like subway maps) could be added, perhaps in parallel, as with GPS mapping of road travel. As it stands the animation could be understood as an initial "proof of concept". There is the further possibility of adding sound, as previously explored (*A Singable Earth Charter, EU Constitution or Global Ethic?* 2006).

Implication of such possibilities with respect to the form of the coronavirus follows from the work of Markus Buehler (*Nanomechanical sonification of the 2019-nCoV coronavirus spike protein through a materiomusical approach*, 2020). The audio versions have been the subject of widespread comment (Vineeth Venugopal, *Scientists have turned the structure of the coronavirus into music*, *Science*, 3 April 2020; Kim Martineau, *Markus Buehler on setting coronavirus and AI-inspired proteins to music*, *MIT News*, 2 April 2020; Robin Pomeroy, *If a virus could sing ... Could this musical version of COVID-19 help us defeat the disease?* *World Economic Forum*, 9 April 2020; Erin Blakemore, *MIT professor translates coronavirus' complex sequences into music*, *The Washington Post*, 15 April 2020).

As described by Blakemore:

ARS-CoV-2's spike protein consists of three delicately folded chains of amino acids. Markus Buehler, a musician and an engineering professor at the Massachusetts Institute of Technology, has turned that complex structure into a piece of music.

Buehler and his colleagues recently invented a way to translate amino acid sequences like the ones that make up SARS-CoV-2 into sound using the virus' genetic sequence and an algorithm that translates its amino acids and their structures and molecular vibrations into sound. Featuring the koto, bells, flutes and other instruments, the nearly two-hour-long composition is deceptively peaceful -- kind of like the virus itself. The music "*doesn't really convey the deadly impacts this particular protein is having on the world*", Buehler writes. "*The music is a metaphor for (the virus' ability) to deceive the host and exploit it for its own multiplication*".

A sample of the music is available (Markus J. Buehler, [Viral Counterpoint of the Coronavirus Spike Protein \(2019-nCoV\)](#), Sound Cloud, March 2020).



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