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Irresponsible Dependence on a Flat Earth Mentality

in response to global governance challenges

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Review of the implications of the prize winning work by Thomas L Friedman (*The World Is Flat*, 2005)

Context

The first edition of Thomas L. Friedman's *The World Is Flat* (2005) was given the first *Financial Times* and Goldman Sachs Business Book of the Year Award in 2005. The award recognizes one business book that provides 'the most compelling and enjoyable insight into modern business issues, including management, finance and economics.'

Three-times winner of the Pulitzer Prize as a foreign affairs columnist for the *New York Times*, Friedman was named in *America's Best Leaders 2005* -- a report by the Harvard Center for Public Leadership, *U.S. News and World Report* magazine, and public opinion research firm Yankelovic. The book's editions have had various subtitles: *A Brief History of the Twenty-First Century* (2005) and *The Globalized World in the Twenty-First Century* (2006).

As argued in what follows, the acclaim of the business community for this study (see summary) is extremely valuable in helping to understand the failure of the world to come to grips with the challenges of its governance. These are epitomized by the global crises of climate change, banking, food, energy, and water, subsequent to the 2006 edition, as well as by the continuing cycles of violence in many regions.

This review was undertaken in support of arguments presented elsewhere (*Towards Polyhedral Global Governance: complexifying oversimplistic strategic metaphors*, 2008).

Flat Earth metaphor -- a cognitive trap to be sprung?

Of course, the "Flat Earth" metaphor is a valid attention grabbing device for a book framed as significant to the new thinking required of the 21st century (see summary of *Friedman's Flatteners*). In response to what Friedman refers to as the cottage industry of review articles in response to the book, with variations on the title "The World is Not Flat", he argues that the metaphor trades "a certain degree of academic precision for a much larger degree of explanatory power". He further remarks:

> Not only do I make no apologies for it, I think that with every passing year, it becomes more true and more useful in explaining what is happening. (p. x)

The book makes no effort to explore the cognitive implications of the use of such metaphors especially as they contribute to the framing of global challenges of governance (see *Metaphors Project*; *Documents relating to Metaphor for Governance*). Or, alternatively, the book may be considered as an explanation of why thinking of the world as flat is indeed the central guiding insight for governance in the 21st century, as currently conceived -- as his subtitle implies.

As to the cognitive implications, he makes no reference to the detailed arguments of such as George Lakoff and Mark Johnson (*Metaphors We Live By*, 1980; *Philosophy In The Flesh: the embodied mind and its challenge to western thought*, 1999). Nor does he make any reference to the reasons for which metaphors are used by business strategists (eg Dudley Lynch and Paul L. Kordis, *Strategy of the Dolphin: scoring a win in a chaotic world*, 1989). In this sense his argument is thoroughly trapped by its own central metaphor.

It might be argued that, in so successively constructing an argument to attract such acclaim by a significant segment of the leadership of the world, Friedman skillfully created a trap for those who associate themselves with such a seemingly provocative argument. He effectively provided a mirror in which they could indeed recognize themselves. Whether he did this deliberately or inadvertently is then irrelevant. But as a metaphoric trap, the question below is whether it can be "sprung". Can the effort to spring such a trap -- to help Friedman to spring it -- be itself transformed into a useful form of cognitive liberation (cf *Liberating Provocations: use of negative and paradoxical strategies*, 2005) ?

It is of course the case that the "Flat Earth" understanding of the world is a very ancient one. The recognition of the spheroid nature of the Earth came about through much conceptual struggle, notably against entrenched institutional dogmas. Despite its echoes in cultural memory, Friedman succinctly explains his use of the metaphor in the following phrase:

> I have found that using the simple notion of flatness to describe how more people can plug, play, compete, connect, and collaborate with more power than ever before -- which is what is happening to the world -- really helps people who are trying to understand the essential impact of all the technological changes conning together today. (p. x)

Does this imply that the complexities of the day are to be reduced to the apparent flatness of the printed circuit board or the forms of connectivity and collaboration associated with encounters on the playing field and through board games -- however amplified by online environments?

Is it any wonder that such thinking is proving so disastrous in support of global governance?

Connecting the dots -- erroneously?

The book, as many acknowledge, is an excellent collection of examples and indicators. These call for careful reflection and comment -- much of which Friedman offers.

However, as with respect to the analysis of the terrorist threat, before and after 9/11, there are ways to "connect the dots" that can simply construct the wrong picture -- as argued elsewhere (*Groupthink: the search for Archaeoraptor as a metaphoric tale*, 2002).

Friedman offers no assessment of the limitations of the metaphor and the dangers associated with its use. It may indeed have a useful clarificatory function. It is not helpful to think of the Earth as round when travelling locally or even across most countries. What are the dangers of such a metaphor if pushed to the extreme he does? Who will be dangerously misled by the metaphor?

Given the case now widely made against "extremism" in any form, is his argument to be considered a dangerous exercise in cognitive extremism (*Norms in the Global Struggle against Extremism*, 2005)?

Edge and boundary free?

In the traditional understanding of a Flat Earth, it typically had edges towards which it was dangerous to go because of the possibility of "falling off". Curiously Friedman's Flat Earth has apparently no such edges.

This is somewhat puzzling because the "edge" metaphor is much cultivated by the business community in efforts to claim to be at the "leading edge" or at the "cutting edge". There is even a foundation, The Edge, that celebrates related concerns with regard to new advances in understanding -- notably those appropriate to the 21st century..

Friedman himself frequently alludes to the importance of such advances in understanding. But it is not clear how one advances over a flat surface unless this is to be understood as some kind of infinite plane -- or unless the illusion of such linear "advance" is effectively achieved by travelling in circles.

More dangerous perhaps with the lack of edges is that it also tends to reinforce assumptions regarding lack of boundaries. Many of the challenges of governance call for new thinking regarding boundaries and any forms of closure. Can they simply be banished through assumptions of flatness, or is the Flat Earth to be carved up into new kinds of domains?

Any sense of lack of boundaries also obscures the challenge of limitations on use of resources and the challenge of disposing of waste products. This might be considered a highly irresponsible framing.

Horizon effects -- a "hollow Earth"?

However Friedman's assumption of increasing flatness implies, as with the absence of boundaries and edges, the disappearance of horizons and horizon effects. It is true that use of facilities that operate 24/7 appears to render unnecessary any notion of horizons -- despite notions of time zones and daily rhythms.

However the merit of horizons is that they help to explain how -- and possibly why -- people elsewhere think differently rather than subscribing to some global mindset that flattens diversity of any kind, ironically exemplified by the flattening of the rainforests. The Sun is not yet visible simultaneously across the Earth, as it would be were it flat -- unless of course its visibility 24/7 is to be understood as achieved virtually. This then leaves some "in the dark", if their understanding is not enhanced in this way -- or in the event of power failure.

Friedman's need for the explanatory power of "flatness" might suggest a more appropriate metaphoric application through the assumption of a hollow Earth -- despite its recent dubious associations. This would be consistent with any shift from superficial thinking -- however "lateral" -- to "voluminous thinking" as advocated elsewhere (*From Lateral Thinking to Voluminous Thinking: unexplored options for subterranean habitats in dense urban areas*, 2007). It could also relate to epistemological issues of greater potential significance, as discussed elsewhere (*Transforming the Edge of the World through Voiding the Centre*, 2008)

If it were to be assumed that people effectively lived increasingly as though on the inside of a globe, the metaphor would then allow for local flatness (as at present) plus the degree of unobstructed, transparent connectivity across the globe that is so fundamental to many useful aspects of his argument.

But the weakness of implying human habitation on an inner surface of a hollow Earth is the challenge of what lies "outside". This corresponds in many ways to the challenge of what lies "over the horizon". It is however more dangerous, because with all attention focused on the inner surface, no thought would be given to the opportunities and dangers of "outside" -- as with any people inhabiting an island or a single valley and avoiding movement towards any horizon.

In this sense, as with implying a lack of boundary, Friedman dangerously undermines the kind of more complex thinking that may be required in response to the challenges of the 21st century and the surprises it will have to offer (Nassim Nicholas Taleb, *The Black Swan: the impact of the highly improbable*, 2007).

Misunderstanding of longer-term cycles

The shift over centuries to a recognition of the spheroid form of the Earth was partly driven by efforts to achieve explanation for cyclic phenomena -- beyond the daily rhythm. The suggestion that the Earth might be better understood, as flat as a consequence of "globalization", implies that the need to take account of cyclic phenomena is being circumvented.

Reinforced by the shift to 24/7 activities, and access throughout the year to "unseasonable" fruit, any indicators of time become purely virtual. They require no sense of a rotating Earth, revolution around the Sun, or longer cycles such as the precession of the equinox --so strikingly detected by ancient astronomers. Such cycles become irrelevant in a world governed through budgeting cycles and cycles of meetings.

Of course one reason the ancients sought to master cyclic phenomena was in order to at least predict disasters such as drought, storms and the like. The periodic emergence of crises -- only too evident at the present time -- somehow falls below the horizon of Friedman's Flat Earth perspective. Although, given its flatness, it is not clear how those exposed to such crises then explain their emergence other than through the cycles explored by business and economists.

It might be argued that a Flat Earth cognitive framework does not serve those who need to govern wisely in response to the possibility of such crises -- irrespective of the meaningfulness to those who suffer from them. By denying the possibility of cycles associated with "rotation" of a globalized world, or its "revolution" around an external reference point such as the Sun, it would appear that explanatory power has been much diminished. This might prove to be totally irresponsible given the increasing recognition of dependence of such a global world on energy from the Sun.

Having "internalized any relevant cycles, is it the case that Friedman's Flat Earth is dangerously self-referential, paradoxically incapable of understanding itself in the cycles of a larger context? These have been highlighted by Thomas Homer-Dixon (*The Upside of Down: catastrophe, creativity, and the renewal of civilization*. 2006) in terms of the adaptive cycle and the necessary resilience required to navigate it.

This failure would help to understand the incapacity of contemporary global governance to respond to progressive reduction of non-renewables that have so threatened societies in the past as noted by Jared M. Diamond (*Collapse: How Societies Choose to Fail or Succeed*, 2005) -- and especially to underlying challenges such as exploding population growth (*Begetting: challenges and responsibilities of overpopulation*, 2007).

A "shrinking" Earth

Friedman's Flat Earth is also presented as "shrinking" rapidly. By this he refers to the ease of communication across distances previously considered as great and, as such, an obstacle to communication. This effectively introduces a perceptual component tied to the loss of any effective horizons. He further associates this with "pulling together"

The puzzle is how an edge-free Earth can shrink and what this can be understood to imply.

He comments on this through emphasizing the shift from vertical organization -- with its command and control systems -- to horizontal organization associated with community and collaboration (p. 233). Unfortunately he is not especially creative with regard to the only too evident failures of community and collaboration in past decades and recent years -- and presumably for the foreseeable future, in absence of evidence to the contrary.

He chooses the simplistic route of citing only terrorism as disruptive of such desirable shrinkage. The fact that religions have been resisting such community and collaboration over centuries, as have the many academic disciplines, is poorly integrated into his argument.

Unfortunately the sense of shrinking is only too correctly evident from a different perspective, namely the progressive reduction in the available land, whether for agriculture -- even biofuel production -- or human habitation (according the expansive standards of the ideal American suburb). Furthermore, thanks to the Flat Earth worldview, this form of shrinkage is being accelerated by rising sea levels.

A mathematical challenge: "global" as "flat"?

Friedman advances many relevant arguments concerning the increasing role of mathematics in enabling the flattening of the future of the globe. This is a slightly unfortunate association given the role that mathematics has been called upon to play in support of military strategic options that might literally have flattened any evidence of human civilization.

However he does make very clear the need for mathematics to enable the emergence of new kinds of thinking in support of every kind of development in every sector. Unlike many, he does not frame the challenges of such development simplistically but recognizes how vital will indeed be the advances in mathematics.

It is therefore most curious that he does not report on any mathematical understandings of how a globe might be fruitfully understood as flat and without edges -- in support of his argument. It is not as though mathematicians, for whom he expresses admiration as a class, lack creativity in response to such a challenge. Indeed it is they who have demonstrated most capacity to reframe understanding of such forms as global, local, edge, connectivity and shape. One specific example, explored elsewhwere, is the manner in which a flat network of relationships may, under certain conditions, be "folded up" -- a highly visible case of Friedman's "pulling together" -- to form a three-dimensional polyhedron of potential significance to new understandings of global governance (*Towards Polyhedral Global Governance: complexifying oversimplistic strategic metaphors*, 2008).

Curiously the associated polyhedral graphs are fundamental to the emerging global strategic focus on network-centric warfare in which those dependent on conventional flat cognitive frameworks are indeed vulnerable to being literally "flattened" (cf Anthony H. Dekker and Bernard D. Colbert, *Network Robustness and Graph Topology*). Again the question is the potential relevance of such perspectives for future global governance (cf *Configuring Global Governance Groups: experimental visualization of possible integrative relationships*, 2008).

The cognitive challenge has long been delightfully articulated in such mathematical fiction as Edwin A. Abbott's *Flatland: a romance of many dimensions* (1884), Charles Howard Hinton's *An Episode on Flatland: or how a plain folk discovered the third dimension* (1907), A. K. Dewdney's *The Planiverse* (1984), Ian Stewart's *Flatterland* (2001), and Rudy Rucker's *Spaceland* (2002). The 1884 novel has recently taken the form of an animated version (*Flatland*, 2007) to highlight the challenges otherwise.

Would a world, whether "globalized" or "flattened", not benefit from more complex understandings of the boundaries and territories over which violence continues to take place, as argued elsewhere (*And When the Bombing Stops? Territorial conflict as a challenge to mathematicians*, 2000)? Given the importance of territorial claim-staking by stakeholders in an effectively shrinking world, is there not a case for more complex understanding of the relationship between frames of reference in the emerging knowledge society -- also as argued elsewhere (*Einstein's Implicit Theory of Relativity -- of Cognitive Property? Unexamined influence of patenting procedures*, 2007).

Given Friedman's argument for a "shrinking" Earth, understood in communication terms, mathematics might also help to understand the limiting conditions to which this might lead. How far can communication space shrink -- whether flat or global? Such a preoccupation relates to the debate on the challenging future possibility for human civilization of some form of "singularity" (see *Emergence of a cognitive singularity*, 2008).

By failing to draw upon such insights, Friedman effectively betrays his own case by opting unquestioningly for the kind of dangerous oversimplification on which global governance cannot afford to depend. This might be seen as sharply contrasting with the recent survey of such academic specialists by The Edge as discussed elsewhere (*In Quest of Optimism Beyond the Edge -- through avoidance of the answering process*, 2008).

Need for "synthesizers"

In an argument distinct from that relating to mathematics, Friedman makes a valuable case for the vital future need for synthesizers and integrators. He even suggests that the key role played in many institutions by information technology may become secondary to that of integration processes and associated technology -- reframing IT as integration technology.

But his arguments in this respect indicate further flaws in his argument as a whole -- what might be appropriately framed as his "global" argument. For in promoting "flattening" as the appropriate way of understanding "globalization" he obscures, like many before, the nature of integration and synthesis -- especially in the light of the sophisticated insights of mathematics and the complexity sciences.

Returning to the parallels drawn above between "flattening" and the printed circuit board or board games, the integration of either is most poorly represented by its projection into two-dimensional flatness. This is of course true of any map of the globe -- the distortions from various awkward projections being only too apparent. Friedman is effectively promoting such distortion through opting for flatness rather than calling upon richer understandings of synthesis through the modelling that he acclaims. The challenge denied by Friedman, has been helpfully clarified by mathematician Ron Atkin (*Multidimensional Man; can man live in 3-dimensional space?* 1981) as summarized elsewhere (*Social organization determined by incommunicability of insights*).

Incapacity to reframe global issues

Despite recognizing the need for synthesizers, clearly it would appear that flattening the Earth so effectively through globalization,

introduces a curious constraint on the capacity to grasp "global" issues. As reviewers have noted, Friedman's argument is not informed by many challenging global issues (cf Roberto J. Gonzalez, *Falling Flat: as the world's boundaries are worn smooth, Friedman examines changing horizons*, *San Francisco Chronicle*, 15 May 2005).

Friedman does not indicate how a Flat Earth mentality will facilitate such a response on the part of any "global governance". Indeed it might be argued that he is effectively pointing to the emergence of non-global governance. This would be some sort of "flat governance" based on his reference to horizontal organization, namely the opportunities for collaboration and pulling together arising from huge improvements to communication.

Is there any indication that such developments are improving the capacity to respond effectively **in practice** -- whatever the improvements that might be inferred **in principle**? In addition to the crises named above, problematic examples to be cited might include: the Middle East, Darfur, and Zimbabwe.

Beyond the undoubted advantages for a Flat Earth perspective in terms of cherry-picking opportunities for economic advantage, it might instead be argued that in practice there have been huge improvements in the capacity to indulge in tokenism -- to do too little, too late, but such as to satisfy worldwide expectations.

The set of global issues has not been grasped as a whole in new ways in the light of new global strategies. Indeed the possibility of "global" strategies might be assumed to have been reframed as irrelevant by flattening the Earth.

Is it then appropriate to use the metaphor to imply that the approach advocated is then necessarily "superficial" -- avoiding any sense that might be associated with "global"? As a consequence might it then be the case that the mindset creates a context in which governance operating within that framework will in all probability indeed come to an "edge of the world" -- over which it will "fall"?

Personalized explanation

Friedman makes a helpful case for the importance of explanation and personalization within the world of the 21st century.

With respect to explanation, he most notably focuses on the need to explain complexity. The fact that he advocates a Flat Earth framework in terms of which it promote such an explanation is curious. As noted above, although hailing the importance of mathematics, he completely fails to point to the challenges of shifting out of Flat Earth thinking into a mode that might be more appropriate to thrival in the 21st century. How does complexity get explained to those who would indeed prefer to avoid it in preference to simplification?

Clearly his praise of personalization is relevant as an opportunity. It is the classic means of rendering credible complex strategies -- through the personality of any leader and the ability to reframe larger challenges into those of the individual. There is of course the potential for contradiction here, given Friedman's promotion of horizontal organization and collaboration -- presumably diminishing the role of leadership to some significant degree.

But where he most significantly fails in this respect is in failing to recognize the arguments of enactivism and the cognitive role of metaphor as noted above (Lakoff, Johnson, Varela, etc). Potentially this transforms the way in which people will encounter, reframe and personalize a global world, notably as argued by Henryk Skolimowski (*The Participatory Mind: a new theory of knowledge and of the universe*, 1994). This is most evident in the manner in which music is used through portable players to reframe an individual's private space.

Just as people cannot live in a three dimensional world without experiencing constraint and distortion, they certainly cannot live in the flattened cognitive world that Friedman offers as a framework for the 21st century.

But perhaps there is also a case for "flattening the universe" to avoid any need to deal with its complexity and the challenge it represents for human understanding. Such a project would need to be set in the context of research reported by astronomers prior to Friedman's exploration, namely that the universe had indeed been proven to be flat (*Universe 'proven flat'*, *BBC News*, 26 April 2000; Jagadheep D. Pandian, et al, *Why is the Universe flat and not spherical?* 2002). According to NASA (*WMAP: Shape of the Universe*), it is now known that the universe is flat with only a 2% margin of error. To astronomers, however, "flat" means that the usual rules of geometry are observed, namely light -- not being bent by gravity -- travels in straight lines, not curves.

Instigation of a Global Flat Earth Society?

Given the arguments of Friedman's book and the widespread acclaim for those arguments, there is surely a case to revisit the past and current activities of the Flat Earth Society and the broader flat Earth movement. Friedman might even be seen as a "reincarnation" of Charles K. Johnson, the society's former president.

Clearly the current focus of that society does not encompass the perspective offered for the 21st century by Friedman's book. There may therefore be a strong case for instigating a "Global Flat Earth Society" to develop those arguments and provide a more specific focus for those cultivating the mindset articulated by the book -- or perhaps a more activist "Global Union for a Flatter Earth".

However, in the light of those arguments regarding the emergent forms of collaboration within a globalized Flat Earth society, it might be said that such a society already exists irrespective of whether it has taken more conventional forms characteristic of the 20th century.

Possible astrophysical metaphors for an emergent global knowledge society

If an obsolete geophysical model, such as a Flat Earth, is to be considered as providing an appropriate metaphor for understanding the emergent global knowledge society of the 21st century, it is appropriate to at least consider the insights from astronomy into other alternatives as argued elsewhere (*Towards an Astrophysics of the Knowledge Universe -- from astronautics to noonautics?* 2006).

Whether flat or not, the metaphors currently explored by astronomers for the shape of the universe -- specifically its "global geometry" -- may prove to be of greater relevance to understanding of the structure of the knowledge universe with which the emerging global knowledge society of the 21st century is associated. Models for the global geometry of the universe currently include:

- those based on so-called "primitive geometries": a flat universe, a spherical universe, a hyperbolic universe
- a negatively curved space (Picard horn), colloquially described as "funnel-shaped", for the horn geometry.
- a positively curved space (Poincaré dodecahedral space), colloquially described as "soccer ball shaped", as it is the quotient of the 3-sphere by the binary icosahedral group, which is very close to icosahedral symmetry, the symmetry of a soccer ball.
- a string theory-related model depicting a five-dimensional, membrane-shaped universe (an Ekpyrotic universe), whereby the universe is described to have originated when two membranes collided at the fifth dimension.

With respect to the shape of global society, in the light of human comprehension of its communication and knowledge dimensions in responding to global challenges, consideration has been given elsewhere to related possibilities, notably based on a polyhedral framework:

- *Understanding Sustainable Dialogue: the secret within Bucky's Ball?* (1996)
- *Future Generation through Global Conversation: in quest of collective well-being through conversation in the present moment* (1997)
- *Hyperspace Clues to the Psychology of the Pattern that Connects* (2003)
- *Hyperaction through Hypercomprehension and Hyperdrive: necessary complement to proliferation of hypermedia in hypersociety* (2006)
- *Towards Polyhedral Global Governance: complexifying oversimplistic strategic metaphors* (2008).

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