



laetus in praesens

Alternative view of segmented documents via Kairos

6 April 2015 | Draft

Counteracting Extremes Enabling Normal Flying Insights for global governance from birds on the wing and the dodo

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Introduction

Underside of normality?

Lost art of bird watching?

Bird flight as offering a global transformation of systemic perspective

Styles of flight as styles of governance

Empowering democratic take-off through coordinated wing flapping

Lift, banking and control as functions of radical extremes

Implications of biomimicry for artificial intelligence

Reducing extremism by reduction of "wing length"?

Speculative alternatives for global governance?

Evolutionary possibilities for global governance?

References

Introduction

The current preoccupation with achieving normality, and eradicating the radical in any form, lends itself to a variety of speculations. The following is inspired by the [normal distribution curve](#) of statistics. It is a further development of previous discussion of radicalisation (*Radicalisation of Existence and Identity: recognizing the global emergence and influence of daimonic dynamics*, 2015; *Radicalisation versus Demonisation? Enabling radical initiatives under conditions of strategic stalemate*, 2015).

The argument is that the distribution curve focuses attention on the central position -- the median position. This has the implication that the extremes to the left and right of the curve are necessarily to be understood as abnormalities, even radically abnormal. Extremes are increasingly deplored and deprecated as potentially dangerous. Governments are currently envisaging various measures to reduce such extremes, even to eliminate them entirely. Various framed as [normalisation](#) and [assimilation](#), the eradication of extremes in favour of a normal condition is seen as desirable (*Norms in the Global Struggle against Extremism: "rooting for" normalization vs. "rooting out" extremism?* 2005; *Eradication as the Strategic Final Solution of the 21st Century?* 2014).

Curiously the normal distribution curve can also be readily associated with the distinction of political extremes -- most commonly termed the right and left "wing" political movements. Exemplary extremes are those of the [World Economic Forum](#) (in Davos) and the [World Social Forum](#) (held in Tunisia at the time of writing). Given its widespread appeal, use of the wing metaphor merits further careful consideration. This is especially the case since a closely related metaphor is used with respect to strategic initiatives and concepts, namely whether they can "fly" -- after they "take-off" or are "launched". Sustainability could be readily framed in terms of achieving sustainable flight -- in contrast with widely noted dysfunctional "flapping" by the wings of political parties..

The capacity of initiatives to soar like an eagle is widely contrasted with those that can be compared to a turkey ([Caleb Stewart Rossiter](#), *The Turkey and the Eagle: the struggle for America's global role*, 2010; Robert Stevenson, *How to Soar Like an Eagle in a World Full of Turkeys*, 2004). Strangely the comparison dates from an early controversy in the USA resulting from the preference of [Benjamin Franklin](#) for the [wild turkey](#) over the [bald eagle](#) -- depicted on the [Great Seal](#) of the USA (*The Eagle, Ben Franklin, and the Wild Turkey, Great Seal*). As Franklin declared:

I wish the eagle had not been chosen as the representative of this country. He is a bird of bad moral character; he does not get his living honestly. You may have seen him perched in some dead tree where, too lazy to fish for himself, he watches the labor of the fishing hawk and, when that diligent bird has at length taken a fish and is bearing it to his nest for his young ones, the bald eagle pursues him and takes the fish. With all this injustice, he is never in good case.

The comparison is explored otherwise in an anonymous Sufi-style tale: *Why Eagles fly and Turkeys are eaten*. It has been associated

with personal development (Chris Lewis, *Leading on Management: You Can't Fly with the Eagles thinking like a Turkey*, BeALeader, 3 November 2014; Jacquelyne M. Williams, *What Kind of Employee Are You? An Eagle or a Turkey?* Young Money; Melvina Harrison, *Are You Flying with Eagles or Gobbling with Turkeys?* Selfgrowth.com). Given such concerns, more intriguing is why empires and their invading armies have typically chosen rapacious eagles as their primary symbol.

The soaring eagle metaphor has been extensively contrasted with the condition of the chicken by Moira Crooks, arguing: *We were created to "rise up on wings like the eagle" (Isaiah 40:31B). Yet many people end up living their entire life as chickens that endlessly scratch out a limited existence in a chicken coop (Do You Want to Soar Like Eagles or Scratch Like Chickens? Conservatives 4 Palin, 1 November 2011).*

It is therefore useful to ask whether global governance, as currently envisaged, has the capacity to "fly" or whether it is condemned by the manner of its evolution -- and "feeding habits" -- to be comparable to many **flightless birds**, of which the extinct **dodo** is a renowned symbol. Have empires of the past become "flightless" before their final collapse?

The question here is whether there is more to be imaginatively explored in relation to governance and the capacity of birds to fly. However, with respect to how insights might be mistakenly applied to forms of governance which already "fly of their own accord", a cautionary comment is offered by **Pablo Triana** (*Lecturing Birds on Flying: can mathematical theories destroy the financial markets?* 2009). Is there a larger systems perspective to be elicited which might be of relevance to enabling global governance to really take-off and fly?

Underside of normality?

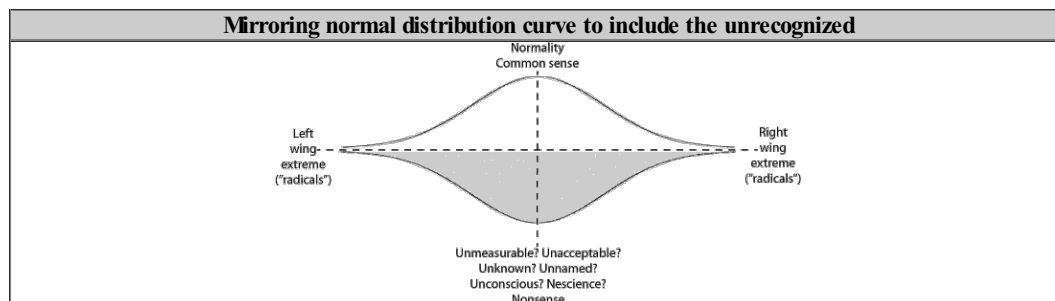
Lost significance of wings? Understanding of governance makes extensive reference to **left-right politics** -- with respect to the **political spectrum** of political positions, ideologies and parties. This has given rise to a distinctive sense of **left-wing politics** and **right-wing politics**. That distinction between left and right is believed to have dated from the physical position of those in the debating chamber at the time of the French Revolution -- a time of extremes, following the **Reign of Terror** (1793-1794) there.

Less evident is the origin of the metaphorical use of "wing". This could be assumed to have derived from an array of military forces in the face of the enemy -- to the right and left of the central command. As noted with respect to the tactics of the armies of Imperial Rome:

The normal arrangement was to place the infantry in the centre and the cavalry on the wings. The function of the latter was to prevent the centre from being outflanked and once the battle turned and the enemy started to retreat the cavalry moved forward and cut them down.... On level ground the force is drawn up with a centre, two wings and reserves in the rear. The wings and reserves must be strong enough to prevent any enveloping or outflanking manoeuvre. (*Roman Tactics*)

The latter includes seven specific instructions by the renowned Roman author **Vegetius** (*De Re Militari*) regarding the use of the wings of an army in relation to its centre. Whilst it is more obvious why a metaphor deriving from the wings of a bird was used to articulate military tactics, it is curious to note that in that period the two wings were understood as organically related to the centre in order to respond to any enemy by which they were together confronted. In current usage it would appear that much greater emphasis is placed on how political wings compete for precedence and power with the aim of controlling the centre and disempowering each other triumphantly. Their systemic function together in the face of strategic challenges is frequently of secondary concern.

Mirroring: The further speculation regarding flight in relation to governance is usefully framed by the device of mirroring the **normal distribution** of statistics, as follows. Of particular relevance is the appropriateness of incorporating "the enemy", as "the other", by which the wings are normally held to be challenged. This can be considered as needing to include that which has not been resolved -- whether left or right, or on "the dark side". Enemies are typically endarkened -- as being irrational or sub-human..



The approach offers a means of incorporating into the framework a sense of what is "unmeasurable" -- in contrast to the inherently measurable focus of any statistical distribution. Inclusion of "nonsense" would accord recognition to the reality of what many are held to espouse (**Alan Sokal** and **Jean Bricmont**, *Fashionable Nonsense: postmodern intellectuals' abuse of science*, 1999). The indication of the unconscious is consistent with the arguments of **John Ralston Saul** (*The Unconscious Civilization*, 1995) and **Vasily Nalimov** (*Realms of the Unconscious: the enchanted frontier*, 1982). It is also consistent with recognition of the "unsaid" as argued separately (*Global Strategic Implications of the "Unsaid": from myth-making towards a "wisdom society"*, 2003). It usefully holds what is typically "massaged out" of authoritative reports as being a statistical aberration.

This netherworld can also be explored in the light of nescience and ignorance in contrast to conventional assumptions relating to enlightenment (*Enlightening Endarkenment: selected web resources on the challenge to comprehension*, 2005; *Living with*

Incomprehension and Uncertainty: re-cognizing the varieties of non-comprehension and misunderstanding, 2012). Of relevance is the work of **Nicholas Rescher** (*Unknowability: an inquiry into the limits of knowledge*, 2009; *Ignorance: on the wider implications of deficient knowledge*, 2009) and **Stuart Firestein** (*Ignorance: how it drives science*, 2012).

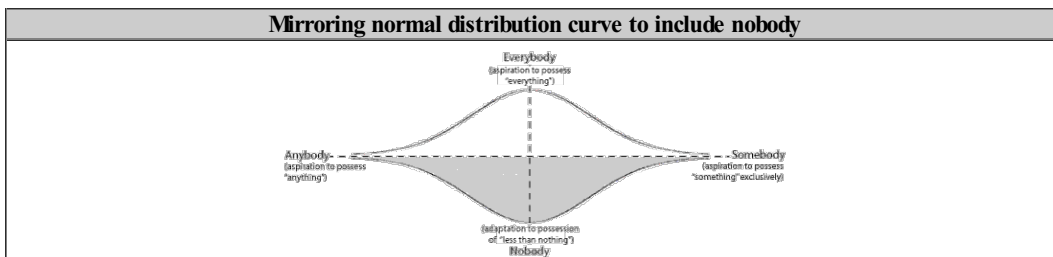
Especially relevant is the place then accorded to the "normality" of unacknowledged behaviours (abuse in domestic life, bullying in institutions, prison violence, etc) and the curious normality of injustice as experienced by many and ensured by some through patterns of **structural violence**. As an "underside", this has been fruitfully explored by **Elise Boulding** (*The Underside of History: a view of women through time*, 1976), although the metaphor can also be applied to scientific neglect (*Knowledge Processes Neglected by Science*, 2012; *Epistemological Challenge of Cognitive Body Odour: exploring the underside of dialogue*, 2006).

Its existence is also recognized to an increasing degree in terms of the so-called "black economy", the existence of "secret government" claimed by conspiracy theorists (*The Secret-Shadow Government*), and the global role of **corruption** and **organized crime**. Aspects of this are evident in common use of the phrase "under the table" with respect to transactions and agreements -- and with respect to recent disclosure of the global extent of secretive invasive surveillance.

The recent destruction of a plane by its pilot, with the tragic deaths of 150 passengers, is highlighting the role of depression and related ills -- notably unmeasurable in the case of the pilot, as is evident from the assertions of his employers.

Whole-system "under-standing": Inclusion of an understanding of a neglected shadow-side of society is necessarily fundamental to a more integrative whole-systems understanding to complement the simplistic objectivity of the focus of so many reports on the state of the world and its future. The nature of the relation between the latter perspective and the larger system calls into question the dynamics between the objective and the subjective, typically obscured by the static framing of titles of such reports (*Dynamic Transformation of Static Reporting of Global Processes: suggestions for process-oriented titles of global issue reports*, 2003). This is especially the case with respect to cognitive psychosocial dynamics. These can be provocatively highlighted by use of snoring as a metaphor and the paradoxical role of its denial (*Snoring of The Other: a politically relevant psycho-spiritual metaphor?* 2006).

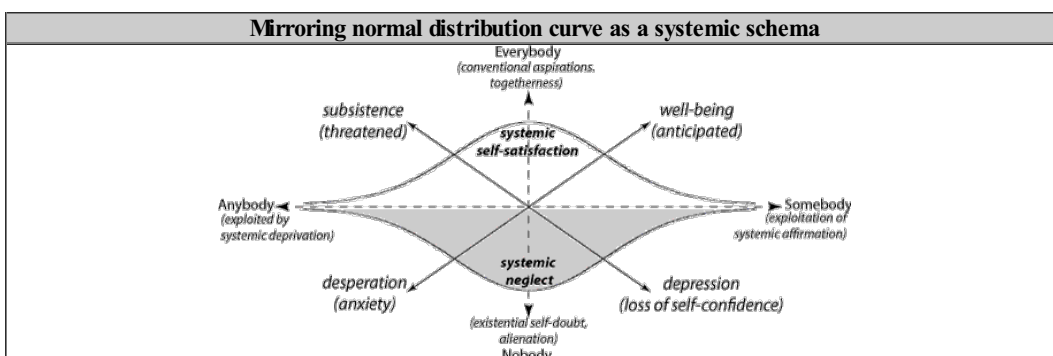
This speculative argument can be taken further in relation to governance by associating the dimensions of the widely commented *Story of Everybody, Somebody, Anybody and Nobody* within the above schematic. To that are added contrasting aspirations to possession. That with respect to "everybody" reflects the consumer society, that with respect to "somebody" that of elites seeking some form of monopoly holding, that of "anybody" reflects that desperate to possess anything, and that of "nobody" reflects the recent arguments of **Slavoj Žižek** (*Less Than Nothing: Hegel and the Shadow of Dialectical Materialism*, 2013).



The classic tale explores the relationships in terms of "who", but with respect to global governance such a pattern may also be explored in relation to the other WH-questions (*Responsibility for Global Governance: Who? Where? When? How? Why? Which? What?* 2008). The "who" variant from the latter -- corresponding to that of the original tale -- is as follows:

Responsibility for Global Governance -- Who?
<i>Everybody</i> is called upon to engage in an initiative of global importance
<i>Everybody</i> is sure that <i>Somebody</i> would do so
<i>Anybody</i> could do so, but <i>Nobody</i> does
<i>Somebody</i> is getting angry because it is <i>Everybody's</i> responsibility.
<i>Everybody</i> knows that <i>Anybody</i> could do so, but <i>Nobody</i> realizes that <i>Somebody</i> will not.
<i>Everybody</i> blames <i>Somebody</i> because <i>Nobody</i> did what <i>Anybody</i> could have done.

The implications of the above schematic, combined with the former, could be taken further by tentatively associating systemic issues with it as follows.



Lost art of bird watching?

Augury: At the time of the Roman Empire, birds were of considerable significance with respect to prediction of the strategic future through [augury](#). Undertaken by an [augur](#), this was the practice from ancient Roman religion of interpreting omens from the observed flight of birds. This included whether they were flying in groups or alone, what noises they made as they flew, direction of flight, and what kind of birds they were. The process was known as "taking the auspices". Irrespective of modern deprecation, the process was valued by an empire that last centuries longer than any of more recent times.

Ironically a modern equivalent might be use of the phrase "a little bird told me" or past use of a caged canary to detect mine gas. The ongoing extinction of entire species of birds has not however been treated as a warning equivalent to that of a single canary. It would have been treated more seriously by augurs of the past. Curiously it is now humanity that is being observed by "birds" -- in the form of drones -- communicating with their masters in a manner echoing the mythical role of birds with respect to deity.

It could be argued that the value associated with wings derives from the implications of the capacity to soar. Whilst characteristic of the eagle, it also echoes beliefs long associated with angelic and spirit beings -- typically endowed with wings, as indicated in images and arguments of [Matthew Fox](#) and [Rupert Sheldrake](#) (*The Physics of Angels: exploring the realm where science and spirit meet*, 1996). They comment on the remark of the mystic [Hildegard of Bingen](#): *Angels do not have wings as birds do, but fly many times as fast, at the same pace that human thoughts travel* (*Liber Vitae Meritorum*, p. 75):

We are used to the image of angels with wings, and its is a very ancient image, found in many traditions. There are winged spirits in shamanism; in Egypt, Babylon, and Sumeria; in Hinduism and Buddhism and in traditions all over the world. They are presumably related to the speed and movement of birds, to the experience of flying in our dreams, and to the shamanic experience of flying in trance. (p. 146)

In their extensive discussion of "fallen angels", however's, the authors make no reference to the implications of their wings as typically depicted.

The inspiration of birds has seemingly been lost through the transition of wings from their origins in augury, in military tactics, through seating arrangements in debating chambers, to the metaphorical connotations of the latter with respect to the political spectrum. Both birds, and especially wings, may remain evident in national symbols (on flags and seals), but their systemic implications would seem to have been completely lost. The [heraldic eagle](#) is however a common feature of empires from the period of Imperial Rome to its present use by the USA. Why?

Heraldic eagles of empires past and present				
France (Napoleonic)	Germany	USA	Russia (1917)	Spain
				

Derivations, typically highlighting wings, are a notably feature in distinctive [insignia](#) and badges of military units of many countries.

Curiously, but of the greatest relevance to this argument, all these depictions are static -- despite the current degree of technical innovation in dynamic representation. Thus the central symbols of the governance of today are "frozen", implying in consequence a total inability to fly -- but a potential to do so when "awakened". It is however potentially insightful to speculate on the dynamics amongst any "convocation of eagles" -- in the light of their dynamics in nature.

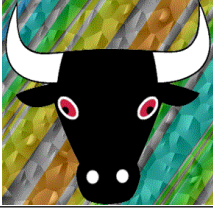

Laurels of achievement as folded wings? An echo of the form of wings -- even to the feathers -- is to be found in the form of the [laurel wreath](#) variously awarded ceremoniously. This followed from depictions of the head gear of deities, and possibly to be recognized as symbolic of angelic wings (of a very rudimentary nature). In Imperial Rome they were symbols of martial victory, crowning a successful commander during his triumph. More curious is the manner in which victorious Olympic athletes were originally rewarded with laurel wreaths for their gymnastic achievements. Their depiction in ancient times was a horseshoe shape, whereas modern versions are usually complete rings -- and, with respect to success in any field, are only awarded metaphorically.

Such an award is currently evident in the form of the [laureates](#) of [Nobel Prizes](#) and [Gandhi Peace Awards](#) -- perhaps to be understood as recognition of excellence in "cognitive gymnastics". Variants may be awarded for actions which could be recognized as "extreme", even "radical". Many now aspire to the possibility of "[resting upon their laurels](#)".

The laurel wreath, in its horseshoe form, is central to the logos of many international organizations, most notably the United Nations and its agencies. Strangely relevant to this argument, it frames a circle, symbolizing the planetary globe. This offers a complex of associations through bull-fighting, intercourse, and targetting the quest for an "egg" through which humanity can be sustained -- together with "development", and the "structural adjustment" for which the IMF is renowned.

Bull horns and laurel wreaths: Especially relevant to this argument, through the functional trace back to [bull-leaping](#) as the original Olympic sport, is the manner in which the configuration of some gymnastic challenges echoes the cognitive skills required in the past -- and the engagement with risk. The challenge could be said to have been dubiously and unconsciously transmogrified -- even neutered. This is strangely evident in the manner of response to the "[horns of dilemma](#)" -- presented as a *Wikipedia* essay introduced by reference to [dilemma](#), as being Greek for "two premises" and likened to the front end of an angry and charging bull.

The argument relating the form of the laurel leaf and that of the bull's horns (with the accompanying images) was original developed separately (*The O Ring and The Bull Ring as Spectacular Archetypes: dramatic correlation of theatre, theory, theorem, theology, and theosophy*, 2014).

Bull horns indicative of the horns of a dilemma (reproduced from <i>Wikipedia</i>)	Laurel wreath (reproduced from <i>Wikipedia</i>)
	

Game-playing: The current game-playing within various arenas -- O-rings in their own right, with their various targets -- can then be understood as having "de-horned" the dangers of dilemmas in favour of enabling an "o'er leaping" of threat in the present moment -- as suggested by Shakespeare (*But here, upon this bank and shoal of time. We'd jump the life to come*). This might even be considered a central characteristic of political decision-making, as separately argued (*Vigorous Application of Derivative Thinking to Derivative Problems*, 2013).

This "story" can be explored through a set of images, as undertaken separately (*Transformation of Global Governance through Bullfighting: visual symbols and geometric metaphors*, 2009). Some of these are presented and commented below. As indicated by the first set of three, it is within this ring that the matador confronts the bull, as with any confrontation with otherness or between polar opposites (right/wrong, positive/negative, female/male, etc). Contrasting colours are used to indicate such incommensurable differences.



As a result of a simplifying "executive" decision, the emergent order on its own, readily lends itself to simplistic representation -- with a consequent difficulty in encompassing the "excised" complexity implicit in the representation.



The challenge of any "other" (epitomized by the bull) having been overcome, the victor (the matador) now "rests on the laurels" -- emblematic of that victory. Differences have been eliminated, or can be ignored, as a result of that achievement -- or so it may be assumed. Harmony is implied.

From a global perspective, the laurel branches now frame an understanding of globality and integrity. Global differences are assumed to have been indistinguishably harmonized in an ordered world of higher values. Underlying discordant dynamics can be ignored -- having been cut out as a disassociation from the Dionysian -- identifying Zeus with Apollonian values.

The ends of the laurel branches are opened to "release" global understanding in both its planetary and integrative senses. It can now be understood as finite but unbounded rather than constrained by a grid. As such it is now associated symbolically with a range of [Sun god](#) symbolism.

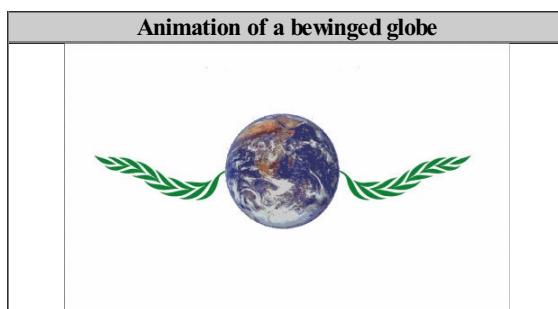
Forgotten wing movement implied by laurel wreaths? The images above raise the provocative question as to whether the break in the laurel wreath implies an inability to recognize any complex cycle and to address strategic issues which take cyclic form (*Web resources on "breaking the cycle"*, 2002). Reverting to strategic dilemma, as implied by the form of the bull's horns (and echoed by the laurel wreath), is there a fundamental inability to "grasp the bull by the horns" -- as suggested, for example, by David Alexander (*Grasp this Bull by the Horns! Making our energy and environment plans, Planet Thoughts*)?

Is the use of the laurel wreath in UN logos an indication of the extent to which "resting upon laurels" has been institutionalized globally? Does widespread use of the wreath imply that bodies using it have effectively "folded their wings" -- especially given the degree to which such wreaths are used in funeral ceremonies? Is it any wonder that imagination is inhibited with respect to enabling global governance to "take off" and "fly".

In the aspirations that the strategic initiatives of global governance should "fly" sustainably, is there a degree of confusion with the the other sense of "fly" and "flight"? As framed, does the aspiration conceal the recognized desire of governance to flee from the more fundamental challenges of global society? Is such "flying" a matter of problem avoidance?

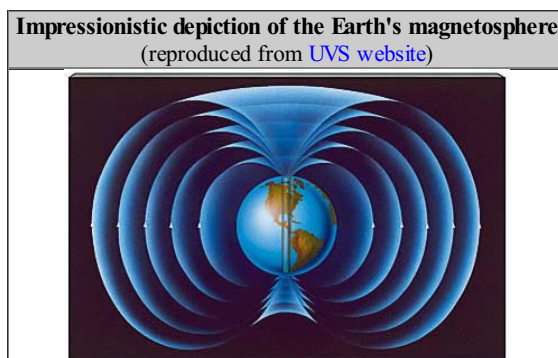
It might be asked whether the widespread use of enthusiastic [hand-clapping](#) in applause -- at governance-related gatherings and presentations -- offers the faintest of reassuring cultural memories of the possibility of coordinated wing movement, and possibly its implications for soaring. The sense of coordination is all the greater when the clapping is done to a rhythm.

Imagining the dynamics of a bewinged globe: A different possibility can be imagined through recovering the sense of wings implied by the opposing laurel branches of convention and then recognizing the dynamics such wings might imply. This is the purpose of the following animation -- which could obviously be rendered more elegant with greater skill, and with greater inspiration from bird wing movement, as required to sustain flight. Variants could also be explored to indicate the movements required for "strategic take-off" as a prelude to sustainable flight.



Of particular interest is the manner in which the distinct leaves in each branch offer reminders of the various forms of feather on the wings of a bird. Also of relevance to the argument here is the **vital role for controlled flight, of those at the extreme tips of each wing, with regard to the potential necessity radical extremes in socio-political systems.** As suggested by the earlier images, the wings and their feathers could be variously coloured in a more sophisticated animation -- possibly one in which the perceived colours changed with the light, as in the case of bird wings. The individual feathers could be associated with the distinct ideological factions of each political wing -- and appropriately coloured. The animation could be further improved by having the symbolic globe rotate according to the rhythm of the beating wings.

More suggestive is to relate the "wings" to depictions of a geophysical phenomenon such as the **magnetosphere** formed by a fundamental polarity, as shown below -- provocatively suggestive of "angelic wings" in visual terms (as discussed below)..



Language of the birds: A quite different interest in the matter relates to the widespread mythology regarding the **language of the birds**, as discussed separately (*Re-Emergence of the Language of the Birds through Twitter?* 2010).

The Hudson River is of course the location of the headquarters of the United Nations with its many laurel-wreathed logos. In terms of the bull metaphor, sadly the UN has been emasculated since its Secretary-General framed the **Iraq intervention as illegal.** This disempowerment seems to have been further reinforced by highly controversial invasive surveillance (*Alleged Breach of UN Treaty Obligations by US: press coverage and commentary following WikiLeaks cable dissemination*, 2010).

Thus framed, the Brooklyn accent, native to the location facing the United Nations across the river, can be used to offer a twist to the above argument in a tormented world.

Ode to de Drone as de Boid of de Day (inspired by one of the many improbable variants of the Brooklyn National Anthem)		
De spring is sprung, de grass is riz I wonder where de boidies is? De boid is on de wing, but dat's absoid, De wing is on de boid De grass is riz, de trees is green And in de moitle tree a boid is seen. A boid is seen and also hoid And also felt. He dropped a toid. Dis gets wise	And so de boid what did doit Has got to die and dat's a coit I gets me gat intent on moider Detoimined dis won't get no foider Oh boy! Oh boy! Am I pertoibed I lifts me gat de boidie choips I gotta give de squoit de woiks But in de moitle tree above There sits a little toitle dove Remember moitle?	I've got me shooter primed but now 2 boids are sitting on de bough And so, I cannot shoot de dove Because de spring's de time for love

Surprisingly the concern with whether conceptual models would "fly" was fundamental to the thinking of **Ludwig Wittgenstein**, as noted by the philosopher **Susan G. Sterrett** (*Wittgenstein Flies a Kite: a story of models of wings and models of the world*, 2006).

Bird flight as offering a global transformation of systemic perspective

Biomimicry: The relevance of bird flight is far more evident in the light of the emerging discipline of [biomimicry](#) or biomimetics (*Biomimicry: An Economic Game Changer*, 2007). This is the imitation of the models, systems, and elements of nature for the purpose of solving complex human problems. Attention to bird flight has figured significantly in the development aircraft, and most notably the helicopter. In his *Codex on the Flight of Birds* (1506), Leonardo da Vinci made observations of birds and flight to try to discover how humans could fly.

[Etienne Oehmichen](#) derived his most important insights from the study of insects and birds (*Nos maîtres les oiseaux: étude sur le vol animal et la récupération de l'énergie dans les fluides*, 1920). His work is now being applied to the development of drones. There is some irony to the fact that aircraft, especially military aircraft and drones, are commonly termed "birds".

The argument is reinforced by recent announcements (*Feathers in flight inspire anti-turbulence technology*, RMIT University, 23 March 2015; American Institute of Physics, *Industrial pump inspired by flapping bird wings*, *ScienceDaily*, 3 February 2015). The design of [micro air vehicles](#) takes inspiration from flying insects or birds to achieve unprecedented flight capabilities (G.C.H.E. de Croon, *The DeFly: Design, aerodynamics, and artificial intelligence of a flapping wing MAV*, 2015). Biological systems are not only interesting to MAV engineers for their use of unsteady aerodynamics with flapping wings; they are increasingly inspiring engineers for other aspects such as distributed sensing and acting, sensor fusion and information processing.

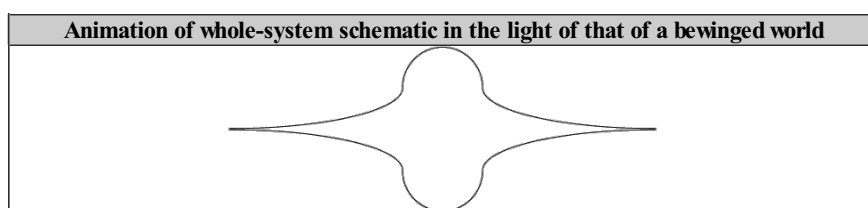
Technomimicry: The argument for biomimicry can be extended to technomimicry in the light of the work of [Arthur M. Young](#). He was the designer of [Bell Helicopter's](#) first helicopter, the Model 30, and inventor of the stabilizer bar used on many of Bell's early helicopter designs. The approach is inspired by his subsequent aspiration, through generalizing from those technical challenges, to envisage the design of a "psychopter" (*The Bell Notes: A Journey from Metaphysics to Physics*, 1979). The process has been discussed separately in the light of his efforts elucidate from it the principles of operation of such a "psychopter" (*Engendering a Psychopter through Biomimicry and Technomimicry: insights from the process of helicopter development*, 2011)

For Young, the process of achieving a degree of identification can be considered by contrasting learning to control a known vehicle (a bicycle, an automobile) with learning to control a vehicle which has never been controlled before. The latter process has been significant in the decades of development of the vehicle which eventually took the current form of a helicopter. Its invention implied an iterative process -- for the inventor -- of testing the possibility of ensuring its stability.

The irony of the use of "model" -- as descriptor of both tangible vehicles under development, and of intangible theoretical constructs -- merits consideration. This is especially the case with respect to "models" employed for collective initiatives -- as with ["conceptual models"](#), ["business models"](#) and ["strategic models"](#) -- namely the vehicles with which psychological, social and economic "space" is navigated. This indicates the possibility of understanding models, whether tangible or intangible -- without or within -- as both [philosophical constructs](#) and as the preoccupation of [social constructionism](#) and [personal construct theory](#). The challenge of how to embody them remains.

Whole-system governance: It cannot be too heavily emphasized that birds, through their capacity to fly, merit the most careful consideration as exemplifying the [viable system model](#) of cybernetics. As indicated by John J. Videler: *Birds are pilot and aircraft in one* (*Bird flight modes*, 2006). It is in this sense that the challenges of global governance merit some reflection from a "bird's eye" perspective. How do they manage to take off and fly sustainably -- even between continents of the globe (as only recently emulated by airplanes)?

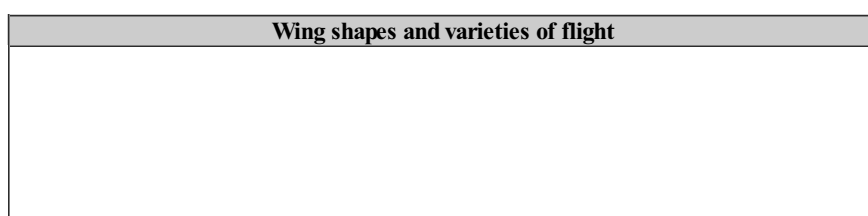
The following schematic suggests a way of thinking which encompasses both the earlier whole-system schematic and the later animation of a bewinged world.

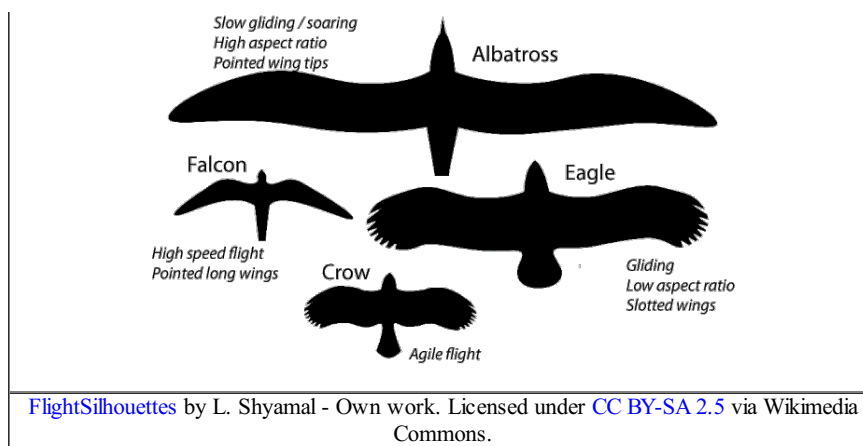


Styles of flight as styles of governance

Bird flight: The many species of birds offer numerous examples of styles of flight as implied by the image below. These can be readily explored with respect to the flight of aircraft and the necessary control systems (Hendrik Tennekes, *The Simple Science of Flight: from insects to Jumbo Jets*, 2009).

The question here is how these might be compared with styles of governance. Curiously the military has explored such parallels in distinguishing many aircraft -- known as "war birds" -- by use of the names of raptors.





Bird flight is dependent on the shape of the birds wings and the way they use them. Typically the modes of bird flight distinguished are gliding (or soaring flight), and flapping (or powered flight). As noted by Gordon Ramel (*Bird Flight*):

However, birds use flight in different ways, some are on the wing most of the time, while others make only short flights from one perch to another. Also birds live in different habitats which generate different aerodynamic problems. It is not surprising then that birds of different species have different shaped wings.

Changing the shape of a wing gives it different aerodynamic properties. One way to assess these properties is to measure what is called the 'aspect ratio'. This is the ratio of wing area² divided by wing breadth. Long wings are better for gliding but harder to flap quickly and are therefore not much good at quick acceleration. Another way to look at flight capabilities is to look at 'Wing Loading', this can show the differences between birds with similar wing shapes but different sizes. Wing loading is the relationship between total body mass and total wing area, it is expressed as grams of body mass over centimeters squared of wing area.

The quest for sustainability in global governance is remarkably suggested by the capacity of birds to glide. Again for Ramel:

Many soaring or gliding birds appear to hang in the air effortlessly, gaining height with barely a twitch of a wing. These are birds like Vultures, large raptors, Pelicans and Storks with a high lift to drag ratio. Essentially this means that their wings generate a lot of lift without producing much drag. Large birds have evolved to be gliders partly because gliding becomes easier the larger your wings are and obviously small birds cannot have large wings. Secondly, the mechanics of flapping flight become harder to attain the larger you get.

Gliding flight is notably enabled by the ability of birds to make use of thermals or updrafts resulting from the uneven heating of air at the surface. These issues are remarkably explained and illustrated in the lecture notes of [Gary Ritchison](#) (*Bird Flight I*, *Bird Flight II and Other Means of Locomotion*).

Their translation into language of relevance to governance should not be considered "rocket science". There is of course the greatest irony to the manner in which governance is in many cases dependent on "hot air". Do flight modes of birds may instructively into the possible styles of governance -- when able to fly? For example, an approach of potential relevance to governance is understanding of the use by birds of intermittent bounding and undulating flight modes (Jeremy M. V. Rayner, *Aerodynamics and Energetics of Intermittent Flight in Birds*, *American Zoology*, 41, 2001).

Further to the cited assertion by John J. Videler: *Birds are pilot and aircraft in one* (*Bird flight modes*, 2006), it is useful to stress the recognition that birds can be considered in terms of the [viable system model](#) of cybernetics. It is appropriate to recognize the extent to which the aerodynamics of flight in birds has been explored in relation to that of aircraft. Missing is any effort to relate insights from both the flight of birds and that of aircraft to the challenges of psychosocial system governance -- understood in systemic terms, since each of the three requires a particular form of governance

From walking to flying : Walking as a metaphor offers one way of exploring the relation between left and right -- given the ready association with the left and right legs, and the desirability of their coordinated movement (*Learning to Walk as a Metaphor for Transcending Duality*, 1994).

Contemporary society is bedeviled by dilemmas, dualities and polarized debates, especially in the political arena. No satisfactory way has been found to transcend this condition. The response has been to favour democratically one pole of a dilemma at the expense of another for as long as this is feasible -- however obvious it becomes that both extremes hold vital truths for society. It is useful to recognize that the ability to throw rocks, missiles or missives is not an indication of the flying capacity of a civilization.

But the challenge to understanding of any transcendence is absolutely fundamental. It is not simply the resolution of an intellectual game of thesis/antithesis/synthesis, as should be obvious from the difficulties in dealing with such extremes, if only in the political arena.

There is therefore merit in learning from a metaphor based on experience to which all have been exposed, namely learning to walk -- or learning to fly, for some. Neither is a static, mechanistic process. Coordinating leg movement to the degree that makes it possible to stand upon two legs, and walk with them, is far from being simple. Transcending dualities can usefully be seen through such a

metaphor, because walking is considered so trivial once it has been learnt. It is not however seen as trivial by an infant or by those who have to relearn it after an accident.

Given that birds both walk and fly, there is a case for contrasting these modes with respect to how governance might operate when also able to fly (Luis M. Bautista, *To walk or to fly? How birds choose among foraging modes*, *Proceedings of the National Academy of Sciences of the USA*, 98, 2001).

Alternation and its dynamic: The challenges of transcending dualities can be seen in the light of the stages of learning to walk. The challenge for a collectivity of learning to fly -- metaphorically -- can be similarly explored.

There are questions of security and fear of falling, which may require an inhabitant act of faith in the stability of the walking process (as is the case in learning to ride a bicycle). Associated with this is the problem of holding on, and learning to detach oneself from support structures. There is the challenge of orientation, notably whilst in movement.

But the art -- seemingly in both cases -- lies in a process of alternation. In the case of walking, the load is shifted between the two supporting legs as they are moved in sequence. There is an intuitive appreciation of this in the arguments for alternation between parties in government (especially appreciated as 'alternance' in French) -- although the current procedures for achieving this can only be described as chaotic and reminiscent of a drunkard attempting to walk (although the equivalent challenge for a spastic might be even more descriptive).

The challenge of transcendence is therefore a challenge to learn a pattern experience which is essentially dynamic. It is a pattern of movement which ensures stability (as is the case in certain meditative breathing exercises). People are only able to stand still by ensuring the continuous interplay of certain sets of muscles and processes. This calls for the ability to continually reconfigure, as is the case with walking. Such dynamic stability could be considered an important feature of 'sustainability'.

Polarities as limbs -- or wings: Polarities can be used like limbs to support a body of awareness. To understand experientially what is a limb in this context, there may be merit in exploring the evolutionary origin of limbs -- on the understanding that 'psychogeny' may replicate ontogeny. And a form of psychogeny may be replicated during daily life. The simpler forms of integrative experience can be considered amoeboid or amorphous. For example, sleepily stretching out an arm from bed in the morning to turn off an alarm clock bears more resemblance to extruding a reabsorbable pseudopod than using a limb. There may well be stages to patterned experience equivalent to the emergence of true opposing limbs, passing through those of an insectoid nature. How many limbs does one need to support one's current body of awareness?

Such conceptual limbs can be used for locomotion through a more paradoxical space. As is already evident, they can be used as weapons in attack and struggle. One pole of any polarity is always a useful weapon to attack another (objectivity vs subjectivity, head vs heart, abstract vs concrete, left vs right, etc). Other kinds of struggle become possible when the use of both limbs can be coordinated.

Polarities as limbs can also be used for mutual support: in a wind, on a cliff, when intoxicated, etc. Other kinds of support may be possible when use of both limbs can be coordinated. There is a need to be attentive to efforts to handicap collective awareness by effectively cutting off a limb to repress one polar alternative. This leads to conditions analogous to paraplegia, where locomotion is only possible by limping or hopping, if at all. Reluctance to challenge, formulate reservations and use negatives has become a new form of social disease, notably in North America. Our civilization may yet sink under the weight of upbeat reporting and the inability to face up to challenges.

Empowering democratic take-off through coordinated "wing flapping"

Democratic deficit: There is considerable debate regarding the inadequacies of the democratic process and the consequences of the [democratic deficit](#). Indeed the "underside" of the above schematics could also usefully recall that deficit.

As portrayed by the media, **conventional politics involves much "flapping" -- characterized by uproar and social agitation** (Michael Kelly, *Flapping Furiously: political follies of 2000*, *Orlando Sentinel*, 21 September 2000; Morgan St James, *The GOP hawks are flapping their wings over the Ukraine*, *Examiner*, 5 March 2014; Vernon Bogdanor, *Flapping about in the wind of change*, *Times Higher Education*, 25 September 1995). This may also be recognized as involving "wing flapping" by individual political movements -- and notably on the part of the factions within them (Henry Brown, *Blue Pill Politics: which wing is flapping?* *Virtual Pulp*, 23 November 2014).

It is remarkable to note the impoverished nature of current political debate between right and left wing perspectives -- even to the point of "[legislative violence](#)", namely physical violence amongst factions in debating chambers. This has profound implications for the quality of thinking undermining the governability of society, especially globally (*Ungovernability of Sustainable Global Democracy?* 2011).

Given the ongoing quarrels between right and left, it might be asked whether an even more impoverished dynamic could be imagined -- or one less "fit for purpose". Especially noteworthy is the triumphalism exhibited by right or left when that wing becomes dominant. It is only the handicapped and inebriated who merit applause at the ability to move one leg in front of the other.

The sense in which the wings might have some coordinated function in response to strategic challenges would only seem to figure in the occasional emergence of "bipartisan" initiatives and statements to the effect that "this house is of one voice". However the issue here is not the distinctive calls a bird is able to make -- a capacity common to many species -- but rather how it manages to fly.

Wing flapping by birds: It is of course the case that birds "flap" their wings. This is however done in a coordinated manner. It is this coordination which renders take-off possible as a necessary prelude to flying -- and to sustain flight thereafter.

In the light of the arguments for biomimicry and technomimicry -- and the examples of relevance to aircraft flight -- **does the process of**

wing flapping by birds offers insights for the coordinated action of socio-political wings and their sustaining ideologies?

Considerable work has been undertaken from a biomechanical perspective into the operation of wings. This is now being assiduously applied to flight by robots (Kevin Fogarty, *Army lab asks help building wing-flapping robot fly*, *Computerworld*, 19 December 2014; Augustus Van Dusen, *A Mechanical Bird with Independently Flapping Wings*, *Thinking Machine Blog*, 13 May 2013). ****

Clearly systems of governance, despite being endowed with wings, have been unable to gain insight into how they might be used **together** as a further development of current understandings of **bipartisanship**. The latter has even be deprecated, as suggested by **George Carlin**: *Bipartisan usually means that a larger-than-usual deception is being carried out* (2006).

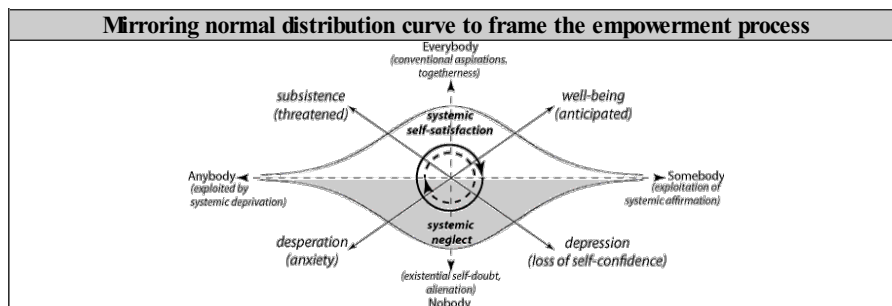
The common appeal for "solidarity" is not indicative of the insight into the nature of the requisite coordination. Efforts to ensure that the political wings "sing from the same hymn sheet" are suggestive of greater insight, especially since the disposition of the distinctive functions of any choir recalls the original positional location of parties in a parliamentary assembly. There is however little effort to understand the theory of harmony relevant to singing inspired in this way. Use of Beethoven's *Ode to Joy* as the **Anthem of Europe** cannot be said to have offered the slightest insight with respect to its governance, as discussed separately (*A Singable Earth Charter, EU Constitution or Global Ethic?* 2006). Nor does such insight appear to have been sought -- despite the many calls for greater harmony in relation to governance and global strategy.

Vertical take-off ? The most optimistic vision of democratic governance is to imagine some possibility usefully caricatured as "vertical take-off". Given the extensive investment required to develop the technology for viable rocket take-off (to achieve escape velocity and sustainable orbit), it is as yet far from being recognized that equivalent insight might be required in achieve "democratic take-off".

A more questionable view would associate belief in divine intervention with a form of democratic take-off -- as with those anticipating prophesied **rapture** (or being "**beamed up**" in Star Trek terminology). It is unfortunate that the form of the laurel wreath echoes and reinforces raised arms -- with hands occasionally clasped in prayer -- inhibiting any more creative thinking with regard to innovative approaches to global governance.

An even more speculative possibility, with a long tradition, is the so-called **magic carpet**, as separately discussed (*Magic Carpets as Psychoactive System Diagrams*, 2010).

Whole-system empowerment? Static representation of the earlier whole-system schematic raises the question of how flying might be empowered, as provocatively suggested by further elaboration of the above schematics.



In the case of a wing-flapping model, how do socio-political wings elicit and focus their energy in coordinated action. Inclusion of a darker "underside" suggests that this may be of considerable significance to an energizing process. This recalls the arguments of **John Maynard Keynes** regarding so-called **animal spirits** (*The General Theory of Employment, Interest and Money*, 1936). Arguably there is some form of circulation -- possibly a bi-directional (self-reflexive) cognitive metabolic pathway, as suggested by a further adaptation of the schematic.

Missing from the two-dimensionality of the static representation is the sense in which the whole-system is moving forward in time -- through a third dimension towards a future (along an axis from which the schematic is observed). In this sense the schematic recalls the role of the jet engine in powering the flight of mechanical birds -- clearly not dependent on wing-flapping. If appropriate, how might the "jet engine of governance" be designed -- or is the metaphorical imagination focused only on an "engine of governance" based on technology inadequate for flight?

System failure and collapse: Any focus on how the flying of a whole system is empowered sustainably necessarily highlights the nature and renewability of the energy on which it is dependent. In this sense the underside of the schematic offers a systemic reminder of seemingly inbuilt fatality -- whether for the individual or the collectivity (*Cognitive Implications of Lifestyle Diseases of Rich and Poor: transforming personal entanglement with the natural environment*, 2010). Especially interesting, in the light of the current attention to depression, is the sense in which the coherence of any system is undermined from within through massive loss of (self)confidence -- most evident in the erosion of collective memory (*Societal Learning and the Erosion of Collective Memory*, 1980).

This erosion from within could be caricatured as a process of "**white anting**". It is appropriate to speculate whether the collapse of empires is significantly due to the collapse of collective self-confidence and of the "will to change" much sought with respect to global governance (Allen McDuffee, *All We Need Is the Will to Change*, *The Atlantic*, 2 November 2014). This suggests a way of reframing the massive current investment in invasive surveillance by a global civilization that has lost confidence in itself. The process is evident in the extent to which confidence is progressively eroded in the truths proclaimed by advertising, the associated media bias, and the manner in which the results of research may themselves be biased by funding constraints. The miscarriage of justice, increasingly evident, clearly reinforces an erosion of trust -- otherwise recognized as vital to the financial system

Lift, banking and control as functions of radical extremes

Psychosocial implications of lift and drag on a wing: It could be considered extraordinary how the terminology fundamental to achieving flight by aircraft is shared with preoccupations in daily life, especially:

- **lift:** Most obviously this is recognized in processes which are in any way uplifting, especially from conditions which may be associated with depression. Medication may notably be taken to this end -- "happy pills".

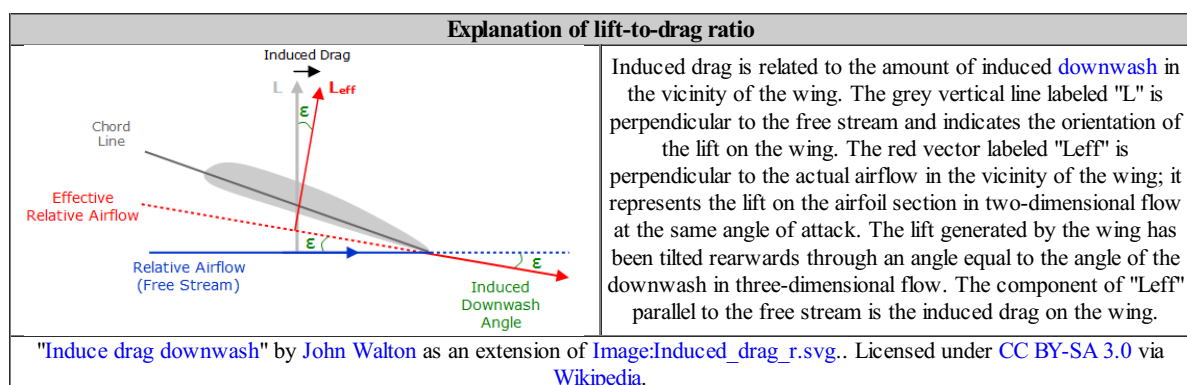
The relation between psychosocial lift and aerodynamics has been explicitly explored by Ryan W. Quinn and Robert S. Quinn (*Lift: becoming a positive force in any situation*, 2009) combining research and experience to demonstrate how people can elevate themselves and situations to greater heights of integrity, openness, and achievement -- understood as the psychological equivalent of aerodynamic lift. They frame their argument in terms of a 4-fold set of complementary metaphors reconciling psychological states with aerodynamic conditions of lift:

- other-focusedness, as to others: the approach of airplane's wing's takes to the air can lead those particles to put pressure under the wings and providing lift to the aircraft -- considered indicative of how people can help each other
 - externally open: flight controls enable a pilot to receive feedback on and adapt to changes in wind and weather conditions
 - internally directed: design of wings in a manner consistent with aerodynamic laws that enable them to maximize lift -- considered indicative of engagement with others can enable them to lift each other
 - purpose-centered: understood as the requirement for an engine propelling the aircraft forward towards its destination.
- **drag:** Drag is the force that acts opposite to the direction of motion. This is a common metaphor for conditions by which people are dragged "down" by the dynamics of a situation and especially the interaction with others. It features in the study by Claude Lichtenstein and Franz Engler (*Streamlined: A Metaphor for Progress -- the esthetics of minimized drag*, 1996).

Given the immense amount of research on [airfoil](#) and wing design for aircraft, the question is whether more can be discovered of relevance to the operation of "wings" as they are understood metaphorically, and notably with respect to governance. In this light, how best to "translate" the explanation of *Wikipedia*:

An airfoil-shaped body moved through a [fluid](#) produces an [aerodynamic force](#). The component of this force [perpendicular](#) to the direction of motion is called [lift](#). The component parallel to the direction of motion is called [lift-induced drag](#).... The lift on an airfoil is primarily the result of its angle of attack and shape. When oriented at a suitable angle, the airfoil deflects the oncoming air, resulting in a force on the airfoil in the direction opposite to the deflection.... Most foil shapes require a positive angle of attack to generate lift, but [cambered](#) airfoils can generate lift at zero angle of attack. This "turning" of the air in the vicinity of the airfoil creates curved [streamlines](#) which results in lower pressure on one side and higher pressure on the other. This pressure difference is accompanied by a velocity difference, via [Bernoulli's principle](#), so the resulting flowfield about the airfoil has a higher average velocity on the upper surface than on the lower surface. The lift force can be related directly to the average top/bottom velocity difference...

In aerodynamics, the [lift-to-drag ratio](#) is the amount of lift generated by a wing, divided by the aerodynamic drag it creates by moving through the air -- an understanding with obvious implications for any political wing in response to the "winds of change"..



Missing from psychosocial understanding of lift and drag is the nature of their possible fruitful relationship. Lift is too readily associated with simplistic understandings of "positive", and "drag" with negativity, as separately discussed (*Being Positive Avoiding Negativity: management challenge of positive vs negative*, 2005). As otherwise explored in the latter, the moral of the story might be expressed as: **no lift without drag** -- despite widespread assumptions to the contrary

As recognized in aircraft take-off and landing, the issue is how to get the angle right. Curiously some sense of "angle" is frequently used in political strategy development -- especially in public relations preoccupied with the acceptance required for a strategic concept to "fly".

Aircraft "wing tips" as indicative of the role of ideological extremes? Are radicals the wingtip devices of global governance?

With respect to the flow of air over a wing, *Wikipedia* notes:

When producing lift, air below the wing is generally at a higher pressure than the air pressure above the wing, while air above the

wing is generally at a lower than atmospheric pressure. On a wing of finite span, this pressure difference causes air to flow from the lower surface wing root, around the wingtip, towards the upper surface wing root. This spanwise flow of air combines with chordwise flowing air, causing a change in speed and direction, which twists the airflow and produces vortices along the wing trailing edge. The vortices created are unstable, and they quickly combine to produce [wingtip vortices](#). The resulting vortices change the speed and direction of the airflow behind the trailing edge, deflecting it downwards, and thus inducing [downwash](#) behind the wing.

Wingtip vortices modify the airflow around a wing. Compared to a wing of infinite span, vortices reduce the effectiveness of the wing to generate lift, thus requiring a higher angle of attack to compensate, which tilts the total aerodynamic force rearwards. The angular deflection is small and has little effect on the lift. However, there is an increase in the drag equal to the product of the lift force and the angle through which it is deflected. Since the deflection is itself a function of the lift, the additional drag is proportional to the square of the lift.

It is in order to reduce the effects of such drag that special attention is given to [wing tip devices](#), as described by *Wikipedia*:

Wingtip devices are usually intended to improve the efficiency of fixed-wing aircraft. [There are several types of wing tip devices, and although they function in different manners, the intended effect is always to reduce the aircraft's drag by partial recovery of the tip vortex energy. Wingtip devices can also improve aircraft handling characteristics and enhance safety for following aircraft. Such devices increase the effective aspect ratio of a wing without materially increasing the wingspan. An extension of span would lower lift-induced drag, but would increase parasitic drag and would require boosting the strength and weight of the wing. At some point, there is no net benefit from further increased span. There may also be operational considerations that limit the allowable wingspan (e.g., available width at airport gates).

The wing tip feathers on a bird's wing can be understood as performing a similar function. The question is how the extreme factions -- the radicals -- of any political wing perform equally valuable functions. There is a delightful irony to the association of Boeing with "radical" innovations (Arvind Malhotra, *Radical Innovation without Collocation: a case study at Boeing-Rocketdyne*, *MIS Quarterly*, 25, 2001; Matt Molnar (*Boeing Says Radical New Winglets on 737 MAX Will Save More Fuel*, *NYC Aviation*, May 2012; *Boeing shows radical design for 737 MAX winglets*, *The Seattle Times*, 2 May 2012). Is "radical" mysteriously associated with creative strategic redirection -- in ways calling for greater insight?

In the words of Tariq Malik (*On Bended Wing: flexible flying machines*, *NBC News*, 28 April 2004):

"At that scale, we wonder should we be looking at flapping our wings to fly," he said. "We look at birds that soar, like some hunting birds like hawks or falcons, which soar until they see a mouse or something to attack, then tuck in their wings and dive." The key, Myers said, is a bird's control of the feathers that line the tips of its wings. By changing the orientation of those tip feathers, birds are able to roll and turn in flight, he added. Even the Wright brothers looked at large soaring birds for hints at warping their wing shapes.

Flaps, ailerons and trim tabs as sources of insight: These devices, extensively researched in aeronautics, are distinguished as follows:

- [flap](#) is a device used to alter the lift characteristics of a wing of a [fixed-wing aircraft](#). They are mounted on the [trailing edges](#) of the wings to reduce the speed at which the aircraft can be safely flown and to increase the angle of descent for landing. They shorten takeoff and landing distances. Flaps do this by lowering the [stall speed](#) and increasing the drag.

Clearly related functions are performed by the ability of a bird to alter the orientation of a wing, notably when landing. In contrast to use of "flapping" in the argument above, the question is how an equivalent function is performed by a political or ideological wing in response to the challenges of governance. An initial question is whether such a function is even distinguished and named -- and studied

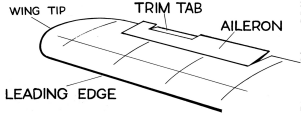
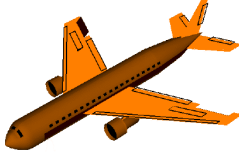
- [aileron](#) is a hinged [flight control surface](#) usually attached to the trailing edge of each wing of a fixed-wing aircraft. Ailerons are used in pairs to control the aircraft in [roll](#) (or movement around the aircraft's longitudinal axis), which normally results in a change in flight path due to the tilting of the [lift vector](#). Movement around this axis is called 'rolling' or 'banking'.

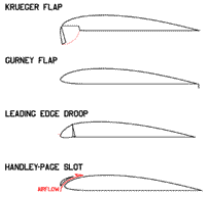
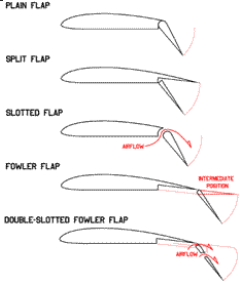
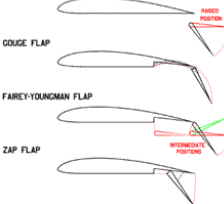
Again it is clear that related functions are effectively performed through the wing muscles of a bird. Again there is the question of how this function is recognized and performed by political wings in governance to enable sensitive responses to changing conditions. It is perhaps indicative that the difficulty of using aileron figuratively has been a continuing concern.

- [trim tabs](#) are small movable sections resembling scaled down ailerons located at or near the trailing edge of the aileron. On most propeller powered aircraft, the rotation of the propeller(s) induces a counteracting roll movement for which the trim tabs provide a means of adjustment to trim out the pressure needed against any unwanted movement.

Considerable significance psychosocial has been given to trim tab as a metaphor by [R. Buckminster Fuller](#) (who so defined himself [on his tombstone](#)): *So I said that the little individual can be a trim tab. Society thinks it's going right by you, that it's left you altogether. But if you're doing dynamic things mentally, the fact is that you can just put your foot out like that and the whole big ship of state is going to go.* As a consequence, the metaphor has been widely explored by

others (Linda Gabriel, *The Power of Trim Tabs: how small changes create big results*, *Thought Medicine*, July 2010; Jaime Snyder, *Trimtabbing: changing the course of our world*).

Aileron and trim tab	Animation of aircraft 'rolling', or 'banking', with its ailerons
	
By Pearson Scott Foresman, via Wikimedia Commons	By NASA (Glenn Research Center, NASA) via Wikimedia Commons

Varieties of flap		
		

It is unfortunate that the figurative use of these features of control of an aircraft (as in the case of the trim tab) are not further inspired by the dynamics which are such a characteristic of aerodynamic research.

Implications of biomimicry for artificial intelligence

Governance can be fruitfully understood as a complex system of cognitive processes. It is therefore appropriate to note the exploration of artificial intelligence in the light of bird flying capacity -- from the perspective of biomimicry.

In multiple extensive reviews of a seminal paper by [Allen Newell](#) (*Unified Theories of Cognition, Artificial Intelligence*, 59, 1993), attention is drawn to arguments from a seemingly unrelated discipline which are nevertheless potentially of great relevance to the argument here. Reference is variously made to a slogan of AI workers that *airplanes don't flap their wings* -- to justify the claim that AI may be developed without reference to the study of biological systems (also a theme of multiple comments on a web page [Artificial Stupidity](#)). Ironically the reviews focus notably on *Soar*, a particular AI project which one of the reviewers, [Jordan B. Pollack](#), explains as follows:

The origin of the name Soar... was originally an acronym for three primitive components of the problem-space method. But shortly, these components were forgotten, leaving the proper noun in their stead, a name which evokes "grand and glorious things", and also puts us in mind of the achievement of mechanical flight, AIs historical *doppelganger*... Simply put, the analogy *Airplanes are to birds as smart machines will be to brains*, is a widely repeated AI mantra with several uses.

- One is to entice consumers by reminding them of the revolution in warfare, transportation, commerce, etc brought about by mechanical flight.
- Another is to encourage patience in those same consumers by pointing to the hundreds of years of experimental work conducted before the success of mechanical flight!
- A third is to chant it, eyes closed, ignoring the complex reality of biological mechanism. (In: William J. Clancey, et al., *Contemplating Minds: a forum for artificial intelligence*, 1994, p. 111)

Pollack cites an earlier argument of Paul Arner:

While it is true that Man wasted a good deal of time and effort trying to build a flying machines that flapped like a bird, the important point is that it was the understanding of the law of aerodynamics lift... over an airfoil which enabled Man to build flying machines. A bird isn't sustained in the air by the hand of God -- natural laws govern its flight. Thus I see no reason why we won't be able to duplicate in hardware the very powerful processes of association which the human brain has, once we understand them (*Computers and Thought*, p. 398)

Irrelevance of flapping? Pollack then proceeds to correct two myths in Arner's analogy. The first being that flight is based upon the principle of the airfoil. The second is that the mechanical means by which nature solved the problem are irrelevant. With respect to the irrelevancy of flapping, he cites [Orville Wright](#):

Learning the secret of flight from a bird was a good deal like learning the secret of a magician. After you know the trick and know what to look for, you see things that you did not notice when you did not know exactly what to look for.

With respect to the relevance for cognition, Pollack then comments:

When you look at a bird flying, the first thing you see is all the flapping. Does the flapping explain how the bird flies? Is it reasonable to theorize that flapping came first, as some sort of cooling system which was recruited when flying became a necessity for survival? Not really, for a simpler explanation is that most of the problem of flying is in finding a place within the weight/size dimension where gliding is possible, and getting the control system for dynamical equilibrium right. Flapping is the last piece, the propulsive engine, but in all its furiousness, it blocks our perception that the bird evolved the aileron principle....

Once you get a flapping object, it becomes nearly impossible to hold it still enough to retrofit the control system for equilibrium. Studying problem solving and decision making first because they happen to be the first thing on the list is dangerous, because perceptions and motor control may be nearly impossible to retrofit into the design. (p. 118)

Despite the valuable attention to the particular skill of birds, the difficulty for artificial intelligence initiatives is how they might be applied to enhance the currently shambolic nature of global governance. Is it assumed that these insights will be considered to be of relevance to the dynamics of ideological wings -- flapping in relationship to one another? Will AI simply seek to bypass that challenge by enhancing the ever increasing capacity of invasive security systems? Will any emergent [global brain](#) then take the form of a dubious eagle-turkey hybrid?

The range of web resources on "flapping" in relation to AI would seem to be of considerable relevance to such reflection. For example (J. Rowe, *Functional Approximation, or, "The Flapping Wright Bros"*. *Chatbots.org*, 31 December 2012):

In the same way, AI researchers need to work with what they have, and provide functional approximations for aspects of intelligence they can observe. This is precisely why current [chatbots](#) fall so flat. They're flapping for all they're worth, and intelligence just doesn't work that way. You can't simply replicate the words that result from intelligent thought processes and drop them in as a replacement for the thought processes themselves.

Especially valuable in the AI perspective, however, is that it necessarily emphasizes the cognitive dimensions of wing operation in a psycho-social context -- however such insights may come to be fruitfully interpreted. In the move away from the wing-flapping model, it is particularly interesting that the implied functions and controls are then effectively to be embodied in algorithms. This "embodiment", as it might be considered with respect to global governance, can be usefully related to that of hemispheric integration -- readily recognized in terms of the right and left "wings of the brain", usefully to be understood as "flapping" otherwise (*Engendering Viable Global Futures through Hemispheric Integration: a radical challenge to individual imagination*, 2014). With respect to the coordination of "wing movement", this can be explored in terms of the operation of the corpus callosum through which those hemispheres are related (*Corpus Callosum of the Global Brain? Locating the integrative function within the world wide web*, 2014).

Mystery of flying: In the light of the examples of applications to robotics cited above, Sharon Oosthoek (*How birds stay in the air*, *Student Science*, 27 January 2015), notes that a new tool that measures the force needed to keep a bird aloft could indeed lead to flying, flapping robots:

The force a bird exerts to keep itself aloft has always been a bit of a mystery. Engineers are particularly eager for this information because it could inspire designs for futuristic drones. These pilotless flying robots might flap, dart and hover with birdlike grace and agility.... On each downstroke, the birds used double the force needed to counteract gravity and lift their weight, the sensors showed. On each upstroke, the bird exerted virtually no force. That means the upstroke wasn't counteracting gravity at all. Together, the two wing beats cancelled each other out. This allowed each bird to counteract gravity just enough to keep it aloft.

Wing feathers as a source of insight for flying control: Wingtip feathers increase aerodynamic efficiency in flying birds, as noted by Steven Vogel:

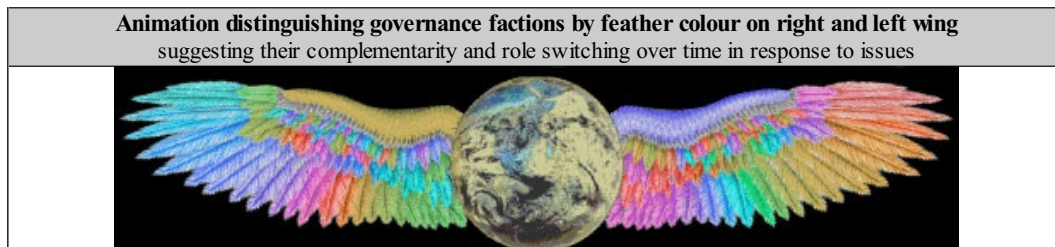
A bird's wingtip feathers must twist in one direction during the upstroke of the wings and in the other direction during the downstroke to keep the local wind striking the wing at an appropriate angle to generate lift and thrust... The turning could be done at the base, with a completely inflexible feather; the aerodynamics are improved and material saved if the local flow forces twist the feather by just the right amount. (*Comparative Biomechanics: Life's Physical World*, 2003, p. 382)

As noted by the Raptor Research Foundation (*Birds and their Feathers*), four basic wing shapes can be usefully distinguished, with seven types of feathers. Also of particular relevance to this argument are the insights to be associated with the [flight feathers](#), namely the large wing feathers, termed remiges (primaries, secondaries and tertiaries) and the tail feathers, termed retrices. Most birds have 10 primaries and 10 secondaries, although this can vary from 9 to 12 primaries, and from 6 to 35 secondaries. The primary function of the flight feathers is to aid in the generation of both thrust and lift, thereby enabling flight. The flight feathers of some birds have evolved to perform additional functions, generally associated with territorial displays, courtship rituals or feeding methods.

If the concern is with the capacity of strategic initiatives to fly -- and global governance more generally -- do the systemic features of feathers and their organizations offer a pattern language meriting particular attention? Do the distinctive types of feather suggest the distinctive systemic roles of factions within a political wing, with a degree of symmetry necessarily evident between two wings? Given the manner in which themes of one wing are reframed by the other over time, is there a process of [enantiodromia](#) to be recognized?

Of course few would doubt that some political factions evolve "to perform additional functions, generally associated with territorial displays, courtship rituals or feeding methods".

The concern of this argument, developed below, is with current recommendations to excise the extremes of political wings, framed as being radical. Careful consideration is called for if indeed such extremes are vital to the "generation of both thrust and lift, thereby enabling flight". The following speculative animation is designed to explore the distinction between the feathers of a wing and the dynamics between wings.



Simulation: It is curious to note the efforts to simulate systems of nature to elicit technological innovation -- notably those relating to flight. It is appropriate to ask what efforts are made to simulate possible innovations in governance inspired by nature. Again it is useful to stress that bird flying is an obvious instances of long-tested self-governance. With artificial intelligence research focused on whether to flap or not, it is strange to note that political science and international relations seemingly have no interest in exploring the implications of flapping for governance -- with the exception of multiple references to the [butterfly effect](#). And yet, as noted by [Jan Klabbers](#) (*An Introduction to International Institutional Law*, 2002):

As novelist George Orwell memorably put it, the 1930s turned out to be a decade starting off 'in the hangover of the "enlightened" post-war age', with 'the League of Nations flapping vague wings in the background' thus illustrating a general sentiment of discomfort (*Collected Essays, Journalism and Letters, Volume I: An Age Like This 1920-1930*, 1970, p. 585)

As an alternative to a word-focused approach, again with much greater emphasis on an integrative outcome, it can be imagined (with much more intensive work) that a form of interactive model-building process could be devised. In effect this is a dynamic extension of that discussed with respect to architectural constructs.

Given the oversight for which soaring eagles are admired in relation to governance, the matter is especially relevant to the manner in which systems of governance can provide the necessary oversight of strategic initiatives -- notably those requiring vigilant regulation. This is currently obvious in the case of security surveillance systems, supposedly subject to adequate democratic oversight. Although various "oversight committees" are indeed instituted with this specific responsibility, no effort is made to simulate their capacity in the face of quantities of information acknowledged to be vast in a period of widespread information overload. "Oversight" is then appropriately understood in its other sense of a failure of vigilance -- despite the additional assistance of a multiplicity of information-gathering drones and satellites.

One prototype for this approach is that of [SodaConstructor](#), a freely accessible Java technology-based online construction kit that gives players the ability to build and visualize interactive creations using limbs and muscles -- therefore potentially wings. By altering physical properties like gravity, friction, and speed, curiously anthropomorphic models can be made to walk, climb, wriggle, jiggle, or collapse into a writhing heap (see description of [underlying physics](#)). A [SodaZoo](#) has been built up, where a large and active worldwide community of sodaplayers has placed a strange and diverse menagerie of SodaConstructor models. Under funding from the UK National Endowment for Science and Technology and the Arts ([NESTA](#)), SodaPlay is currently developing SodaConstructor and related software into a flexible toolkit to deliver creative learning and fun to schools in the UK [[more](#)].

As discussed elsewhere (*Animating the Representation of Europe: visualizing the coherence of international institutions using dynamic animal-like structures*, 2004), the animal-like models could be used to render strategy-delivering programmes (including international institutional structures) more meaningful and appealing by using dynamic representation techniques that have the recognized communication strengths of animation -- notably for the media. This is seen as a means of shifting beyond the "pillarization" of international initiatives (presented above). The success of SodaConstructor in attracting millions of users at all levels of society is an indication of the creative potential of such tools.

Reducing extremism by reduction of "wing length"?

Given the above understanding of wings, especially with respect to the political spectrum, the current preoccupation with extremism and its eradication can usefully be explored in terms of eliminating the extreme ends of such wings. This obviously implies the radical left and the radical right. This possibility can be fruitfully explored through metaphor.

Eradication? In this case the extreme is associated with root. Reference to "radical" obviously suggests exploration of the process of "eradication", as discussed separately (*Norms in the Global Struggle against Extremism: "rooting for" normalization vs. "rooting out"*

extremism? 2005; *Eradication as the Strategic Final Solution of the 21st Century?* 2014). The latter notably included sections on:

- *Eradication as primarily inspired by the philosophy of weeding*
- *Preponderance of references to the eradication of zombies*

The last section, resulting from a literature search with regard to "eradication", indicated a remarkable current preoccupation with **zombies** -- at least as evident via the web.

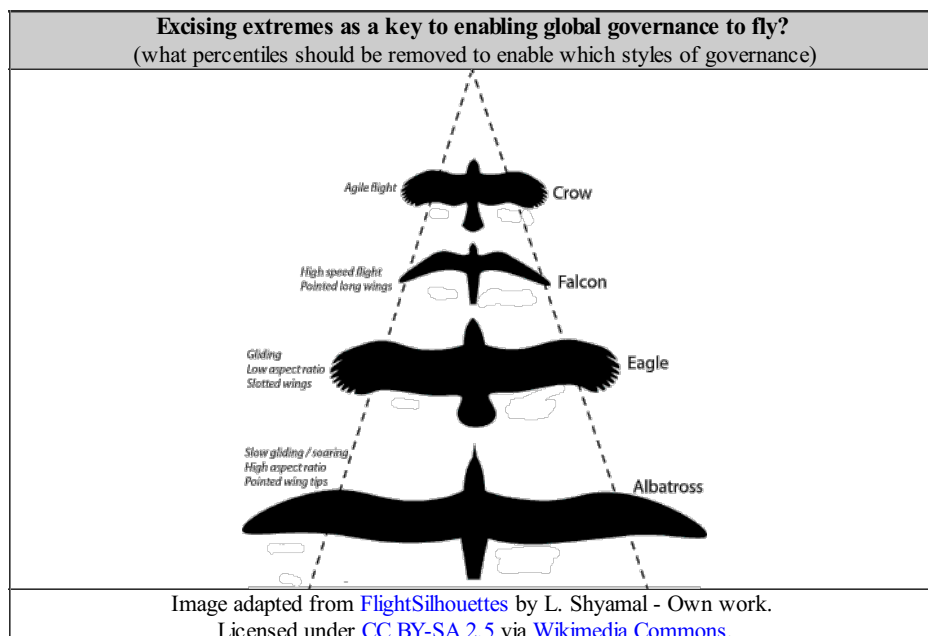
Wing-clipping to reduce wing length: With the sense of two primary wings in socio-political discourse -- left and right -- the operational possibility can focus on how the extremes are to be eliminated, thereby reducing the "length" of the wings.

Wing-clipping has been readily used as a metaphor descriptive of the process of restraining or reducing freedom. This metaphor for clipping a bird's wings to prevent its flying away dates from ancient Roman times. It is the focus of a poem (Chris Bodor, *Wings Clipped*, 2014). For example, it has been applied to:

- **Banking and business:** (Willem Buiter, *Clipping central bankers' wings*, *Central Banking Journal*, 1 November 2007; Andy Mukherjee, *Clipping RBI's wings is a bad idea*, *Business Line*, 30 March 2015; *Interest rates wing clipping for businesses*, *New Vietnam Corporate Company Business Registration*).
- **Military:** (*Clipping the enemy's wings*, *The Economist*, 6 March 2003; James Cudmore, *Budget 2014: Military wings clipped again*, *CBC News*, 11 February 2014)
- **Internment during warfare:** (Rebecca K. Sharp, *How an eagle feels when his wings are clipped and caged*, *Prologue*, 2009)
- **Politics:** (*Hillary Clinton's Legacy at State Dept.: A Hawk With Clipped Wings*, *TheWall Street Journal*, 30 May 2014; Randall Wood, *Dictator's Handbook: a practical manual for the aspiring tyrant*, 2012, Section on "Strategies for Wing-clipping")
- **Multinationals:** (*Clipping the wings of Norwich Pharmacal jurisdiction*, *International Law Office*, 10 September 2013; *Multinational Firms May Find Wings Clipped*, *Sarasota Herald-Tribune*, 22 June 1975)
- **NGOs:** (*Ethiopian authorities move to clip wings of NGOs*, *Human Rights House Network*, 15 May 2008; *NGO wings clipped*, *Daily Mirror Sri Lanka*, 8 July 2014)
- **Legislation:** (Michael N. Schmitt, *Clipped Wings: Effective and Legal -- No fly Zone: Rules of Engagement*, *International Law Studies*, 72)
- **Society:** (*The 'clipped wing generation': A quarter of young working adults still live with their parents*, *The Independent*, 29 July 2014)

The widespread use of the strategy framed by this metaphor offers the strange spectre of a global civilization with an aspiration to soar and fly -- but with many of its social institutions and actors subject to wing-clipping provisions. **How is a "grounded society" expected to fly?** More provocative, and potentially more relevant, is the related practice of castration -- frequently used as a metaphor with respect to groups and their initiatives. **Should radicals be castrated like eunuchs in the empires of the past** -- or as with the **compulsory sterilization** instituted in many countries of the past century (including South Africa, Canada, China, Czechoslovakia, Germany, Japan, India, Israel, Peru, Russia, Sweden, Switzerland, USA, Uzbekistan)? Perhaps the most radical thinker with respect to the development of computers, notably in service to the World War II efforts of the UK, was **Alan Turing** -- subsequently subject there to **chemical castration**. Is this the treatment which would be appropriate for Julian Assange, Bradley Manning and Edward Snowden?

Wing-clipping is of course a practice well-recognized in animal husbandry with respect to the domestication of wild animals, including pets. With respect to birds, this takes the form of trimming a bird's primary **flight feathers** ("primaries") so that it is no longer fully flighted. As noted by *Wikipedia*: **Wing clipping** is usually performed by avian veterinarians, pet store employees, breeders, or the birds' owners themselves. It is generally carried out on pet birds, particularly parrots. If performed correctly, it is a painless procedure and is quite distinct from **pinioning**, which is carried out by amputation of the wing at the carpal joint. Presumably those undertaking the procedure would have a role equivalent to religious policehoods and to political commissars.



The entry details the controversy associated with the procedure which is worth exploring as a source of metaphor with regard to the political spectrum. These include:

- Most pet bird species are highly adapted to flight. Some species may fly miles a day searching for food in the wild. Flying is the best form of exercise for birds. Denying pet birds the opportunity to fly may also contribute to sedentary behavior, obesity and related health problems. However, a correctly clipped bird will still be able to fly short distances in most cases, which, due to the clipping, will cost more energy, resulting in a more intense training of the muscles involved in flying.
- Clipped birds sometimes appear insecure and less confident, perhaps from their inability to escape from perceived predators. Over-clipped birds may have balance problems and fall easily, contributing to insecure or fearful behavior.
- It is very easy for an inexperienced groomer to overclip a bird. Birds that have not been clipped properly and have had their wings trimmed too short may not be able to land safely. Over-clipped birds can be badly injured if they fall from a perch or attempt to fly.
- Wing clipping may create a false sense of security. Clipped birds, if spooked, are still capable of a short, powerful burst of flight.
- Where a bird's ability to carry out its reflex escape response is thwarted by being clipped, it may develop behavioural problems associated with fear. The default position of leaving the bird with the ability to fly normally, while teaching the bird flight commands should ensure safe flying for pet birds.

The noted use of wing clipping with respect to parrots suggests further comparison, given connotations of "parroting" as the mindless repetition of words or ideas. Is this indicative of an underlying strategy of indoctrination -- to achieve normality?

Breeding out radical wing tendencies: Through selective breeding over time, this is well recognized in the case of animal domestication. Genetic engineering is now offering a more radical approach to the challenge. Both approaches offer metaphorical equivalents. The former with respect to education (and indoctrination) -- "from the earliest age" -- as currently proposed in order to eliminate the emergence of any form of radical thinking. The second approach merits consideration in terms of the future potential of [memetic engineering](#). This has already been anticipated in the study by [Noam Chomsky](#) and [Edward S. Herman](#) (*Manufacturing Consent: the political economy of the mass media*, 1988).

Prohibition of wings of extreme length : Legislative measures can be envisaged, or are already taken, with respect to political parties on the far right or the far left -- as is already evident in a number of countries. Extremism is simply criminalised.

Current initiatives to censor social media, and notably Twitter, are an indicator of options under consideration ([Turkey blocks Twitter, Facebook and YouTube websites](#), DW, 6 April 2015). The Prime Minister of Turkey even vowed: *We'll eradicate Twitter. I don't care what the international community says. Everyone will witness the power of the Turkish Republic* ([Turkey bans Twitter -- and Twitter explodes](#), The Washington Post, 21 March 2014).

Reframing length reduction: The preoccupation can be usefully framed metaphorically in terms of:

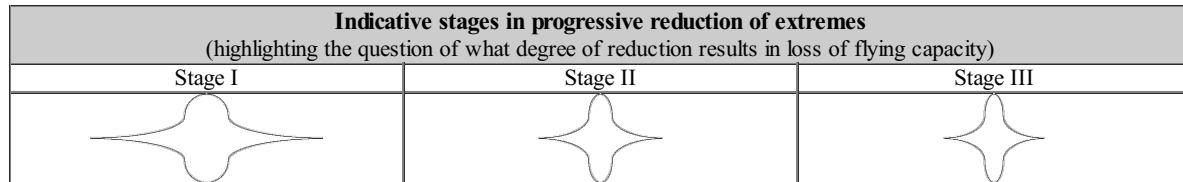
- **Aircraft wing-span reduction:** Also appropriate to this argument is the analogy offered by the progressive reduction of wing-span in certain aircraft designs. This is obvious in the case of fighter jets, and ultimately the helicopter with wings of a most rudimentary nature (if any). The emphasis is on the control of power and direction otherwise, whether through use of flaps or orientation of blades.
- **Spectrum reduction:** Given current competition for wavelengths on the electromagnetic spectrum valued for communication purposes, the question is how best to reduce access to the extremes of that spectrum
- **Breeding for normal human consumption:** Appropriate to this argument the distinction between the wild turkey and that which is bred for human consumption offers relevant insights. Brian Palmer ([In its wild form, that funny looking turkey can fly -- though it won't get very far](#). The Washington Post, November 25, 2013) Even [wild turkeys](#) rarely fly more than about 100 yards; their domesticated kin can't flap their wings fast enough to support sustained flight.
 - If you've ever been to a turkey farm, you know that domesticated turkeys -- the kind most of us eat -- do not fly. Why?
 - Their breasts became too strong. Farmers prize turkeys that grow large breast and thigh muscles, because those are the most valuable parts in the poultry market. Over time, farmers have bred turkeys to have larger and larger breasts.
 - A turkey breast gets stronger as it gets larger, but the animal's power-to-mass ratio diminishes, so it can't flap quickly enough to support sustained flight. In a sense, its exactly the opposite of what happened to the now-extinct dodo. When that bird's flying ancestors arrived on the predator-free island of Mauritius, building powerful wings became a waste of energy. Over the generations, the dodo's breast muscles grew too weak to enable it to fly.
 - The domesticated turkey's massive breast muscles also begin to stretch the tendons and ligaments that hold the animal together, and the shoulder joint gradually pushes apart, further inhibiting flight. (Wild turkeys, in contrast, have strong, stable shoulder joints.)

Whole-system viability: diversity reduction and flightlessness: The case for reduction in wing span merits further consideration in terms of systemic perspectives on viability. It is somewhat ironic that the desire for eliminating extremes should occur in a period in which there is much discussion of unforeseen consequences of biodiversity reduction as an unfortunate consequence of human development. Of particular relevance is debate regarding wildlife which endangers that development in some way (sharks, wolves, bears, tigers, and the like). From commitment to the elimination of such species for that reason, the debate now recognizes their value for ecosystems despite such dangers. Controversy continues with regard to the protection of humans and their livelihoods from the actions of such species.

The debate with respect to [cultural diversity](#) -- [psychodiversity](#)? cognitive diversity? -- is as yet in its infancy by comparison. Proposals

to eliminate the wolves may come to be recognized as being as questionable as in the case of the natural environment. The issues are also evoked with respect to the protection of rare species of domesticated animals (cattle, etc) and fruits. The questionable efforts, by such as the European Union, to standardize the marketable range of certain fruits merit consideration in this light. The value of diversity (Steve Denning, *Why Is Diversity Vital For Innovation?* *Forbes*, 16 January 2012; Drake Baer, *Why You Need To Feed Your Brain Different Experiences*, *Leadership Now*, 8 January 2014; Helen Mayson, *Cognitive Diversity: why is it important?* *ILM*, 9 May 2014; Herrmann International, *What does diversity have to do with innovation?*, *The Whole Brain Blog*, 9 March 2015; Ishani Aggarwal, *Cognitive Style Diversity in Teams*, Carnegie Mellon, 2013).

As yet to be clarified is the relationship in systems terms between diversity and viability, although concerns with respect to gene pools go far towards this. **Birds, as viable systems, exemplify sustainability -- in contrast to aircraft which are highly dependent on non-renewable resources.** One ironic argument is that the period of writing sees an aircraft demonstrating, through circumnavigating the globe, the viability of sustainable flight based on solar power -- with a wing span of necessarily extreme length,. Named **Solar Impulse**, it has a length: 22.4 metres and a wingspan of 71.9 metres.



As remarkably demonstrated with respect to the wild turkey -- the proposed symbolic alternative to the bald eagle -- human intervention has rendered it flightless. The supreme irony lies in the manner "the eagle" has effectively bred "the turkey" into a condition suitable solely for human consumption. This achievement is celebrated annually in the USA with the sacrifice of over 87 million turkeys in 2012 in the USA (46 million eaten at Thanksgiving, 22 million at Christmas and 19 million turkeys at Easter).

Without human breeding programmes, is the turkey still a viable species of bird? Or is it progressing down to a condition exemplified by the dodo and its extinction? Pursuing the metaphor of wing reduction, does the flightlessness of the ostrich offer other connotations -- given its alleged capacity to "hide its head in the sand"?

Given the symbolic choice made by the USA in favour of the eagle over the turkey (as noted in the introduction), it is somewhat extraordinary the investment in turkey production for celebratory human consumption by that culture. Does hormone enhancement of such production such reflection on any analogue relating to human intelligence? Does this suggest an unexplored dissociation between the aspirations to eagle-soaring and the systematic development of a culture of consumers and consumerism? Why the association of stupidity with the turkey -- even by President Nixon, who famously likened himself to a "dumb turkey" for failing in 1972 to recognize the suggestions of a Watergate coverup?

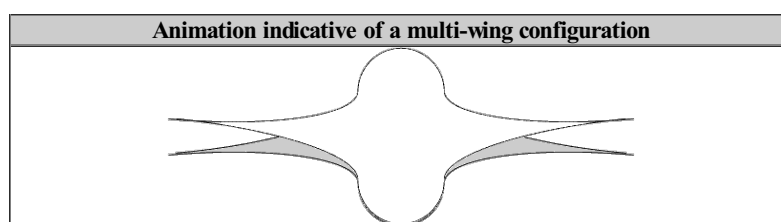
Is the aspiration to global governance to be associated with an unrecognized process to "make turkeys of us all" -- effectively unable to fly? Or will this result in a form of blowback through which global civilization condemns itself to the flightlessness of the dodo -- with its resemblance to the turkey?

Speculative alternatives for global governance?

"Winging it" as an option? Reference is occasionally made to "muddling though" as a common approach to governance. Similar use may be made of "winging it". This has been thought to have been derived from the expression "on a wing and a prayer" -- notably referring to a damaged aircraft that return towards base more in hope of arriving it than in expectation of doing so. However 'winging it' has a particular meaning in theatrical performances, referring to the impromptu expression by actors who have hurriedly learned their lines while waiting in the wings -- and then received prompts from there.

These various interpretations usefully caricature global governance at this time, whether undertaken "on a wing and a prayer" in the face of disastrous failure or through the manner in which leaders -- effectively lacking any substantive content to present -- rely on being prompted in their spontaneous presentations by their advisors in the wings.

Multiple pairs of wings: the "insect option"?: Contrasting insights are offered by the fact that insects tend to have two pairs of wings. **Insect wings** are adult outgrowths of the insect exoskeleton. The two pairs are referred to as the forewings and hindwings, respectively, though some insects lack hindwings, even of rudimentary form. Recent discoveries indicate the existence of insects with additional pairs (*Insects with 3 pairs of wings*, CNRS, 4 May 2011; *Insects with three pairs of wings found for the first time*, *Wildlife Extra*, May 2011)



Swarm intelligence option? The behavioural organization of insect colonies and swarms has given rise to considerable research into **swarm intelligence** -- with its implications for **crowdsourcing**. Arguments are presented for the viability of global governance through

such distributed intelligence. The focus on contrasting wings is then to be understood as distributed or diffused -- somewhat mysteriously -- amongst multiple portions of such (bewinged) swarms or crowds from which a degree of coherence clearly emerges.

It is somewhat extraordinary that, after a century of airflight, attention should now be focused simultaneously on:

- swarms of drones in support of networked battlespace intelligence and commercial possibilities for delivery, news gathering, and the like
- crowdsourcing and network coalition formation via social media of various kinds
- the Twitter phenomenon and its tweets, so explicitly recalling birdcalls

There is a degree of expectation that social media will enable distributed forms of equitable governance. Missing from that expectation is recognition of the ecosystemic dynamics of birds, whether competing for resources or preoccupied with the reproduction of their particular species. Twitterspace, like Blogspace, can be readily seen to be speciating rapidly, with questionable consequences for governance, as can be variously argued (*Dynamically Gated Conceptual Communities: emergent patterns of isolation within knowledge society*, 2004; Ethan Zuckerman, *Rewire: Digital Cosmopolitans in the Age of Connection*, 2013).

Those documents highlight the increasing fragmentation of communicating communities -- consistent with the phrase "birds of a feather flock together". This raises the question of the nature of the longer-term coherence of such distributed intelligence -- if this is to be valued (*Eliciting a Universe of Meaning -- within a global information society of fragmenting knowledge and relationships*, 2013). In that respect there is a curious relation between memes, Twitter hashtags as memetic markers (and their half-life), the "foodstuffs" sought by Tweeters, and the reproduction of the species associated with each flock so defined.

There is research interest in formation flying, most notably by birds -- with "wings" then being reflected in the larger organization of such formations rather than in individual birds. As noted by M. Ghommem and V. M. Calo (*Flapping wings in line formation flight: a computational analysis*, *Aero-Journal*, 118, May 2014):

We demonstrate the importance of properly capturing these effects to assess aerodynamic performance of flapping wings in formation flight. Simulations show that flying in line formation at adequate spacing enables significant increase in the lift and thrust and reduces power consumption. This is mainly due to the interaction between the trailing birds and the previously-shed wake vorticity from the leading bird. Moreover, enlarging the group of birds flying in formation further improves the aerodynamic performance for each bird in the flock. Therefore, birds get significant benefit of such organised patterns to minimise power consumption while traveling over long distances without stop and feeding. This justifies formation flight as being beneficial for bird evolution without regard to potential social benefits, such as, visual and communication factors for group protection and predator evasion.

Again the question for global governance is how multiple birds might be encouraged to fly in formation -- thereby reconciling their differences in some measure. The possibility has been explored to some degree by the multinational Huawei (Michal Lev-Ram, *Huawei's Guo Ping on his company's unusual governance structure*, *Fortune*, 28 February 2013):

Our management model is quite new, but actually it comes from an idea from a book written by an American author, called *Flight of the Buffalo* [the book was written by James A. Belasco and Ralph C. Stayer]. The theory of that book is about how migrant birds fly across the Atlantic Ocean -- they always fly in a V-shape but the lead of the team is not always the same bird. So they change and rotate to lead the whole team across the ocean.

Single wing: the "Zen option"?: The development of [fixed-wing aircraft](#), abandoning the possibility of mechanical flapping wings, has resulted in forms which can be described as single wing -- even as a [flying wing](#) (see [Wikipedia List of flying wings](#)). As an exercise in biomimicry, some have even been inspired by natural forms (*Life Imitating Nature: Single Wing Aircraft Inspired by Seed*)

Understood in psycho-social terms, this would imply some form of consolidation of the contrasting ideological wings which otherwise feature so prominently in the dynamics of society. It is unclear how this would be achieved in practice, although the viability of the aircraft forms is testimony to some such possibility, if not the desirability (M. D. Rhodes and B. P. Selberg, *Benefits of dual wings over single wings for high-performance business airplanes*, *Journal of Aircraft*, 1984). Curiously "single wings" are a feature of some insignia and badges used by the military. The following exemplifies the challenging need for two-eyed depth perspective (*Transcending One-eyed Global Modelling Perspectives*, 2010).



However the aspirations to a single wing could also be recognized as a caricature of the barely concealed aspirations of any current political ideology to eliminate totally any contrasting perspective -- any "opposition". This recalls the tale of the emperor who sought only one-handed advisors -- being frustrated by conventional advice of the form: *on the one hand...., but on the other hand.*

The classic Zen koan of the "sound of one hand clapping" could be usefully adapted to caricature the single wing option of governance. Use of the adapted phrase features as a commentary on a critique of the famed Alfred Hitchcock movie (*The Birds*, 1963) by Elisabeth Weis (*The Sound of One Wing Flapping*, *FilmSound.org*, 1978), author of *The Silent Scream* (1982). The phrase is used to entitle a commentary on a special use of materials in design by Srinivas Tadigadapa (*The Sound of One Wing Flapping*, *Focus on Materials*, 2013). The argument is insightful with respect to governance.

No wings: the "UFO / Tesla / Ba Gua / Angel option"? Speculation may be taken further through interweaving a number of threads from the argument above. The argument can take account of a possibility that the necessary counteracting dynamics between wings is embodied otherwise in global governance needing to fly sustainably. A point of departure is the sense in which designs of some helicopters do not require wings in a conventional sense. This is evident in accounts of the operation of *Rotary-Wing Aircraft*.

In making this point it is appropriate to note that the schematics presented statically and dynamically above happen to bear a strong resemblance to UFOs (viewed from the side) as reportedly sighted or speculatively imagined. However this perspective reinforces the sense in which those schematics and animations could be better understood in three dimensions (at least) -- most fruitfully viewed from above, along the axis of "normality" indicated therein. This is somewhat consistent with schematic layouts of (semi)circular parliamentary assembly seating.

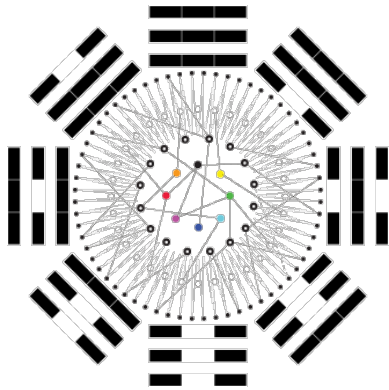
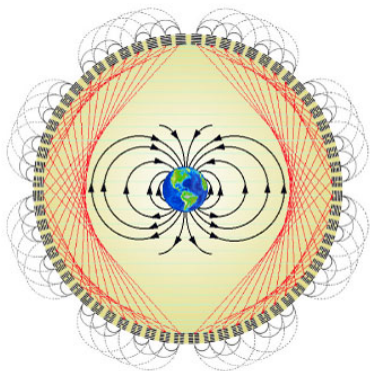
The question can then be framed as to the nature of the dynamics within a circle of perspectives which might engender the "antigravity" to which engineers have long aspired, whether or not they have been intrigued by the possible physics of UFOs. Could the dynamics of a parliamentary assembly engender a cognitive analogue to antigravity (beyond criticism that such assemblies are seldom well-grounded anyway)?

Rather than the mechanical metaphor of wings, reference can be more fruitfully made to the counteracting dynamics characteristic of *rotating electromagnetic fields* basic to the operation of electric motors and dynamos -- as remarkably explored by *Nikola Tesla*, and separately discussed (*Reimagining Tesla's Creativity through Technomimicry: psychosocial empowerment by imagining charged conditions otherwise*, 2014). There it notably took the form of separate sections on *Insight into global dynamics through Tesla's focus on the sphere* and *Encycling positive and negative for future sustainability*. A section on *Imagining the nature of cognitive "flight" in terms of the enneagram* featured in a subsequent paper (*Representation of Creative Processes through Dynamics in Three Dimensions*, 2014).

Of considerable relevance to the psycho-social application of such insights are the dynamic patterns traditionally embodied as fundamental to thinking within the Chinese culture in the form of the 5-fold *Wu Xing* and the 8-fold *Bagua*. As noted in those papers, these can be understood as schematic indications of "rotating cognitive fields" with all that this may imply in terms of "cognitive motors" and "cognitive dynamos". It is these which can be considered potentially fundamental to "UFO style" antigravity -- in the psychosocial sense of relevance to enabling globality to fly. Curiously in this respect, in addition to his interest in extraterrestrials, conspiracy theorists continue to speculate on the early interest of secret services in Tesla's discoveries (*Did Tesla Discover the Secrets of Antigravity?* *Electrical Engineering Portal*, 6 February 2013). Of relevance to governance is the manner in which a wing perceives itself as necessarily "positive" (offering lift) and the other "negative" (constituting a drag to be deprecated).

There is every reason to suspect that it is within the Chinese culture that modes of "psychosocial antigravity" will be engendered, as suggested by the arguments of *Susantha Goonatilake* (*Toward a Global Science: mining civilizational knowledge*, 1999) -- and discussed separately (*Enhancing the Quality of Knowing through Integration of East-West metaphors*, 2000).

The creativity of Tesla was intimately related to his insight into unconventional approaches to interrelating "positive" and "negative" electromagnetic charges -- whether to engender force or light. There is great irony to the fact that depiction of electromagnetic field patterns between positive and negative poles in two dimensions bears such a strong resemblance to the wings of angels imagined by such a wide range of cultures over the centuries.

Speculative schematics suggesting embodiment of "wing dynamics" required for global governance (understood as combined together in a three dimensional configuration)	
Rotating cognitive magnetic field (based on Tesla) combined with Chinese <i>Bagua</i> dynamic	Geomagnetic sphere of Earth embedded in configuration of <i>I Ching</i> hexagram conditions
	

The emergence of subtle "wings" is evident in the pattern of the [logo of this site](#) -- derived from the further articulation of the *Bagua* pattern in the *I Ching* -- and used in the image on the right. Its governance implications have been explored separately (*Transformation Metaphors derived experimentally from the Chinese Book of Changes (I Ching) -- for sustainable dialogue, vision, conferencing, policy, network, community and lifestyle*, 1997). The animation on the left was developed in the above-mentioned discussion of Tesla's creativity. The sense of "wiring" offered by the images highlights the sense of cognitive connectivity, notably activated through associations, as argued by Douglas Hofstadter and Emmanuel Sander (*Surfaces and Essences: analogy as the fuel and fire of thinking*, 2013).

Evolutionary possibilities for global governance?

There is a remarkable fascination with dinosaurs, their evolution and the reasons for their extinction. This is all the more remarkable in that efforts are variously made to relate the condition of dinosaurs to challenges of governance (James Patrick Kelly, *Think Like a Dinosaur*, 1997; Till Vestring, *Teaching Dinosaurs to Dance*, 2014; Michal Cakrt, *Teaching the Dinosaurs Dance*, *EconPapers*, 1997; Douglas Hague, *Transforming the Dinosaurs: how organizations learn*, 1993) as discussed separately (*Systemic Biomimicry of Dinosaurs by Multinational Corporations: clearing the ground for future psychosocial evolution*, 2011). The focus would seem to be an adaptation of the argument of Rosabeth Moss Kanter (*When Giants Learn To Dance*, 1990, subsequently challenged (*Innovation: the classic traps*, *Harvard Business Review*, 1 November 2006). Given their limitations with respect to global governance, should the array of intergovernmental organizations -- notably the agencies of the United Nations -- also be understood as dinosaurs, perhaps of the herbivorous variety?

With respect to the focus here on birds and the development of their capacity to fly, research is now showing how they evolved from dinosaurs (T. Alexander Dececchi and Hans C. E. Larsson, *Body and limb dissociation at the at the origin of birds: uncoupling allometric constraints across a macroevolutionary transition*, *Evolution*, 67, 2013). A description of that research notes:

... throughout most of the history of carnivorous dinosaurs, limb lengths showed a relatively stable scaling relationship to body size. This is despite a 5000-fold difference in mass between *Tyrannosaurus rex* and the smallest feathered theropods from China. This limb scaling changed, however, at the origin of birds, when both the forelimbs and hind limbs underwent a dramatic decoupling from body size. This change may have been critical in allowing early birds to evolve flight, and then to exploit the forest canopy, the authors conclude.

As forelimbs lengthened, they became long enough to serve as an airfoil, allowing for the evolution of powered flight. When coupled with the shrinking of the hind limbs, this helped refine flight control and efficiency in early birds. Shorter legs would have aided in reducing drag during flight -- the reason modern birds tuck their legs as they fly -- and also in perching and moving about on small branches in trees. This combination of better wings with more compact legs would have been critical for the survival of birds in a time when another group of flying reptiles, the pterosaurs, dominated the skies and competed for food. (*How Birds Got Their Wings*, *McGill News*, 17 September 2013)

Further insight into the transition from dinosaurs to birds focuses on modes of flight (Xia Wang, *Avian Wing Proportions and Flight Styles: first step towards predicting the flight modes of Mesozoic birds*, *PLOS One*, December 2011). With the recent extinction of the flightless *dodo*, and the emergence of drones as a new species of bird (purportedly as a constraint on terrorism), it is appropriate to note the existence of so-called "terror birds" (*Phorusrhacids*) -- an extinct clade of large carnivorous flightless birds. Might the future evolution of drones have similar function?

The concern with how "dinosaurs" might learn can be framed in terms of how it might be possible to communicate with them at this time -- beyond eliciting a quizzical look. This is poignantly illustrated in the fictional account by Nobel Laureate Doris Lessing regarding the encounter of a galactic development agent with the inhabitant of a developing planet:

To say that he understood what went on was true. To say that he did not understand -- was true. I would sit and explain, over and over again. He listened, his eyes fixed on my face, his lips moving as he repeated to himself what I was saying. He would nod: yes, he had grasped it. But a few minutes later, when I might be saying something of the same kind, he was uncomfortable, threatened. Why was I saying that? and that? his troubled eyes asked of my face: What did I mean? His questions at such moments were as if I had never taught him anything at all. He was like one drugged or in shock. Yet it seemed that he did absorb information for sometimes he would talk as if from a basis of shared knowledge: it was as if a part of him knew and remembered all I told him, but other parts had not heard a word. I have never before or since had so strongly that experience of being with a person and knowing that all the time there was certainly a part of that person in contact with you, something real and alive and listening -- and yet most of the time what one said did not reach that silent and invisible being, and what he said was not often said by the real part of him. It was as if someone stood there bound and gagged while an inferior impersonator spoke for him. (*Re: Colonised Planet 5 - Shikasta*, 1979, pp. 56-57).

It is intriguing that comprehension of the challenges of the evolutionary transition should be framed at the present time in terms of dance -- a mode commonly associated with the experience of flying. Given the manner in which it is used as a metaphor in relation to governance, it is clearly the cognitive and psychosocial dynamics that are intuited to have qualities otherwise associated with dance. This

is usefully recognized in a classic account of the development of quantum physics by [Gary Zukav](#) (*The Dancing Wu Li Masters*, 1979). Such an otherwise questionable intuition is shared by [Stephen Hawking](#) (*The Dreams That Stuff Is Made Of: the most astounding papers of quantum physics -- and how they shook the scientific world*, 2011).

Considerable insight of relevance to governance is to be derived from biomechanics and aerodynamics through biomimicry, as argued above. However there is clearly also the possibility of deriving insight from the aesthetics of flying by birds, in flocks or individually -- readily described by poets as a form of dance. If evolution is to be understood as the emergence of a pattern of greater complexity, the argument of [Gregory Bateson](#) remains relevant in explaining why "we are our own metaphor" to a conference on the effects of conscious purpose on human adaptation:

One reason why poetry is important for finding out about the world is because in poetry a set of relationships get mapped onto a level of diversity in us that we don't ordinarily have access to. We bring it out in poetry. We can give to each other in poetry the access to a set of relationships in the other person and in the world that we are not usually conscious of in ourselves. So we need poetry as knowledge about the world and about ourselves, because of this mapping from complexity to complexity. (Cited by Mary Catherine Bateson, 1972, pp. 288-9)

Curiously there is considerable poetry associated with both birds and airplanes, but very little with governance -- with the notable exception of the *I Ching*, articulated in poetic form as a traditionally valued key to appropriate governance in China. Is understanding of the nature of "flying" partially enabled by aesthetic insight? Should the flying of global governance be explored as partly characterized by the emergence of an epic poem of the style of the *Kalevala* or the *Mahabharata*? Can it be considered inherently poetic in its own right (*Being a Poem in the Making*, 2012; *Poetry-making and Policy-making: arranging a marriage between Beauty and the Beast*, 1993)?

Of interest in this respect is the valued significance associated with "soaring" flight. This was noted above with regard to both eagles and artificial intelligence. In the case of the human spirit, this has been widely understood as enabled by poetry. The experience is intimately related to imagination and creativity. The issue is how the sentiment can be translated into the cognitive dynamics implied by the various calls to reimagine the world (*Engendering 2052 through Re-imagining the Present*, 2012)

The challenge would appear to lie in recognizing the significance for governance in the dynamics of patterns whether intuited, dreamed or observed, as argued from perspectives which bridge across disciplines and traditions, as by [Steven M. Rosen](#) (*Dreams, Death, Rebirth: a topological odyssey into alchemy's hidden dimensions*, 2014).

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