



# laetus in praesens

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## Ecological Mouthprint versus Ecological Footprint

### Learning action avoidance from rabbits in anticipation of disaster

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#### Introduction

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Prepared on the occasion of the [50th Anniversary of the Moon landing](#) -- widely heralded as *one small step for [a] man, one giant leap for mankind*, but also symbolically significant in terms of the absence of reference to the "ecological footprint" of humans in space [[space debris](#), [trashing planets](#)]

## Introduction

Much is now made of assessments of [carbon footprint](#), [ecological footprint](#) and [climate footprint](#), and the strategies for their reduction in different situations. Focus is given to such preoccupations through the [Global Footprint Network](#). The European Commission offers an [Organisation Environmental Footprint \(OEF\) Guide](#) (2012).

There is however a case for exploring the choice of the footprint metaphor given its associations with the most distant part of the human anatomy, however grounded it may be held to be -- despite being necessarily left behind. More questionable is the sense in which a footprint is only evident when the cause of it -- the human being -- has moved on. It is not possible to view a footprint when standing on what creates that impression, although it is obviously possible to see that of others. Even more questionable is any implication that organizations have feet -- other than as a somewhat demeaning caricature of workers, in contrast to the executives located at headquarters .

Is this a trivial perspective or does it raise questions which are carefully not asked?

An alternative metaphor might have been a **handprint**, as so assiduously studied on the walls of caves from the distant past. However that offers no immediate association with the environment. Potentially more powerful would be **fingerprint**, given its particular association with identity -- lacking in the case of footprint (except from the perspective of trackers in the wild). The fingerprint metaphor does however feature in tracking some forms of environmental pollution. An ecological fingerprint might then offer an association with the identities of signatories of those strategies which may be disastrous to the environment. Whose fingerprints are indeed on the documents which are enabling such strategies at this time?

Why is no effort made to record systematically the disaster-enhancing signatures of the current period? Will this be a challenge for historians of the distant future -- as with the anthropologists carefully studying the handprints of human ancestors on cave walls? Much effort is made to commemorate the disasters of the past, most recently of World War I with its millions of deaths. Will the predicted disasters not be more readily understood as the "ecological handiwork" of many -- notably of consumers in the choices they make whilst shopping?

No commensurate effort is seemingly made to record the identities of those enabling the disasters to come. By contrast, even the smaller towns in Australia have cenotaphs bearing the inscription *Lest We Forget*. However, as used elsewhere, these apply only to the deaths in World Wars -- not to the carefully forgotten local massacres of indigenous populations there. Fortunately electronic payments and credit

card records will enable forensic studies of an extensive range of handiwork in an information-based society.

Use of **faceprint** offers another alternative, given the considerable investment in facial recognition software and CCTV coverage together with worldwide enthusiasm for Facebook. These could offer an historical trace of ecological relevance -- to be distinguished from the death masks of the past, as with those of Pompei. Will the storage of such faceprints enable future commentary on those who fall victim to the variously predicted ecological distastes -- or on those who enabled it? *Lest We Forget?*

Of greater relevance to the following, more intriguing is the possibility of distinguishing an ecological **voiceprint**. This could be done for those who have spoken out on ecological issues in an effort to influence understanding of the issue -- possibly even to deny its significance. Here again there will be many video and other records to assist those of the future reflecting on the strategic response at this time. Rather than voiceprint, with its implications regarding the identity of the person with whom it is associated, the following argument subsumes that focus within a more general metaphor of **mouthprint**. What indeed might be an "ecological mouthprint" in contrast with an ecological footprint?

The argument here is that, possibly even to a greater extent than footprint, **mouthprint is more directly related to the issue of global warming and of global warming** -- and therefore merits appropriate consideration. This is emphasized by the fact that it is seldom the case that in physical terms a footprint is a direct threat to the environment. Most of the arguments in that regard concern situations in which those involved are not "on foot". With respect to transportation, the argument concerns the wheeled vehicles in which people travel and the far more indirect instances of emissions by footless buildings, factories, and the like, at which people work.

**Does the footprint metaphor serve as a distraction from the nature of the environmental action for which the times call?** Is attention required to other forms of imprinting with respect to the environment? Is there an unfortunate mixing of metaphors which merits consideration in that regard -- even perhaps to be caricatured as a conceptual analogue to foot-and-mouth disease?

Given the remarkable recent implication of [school children in climate action protest](#), the argument concludes by highlighting the possible learning from widely influential children's tales featuring rabbits in environmentally problematic situations, most notably *Watership Down* (1972) and *Winnie-the-Pooh* (to a far lesser degree). Similar insights were sought in a previous discussion (*Enrolling Winnie-the-Pooh's Companions in Climate Change Discourse: key roles in the environmental psychodrama of Hundred Acre Wood*, 2019). It is appropriate to note that the real world environments which inspired those tales were respectively concreted over or destroyed by fire in recent months. Given the surreal nature of the times, is there a "rabbit hole" down which humanity might choose to escape -- given the inspiration offered by *Alice in Wonderland* as another such tale?

## Ecological mouthprint, in physical terms: a myth?

**Consumption:** Seemingly a neologism, "mouthprint" has already been exploited to refer to a pattern of consumption -- and understandably so ([Anna Lappé, \*Reducing Our Carbon Mouthprint: Food and Climate\*, \*The New York Times\*, 15 May 2019](#); Douglas Cazaux Sackman, *Our Ecological Mouthprint: an historical exploration of the reciprocal relationship between plants and people through consumption*, Evergreen State College, 2013; ).

Such references go to the heart of the challenge of environmental degradation and the consequences of unthinking consumption, variously held to be unsustainable. From that perspective alone, "ecological mouthprint" calls for appropriate recognition -- as indicative of more direct engagement than "ecological footprint". The point is periodically made in media coverage of major international events, at which global crises may be discussed. that the receptions and copious meals are in contrast with any consideration of problematic levels of consumption. Curiously at the time of writing a French Minister of the Environment has been obliged to resign, notably because of the scandal aroused in the media regarding the dinners that he hosted -- despite his acknowledged record as an environmentalist.

**Animal breathing and otherwise:** There is extensive commentary on the contribution to greenhouse gas production of cattle and sheep (Karl Tate, *The Role of Animal Farts in Global Warming*, *LiveScience*, 5 November 2015; Sam Lemonick, *Scientists Underestimated How Bad Cow Farts Are*, *Forbes*, 29 September 2017). The concern with regard to animals, on which humans depend for food, merits a degree of recognition in terms of "mouthprint". Given that dependence, the ecological mouthprint of such animals is however readily set aside as vital to human survival, or negligible relative to other factors.

It is somewhat surprising to note the metaphorical use of "breathing" to describe the role of tropical forests and the value of parklands in urban environments.

**Human breathing: the facts:** There is clearly an equivalent consideration in the case of humans, but this has evoked little official recognition -- possibly commensurate with the limited recognition of the effects of unchecked increase in global population numbers (with consequences readily deemed to be a myth).

Some indications include:

- Nikki Withers: [How much does human breathing contribute to climate change?](#) (*ScienceFocus*):
  - In one day, the average person breathes out around 500 litres of the greenhouse gas CO<sub>2</sub> -- which amounts to around 1kg in mass. This doesn't sound much until you take into account the fact that the world's population is around 6.8 billion, collectively breathing out around 2500 million tonnes of the stuff each year -- which is around 7 per cent of the annual CO<sub>2</sub> tonnage churned out by the burning of fossil fuel around the world.
- Brian Palmer: [7 Billion Carbon Sinks: how much does breathing contribute to climate change?](#) (*Slate*, 13 August 2009):
  - The average human exhales about 2.3 pounds of carbon dioxide on an average day. (The exact quantity depends on your activity level -- a person engaged in vigorous exercise produces up to eight times as much CO<sub>2</sub> as his sedentary brethren.) Take this number and multiply by a population of 7 billion people, breathing away for 365.25 days per year, and you get an annual CO<sub>2</sub> output of 2.94 billion tons. International carbon dioxide emissions from fossil fuel combustion for 2008 topped

34.7 billion tons. So the human race breathes out about 8.5 percent as much carbon as we burn.

- Y. T. Prairie and C. M. Duarte: *Direct and indirect metabolic CO2 release by humanity* (*Biogeosciences*, 4, 2007, pp. 215-217):
  - The estimates of the metabolic CO2 release from human respiration obtained as the product of present human population size and per capita respiratory CO2 release estimated either from allometric relationships or from direct respirometric measurements were 0.6 Gt C year<sup>-1</sup> and 0.57 Gt C year<sup>-1</sup>..., respectively.... The absence of explicit consideration of metabolic human CO2 emissions may be a symptom of a tendency to perceive humans as separate entity to other species, which impacts on the biosphere involve their technology, whereas the results presented here clearly indicate that human demography and metabolism may be important factors involved in greenhouse gas emissions.
- [Intergovernmental Panel on Climate Change report](#) (February 2007)
  - Human emissions of CO2 are now estimated to be 26.4 Gt per year, up from 23.5 Gt in the 1990s
- *Every person emits two tons of carbon dioxide a year through eating, Spanish study finds* (*ScienceDaily*, 2 November 2010):
  - Every person emits the equivalent of approximately two tons of carbon dioxide a year from the time food is produced to when the human body excretes it, representing more than 20 percent of total yearly emissions. (Ivan Muñoz, et al, *Life cycle assessment of the average Spanish diet including human excretion*, *The International Journal of Life Cycle Assessment*, 15, 2010, 8)
- *Math! How much CO2 is emitted by human on earth annually?* (*Small-M*, 27 March 2007):
  - So, if there is 6.6 billion people out there and excreting CO2 at the rate of 0.9 or 0.565 kg/day, the total CO2 emission by human alone annually is:
    - claim#1: CO2 emission = 0.90 X 365 x 6 600 000 000 = **2.168 x 10<sup>9</sup> tonnes/year**
    - claim#2: CO2 emission = 0.565 x 365 x 6 600 000 000 = **1.362 x 10<sup>9</sup> tonnes/year**
  - But human activities, through the fossil fuel burning activities, releases **24.136 x 10<sup>9</sup> tonnes** per year (via *Wikipedia*).

### Human breathing: as a myth of no ecological significance?

- McGill Office for Science and Society: *Why isn't the carbon dioxide from breathing a concern for global warming?*
  - The carbon dioxide we exhale does not contribute to global warming for the simple reason that we also take up an equivalent amount of carbon dioxide from the air, albeit indirectly.
- Brian Palmer: *7 Billion Carbon Sinks: how much does breathing contribute to climate change?* (*Slate*, 13 August 2009):
  - The Population Reference Bureau, a Washington, D.C.-based research institute, released a report Wednesday that projects the world population will **reach 7 billion at some point in 2011**. Does the collective exhalation of carbon dioxide from all those people contribute significantly to global warming? No. Human beings do exhale almost 3 billion tons of carbon dioxide annually, but the carbon we exhale is the same carbon that was "inhaled" from the atmosphere by the plants we consume. (When we eat meat, we're still eating the same carbon, except that it passes through livestock on its way into our mouths and out into the atmosphere.) The only way to add to the carbon in the atmosphere is to take it from a sequestered source like fossil fuels -- where it has been safe from the atmosphere for millions of years -- and combust it. So breathe easy.
  - Experts are **quick to point out** that this figure is meaningless, since human respiration is part of a "closed loop cycle" in which our carbon dioxide output is matched by the carbon dioxide taken in by the wheat, corn... that we eat. This is true as a practical matter.
- Nikki Withers: *How much does human breathing contribute to climate change?* (*ScienceFocus*):
  - So, on the face of it, we humans are a significant contributor to global warming. But, in reality, the CO2 we're breathing out is part of a natural cycle, by which our bodies convert carbohydrates from CO2-absorbing plants into energy, plus water and CO2. As such, we're not adding any extra CO2. In contrast, burning fossil fuels like coal releases CO2 which has been locked up for millions of years, producing a net contribution to global warming.
- *Does Breathing Contribute to CO2 Buildup in the Atmosphere?* (*ClimateSight*, 27 September 2010):
  - ... regarding the common myth that breathing out contributes to the buildup of atmospheric carbon dioxide.... when we breathe out, all the carbon dioxide we exhale has already been accounted for. By performing cellular respiration, we are simply returning to the air the same carbon that was there to begin with. Remember, it's a carbon cycle, not a straight line -- and a good thing, too!
- Brian Farley: *Do human farts contribute to global warming?* (*Quora*, 22 April 2015):
  - ... human beings collectively release about 73 metric tons of methane and 1000 metric tons of carbon dioxide into the atmosphere every day just by farting... This is a trivial amount of carbon dioxide.
- Catherine Brahic: *Climate Myths: human CO2 emissions are too tiny to matter* (*New Scientist*, 16 May 2007)

**Human breathing: spurious argumentation?** As noted above, the contribution of human breathing to global warming is readily treated as a myth of no practical significance.

Unfortunately for those deprecating any such consideration, the use of "myth" is also widely used in the dismissal of the problematic effects of global population increase (*Overpopulation: the deadly myth behind the other modern myths*, *WUWT*, 25 May 2019; *Overpopulation Myth: humanity will begin shrinking this century*, *American Council on Science and Health*, 26 February 2019; *Overpopulation Is a Myth*, *Population Research Institute*; Austin Ruse, *The Myth of Overpopulation and the Folks Who Brought it to You*, *United States Conference of Catholic Bishops*).

Given that few authorities now dare to refer to the impact of overpopulation, whether for political reasons or through the threat of funding cuts, the association with the impact of breathing is suggestive of questionable methodology subject to the threat from vested interests (*Institutionalized Shunning of Overpopulation Challenge: incommunicability of fundamentally inconvenient truth*, 2008). Deprecation as "myth" has become a default response by science to data deemed to conflict with preferred models -- as has been the case with climate change.

The dismissal is consistent with the methodology of the IPCC regarding the [Kaya Identity](#) to the effect that:

The Kaya identity (Kaya, 1990) is a decomposition that expresses the level of energy related CO<sub>2</sub> emissions as the product of four indicators: (1) carbon intensity (CO<sub>2</sub> emissions per unit of total primary energy supply (TPES)), (2) energy intensity (TPES per unit of GDP), (3) gross domestic product per capita (GDP/cap) and (4) population. The global average growth rate of CO<sub>2</sub> emissions between 1970 and 2004 of 1.9% per year is the result of the following annual growth rates: population 1.6%, GDP/cap 1.8%, energy-intensity of -1.2% and carbon-intensity -0.2% ....

At the global scale, declining carbon and energy intensities have been unable to offset income effects and population growth and, consequently, carbon emissions have risen... The challenge - an absolute reduction of global GHG emissions - is daunting. It presupposes a reduction of energy and carbon intensities at a faster rate than income and population growth taken together.

Admittedly, there are many possible combinations of the four Kaya identity components, **but with the scope and legitimacy of population control subject to ongoing debate, the remaining two technology-oriented factors, energy and carbon intensities, have to bear the main burden....** [emphasis added] ( *Fourth Assessment Report* (H.-H Rogner, et al, *Introduction. In Climate Change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, 2007)

Curiously evident by comparison is the focus on the smallest contribution to any "ecological footprint" (as in the associated calculators). To what extent do many of these details lend themselves to dismissal as of "mythical significance" to global warming by comparison? Smoking?

It is curious to note the widespread failure to mention the practice of smoking as a factor augmenting the carbon emissions associated with human breathing. Nor does smoking feature prominently in discussion of "carbon footprint" by the IPCC. A clarification has only recently been made available (*Smoking and climate change: the impact of the global cigarette industry*, *SciTech Europa*, 3 October 2018). This notes that:

The environmental impacts of cigarette smoking, from cradle to grave, add significant pressures to the planet's increasingly scarce resources and fragile ecosystems. Tobacco reduces our quality of life as it competes for resources with commodities valuable to livelihoods and development across the world. (Maria Zafeiridou, et al. *Cigarette Smoking: An Assessment of Tobacco's Global Environmental Footprint Across Its Entire Supply Chain*, *Environmental Science and Technology*, 52, 2018)

The style of argument in presenting the "facts" regarding the "myth" of **the impact of human breathing is noteworthy in completely neglecting the future impact of unchecked increase in population -- considerably increasing the number of "breathers"**, especially including that of the animals required for the necessary increase in food consumption.

The dismissal of the impact of breathing at this time merits consideration in a context of a doubling or tripling of the human population over the coming century -- the declared period of preoccupation of climate change strategies. No estimates are provided of the impact of breathing as a consequence. This is especially the case if significant numbers adopt smoking as a habit (as so many are encouraged to do in the absence of credible indications to the contrary). With respect to cancer, the early resistance of the smoking physicians at gatherings of the World Health Organization is symbolic in this regard.

## Ecological mouthprint, in metaphorical terms: a challenge?

**Reframing the carbon footprint:** Given the questions raised above regarding human CO<sub>2</sub> emissions, a shift to a metaphorical reframing is appropriately introduced by the study by [Anita Girvan](#) (*Carbon Footprints as Cultural-Ecological Metaphors*, 2017). In an opening chapter on *Cultural-material resonances of 'carbon' and 'footprint' and the emergence of the compound metaphor*, the author notes a neglected perspective:

Following the carbon footprint metaphor as a guide to the high-stakes material and cultural significance of *carbon* at the turn of the millennium offers a glimpse into its valences in seemingly endless contexts. There is a certain dissonance that might be posed by a carbon footprint; the actual concern indexed by this metaphor features a set of carbon compounds -- not carbon in general (or in isolation) -- as well as other greenhouse gases. Clearly, none of these gases has a 'footprint' in the literal sense but the metaphor has strong resonances nonetheless; indeed, these gases are invisible, suggesting that one function of the metaphor is to make visible and tangible something that cannot be seen. Carbon as a scientific term has entered public discourse more recently as a kind of vague signifier that connects to coal and other fossil fuels that are burned and produce unpleasant, even harmful, effects; thus it may be that the carbon footprint easily stands in as a measure of negative atmospheric effects. However, carbon is also implicated in all kinds of other cycles (materially and metaphorically) that come to influence its modifying role in the footprint metaphor. My approach to this metaphor's constitutive linguistic elements - carbon and footprint - is to understand them as double-valenced, that is, to see each of these linguistic elements as simultaneously carrying both material and linguistic meanings.

Girvan explores some of the resonances of carbon and footprint within Anglo-American cultural contexts, arguing:

These resonances are not exhaustive, but they are meant to suggest some of the central tensions inherent to political solutions to climate change that, in some cases, draw on and reinforce problematic cultural norms and political forms of organization, and in some cases, challenge these norms. **While 'footprint' more obviously appears as a metaphor, carbon itself has become a**

**prominent but highly shifty material and cultural signifier of ecological crisis** in the late-nineteenth and early-twenty-first century. [emphasis added]

**Mouthprint metaphor?** The shift from foot to mouth is somewhat ironically consistent with the reframing of discourse itself rather than action on the ground. Rather than on the emphasis above, and following the pattern with regard to the metaphorical use of "ecological footprint", **the focus in what follows is on a metaphorical "ecological mouthprint"** -- a non-physical focus, but with a physical grounding. There is clearly ever increasing sensitivity with regard to the details of ecological footprint and how these can be mitigated. Conferences on climate change may themselves be evaluated in terms of their ecological footprint.

The irony with regard to any ecological mouthprint is that it is perversely and paradoxically associated with widespread debate about global warming and climate change. Given the number of such gatherings, whether global or local, it could be asked whether any detailed footprint audit should be extended to encompass the mouthprint dimension exacerbated by such debate. Physically it would include the breathing of participants and speakers -- as well as that of any demonstrators.

**Hot air and overheating?** More provocative however is any estimate of the "hot air" produced on such occasions -- as readily and widely deprecated in anecdotal terms (and notably in the context of popular protest). **To how much "hot air" has debate about global warming given rise?** Is there any sensitivity to this dimension of mouthprint -- commensurate with the sensitive audits of footprints, even to those of the individuals involved as conference participants? Aspects of this issue can be separately explored (*Sins of Hot Air Emission, Omission, Commission and Promise: the political challenge of responding to global crises*, 2009).

The metaphor can be further extended in the light of the increasing **social unrest** in many countries -- exemplified by vociferous protests and demonstrations. There is a sense in which social interaction is itself "warming", if not "heating" the planetary psychosocial environment, such as to be readily recognized as dangerously "overheating", notably in the form of "overheated debate". Increasing populism can be interpreted as one manifestation of this. This recalls the use of that term to refer to **overheating economies** (Thomas Hylland Eriksen, *Overheating: An Anthropology of Accelerated Change*, 2016).

Provocatively it could then be asked whether social overheating, exacerbated by ever more intensive and widespread discourse, could be measured by some analogue to temperature. Is there a dangerous tipping point to be recognized -- as with that regarding climate? Are "rising sea levels" and exceptionally "turbulent weather" to be anticipated in psychosocial terms -- as many have predicted? Are "low lying islands" in danger of being "submerged"? How does the individual and collective mouthprint contribute to this potentially dangerous transition?

## Self-reflexive perversity of ecological inaction

The appeal for "**climate action now**" has been widely articulated in many contexts. It can be readily concluded that the response is selective, tokenistic or minimalistic at best -- necessarily inadequate to the challenge -- whatever optimistic claims are made to the contrary. It is in this sense that it is appropriate to explore a degree of **cognitive displacement** from "footprint" to "mouthprint". **Effective immediate response to a high carbon footprint may well be transformed into endless discussion about it** -- increasing the ecological mouthprint to a remarkable degree.

Over the period in which ecological and climate issues have been a concern articulated in gatherings (international or otherwise), suitable studies should be able to estimate the "mouthprint" increase achieved by those debates (and media commentary on them) in comparison with the increase in the corresponding "footprint". Given a gathering of days, possibly with hundreds of participants, the footprint of the gathering could be similarly compared with its mouthprint.

The perversity of the situation, as with smoking physicians in WHO gatherings, could be fruitfully recognized in the terms of biologist/anthropologist **Gregory Bateson** in explaining why "we are our own metaphor", as pointed out to a conference on the effects of conscious purpose on human adaptation that:

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)

In that light, is smoking (in addition to breathing alone) suggestive of how humans unconsciously embody the challenge of any response to climate change that society collectively faces? The arguments regarding the minimal effects of breathing are as suspect as have been those with respect to smoking -- especially given the manner in which they are so systematically dismissed under pressure from shadowy vested interests (**Naomi Oreskes** and **Erik M. Conway**, *Merchants of Doubt: how a handful of scientists obscured the truth on issues from tobacco smoke to global warming*, 2010).

Is yet another conference on climate change to be understood as part of the solution or as part of the problem? Is it the case that until participants understand how they, through their very presence and engagement, are part of the problem, they will be unable to understand the nature of the solution required?

## Mixing significant metaphors of foot and mouth?

In contrasting footprint with mouthprint there is a case for exploring the contexts in which foot and mouth are somehow associated as

metaphors.

- **Walking one's talk:** One idiomatic expression has it that: *If you're going to talk the talk, you have to walk the walk*. A variant is: *You talk the talk, but can you walk your walk?* (Andrew Read Wall, *Can you walk the talk? A talk about talks, and walks, The Writing on the Wall*, 2003). The expression *walk the walk and talk the talk* can however be interpreted as putting up a good front, namely to be good at being phony and appearing in a way that impresses people -- through insincerity and faking the way to success. Clearly climate change discussions can take the form of *talking the talk* -- a problematic mouthprint -- whilst climate change initiatives can take the form of *walking the walk*, contributing in a tokenistic manner to the reduction of an ecological footprint. On the other hand *walking the talk* can be understood as living with integrity (*What's the meaning of "walk the talk"?* Quora, 2018; Cat Thompson, *Walking Your Talk: the path of personal integrity, Experience Life*, March 2004; see synonyms of *Walk the Talk*). The increase in the number of long-distance climate protest walks merit consideration in this light.
- **Putting one's foot in one's mouth:** The phrase *to put one's foot in one's mouth* is normally understood as saying something embarrassing or wrong, to make a mistake in public, or a social blunder that is embarrassing or offensive. Clearly there is every reason to extend its use to the issues of climate change considered here. It could even be understood as descriptive of the cognitive displacement through which "action on the ground" is transformed into "action of the mouth". Given the reference above to foot-and-mouth disease, it is relevant to note that the disease is considered an origin of the phrase (*What is the origin of the expression "put one's foot in one's mouth"?* Quora). That comment notes that the term "foot-and-mouth disease" can also be used metaphorically to refer to someone who is especially gaffe-prone -- again suggesting an extension to the ecological challenge.
- **Putting one's money where one's mouth is:** Recalling the previous expression, the idiom *to put one's money where one's mouth is* refers to backing up a stated position with action. The only reference to "foot" is however by implication that this would be associated with action on the ground.
- **Laying down a path in walking:** Originally of Buddhist inspiration, this phrase featured prominently as a chapter -- *Laying Down a Path in Walking* -- in an influential study of *enactive cognition* (Francisco Varela, Evan Thompson and Eleanor Rosch, *The Embodied Mind: cognitive science and human experience*, 1991; Francisco Varela, *Laying Down a Path in Walking: essays on enactive cognition*, 1997). The ecological relevance continues to be developed (Donald Stuart Gray and Laura Colucci-Gray, *Laying down a path in walking: student teachers' emerging ecological identities*).
- **Learning by walking and talking:** The influential school of philosophy initiated by Aristotle is renowned for being characterized by circumambulating the iconic colonnades of the *Lyceum* of Athens. Its perambulating participants therefore became known as the *Peripatetic School*. This could be seen as an inspiration for more recent proposals (C. W. Ruitenbergh, *Learning by Walking: non-formal education as curatorial practice and intervention in public space, International Journal of Lifelong Education*. 31, 2012, 3). In contrast to the previous variant, a valuable argument has been made by Ludger van Dijk (*Laying Down a Path in Talking, Philosophical Psychology*, 29, 2016, 7)

## From strategic history through strategic following

**Historical bias:** The metaphorical focus on footprint is inherently problematic in that it frames and emphasizes a focus on the past. At its simplest, the footprint of the person making it is only visible to people by turning to face from where they have come -- turning the back on the future and where they had been intending to go. Also potentially problematic is recognition of the footprint of others -- through following them or recognizing the trail they have left behind.

The metaphor calls upon the early experience of humans in the wild when tracking skills were vital for survival. It is potentially meaningless when walking on concrete and other surfaces -- leaving no visible footprint,

**Acknowledging the unsaid:** Curiously tracking highlights what tends to be carefully avoided in discussion of "footprint". Equally vital in tracking is any form of "excrement". Current use of "footprint" as a metaphor tends to avoid such specific references by focusing on "waste" as being less obnoxious and controversial, whether or not its measurements include excrement.

This renders parenthetical what might have been included in the review above of alternative anatomically-related ecological "print" metaphors. No consideration of "arseprint" (or "assprint") would be deemed appropriate, despite its importance in practice, especially in the many situations where sanitation facilities are absent or inadequate (notably slums and refugee camps). This "hygienic" dissociation is also evident in the preference for Facebook -- and the faceprinting it enables -- when the origins of that initiative (and a preoccupation for many users) have been quite otherwise. Reference to the source of human bodily waste is avoided wherever possible in relation to ecological footprint.

This is symbolically evident in the period of celebration of the *50th Anniversary of the Moon landing*, as highlighted on that occasion by Jonathan Fetter-Vorm (*To the Moon, but Not Back: you might be surprised what humans left behind on the lunar surface, The New York Times*, 19 July 2019):

But if any of us were to stand at the foot of that ladder today, the plaque would be one of the last things we noticed. At the Apollo 11 landing site, and at the five others like it, the moon has become an archive of remnants that, not always intentionally, say more about humankind than any carefully designed monument ever could. If we wish to remember what it took and what it meant to send 12 men to the moon's surface, we ought to account for all that was left behind, both the grand gestures — and the garbage.

A more explicit point is made by Ian Sample (*Moon buggies and bags of poo: what humans left on the moon*, *The Guardian*, 19 July 2019; Yasemin Saplakoglu, *Tardigrades and Poop: what does space law say about Moon clutter?* *LiveScience*, 13 August 2019). The reference to human excrement does not feature in the systematic listing by *Wikipedia* (*List of artificial objects on the Moon*), which is more assiduous with respect to [space debris](#) around the Earth. Ironically it has even been determined that the arrival of humans on the Moon has modified the climate there (Chris Mahon, *How Humans Caused Climate Change On The Moon... And Why We Can't Stop It*, *OuterPlaces*, 8 June 2018; S. Nagihara, et al., *Examination of the Long-Term Subsurface Warming Observed at the Apollo 15 and 17 Sites...*, *Journal of Geophysical Research: Planets*, 123, 2018, 5).

Paradoxically, it is remarkable that every possibility is exploited to disparage others with reference to their means of producing excrement (Aaron James, *Assholes: a theory*, 2012). Curiously however, people tend not to disparage each other with reference to their feet, despite the close association with a footprint. "Big Foot"? Ironically from the perspective of this argument, there is no lack of disparaging references to "Big Mouth".

Tracking in the wild also highlights a form of "print" that is otherwise ignored, namely that from odour -- now recognized to a degree through "scentprint". This frames another issue with any generalization of "footprint" in that, despite a degree of effort, it is difficult for the source of the odour to detect it. The concern is obvious in the case of both body odour and the vexatious issue of cooking smells perceptible only to neighbours in cramped conditions. Arguably there are relevant analogues which call for exploration (*Epistemological Challenge of Cognitive Body Odour: exploring the underside of dialogue*, 2006). More "delicate" still, despite a degree of discussion with respect to cattle and sheep, is the issue of flatulence.

**"Footprint" as a questionable euphemism:** Given such questions, is it appropriate to recognize the degree to which **"ecological footprint" is a euphemism**, indicative of a degree failure to deal with reality -- and a lack of conceptual courage. More brutally, **should the current global civilization be recognized as effectively a "flatulent society"** -- given the problematic emissions by which it is so obviously characterized?

Is the controversial judgment of Donald Trump regarding "shithole countries" then to be welcomed for that reason (Ibram Kendi, *The Day 'Shithole' Entered the Presidential Lexicon*, *The Atlantic*, 13 January 2019)? Missing of course is his failure to acknowledge the primary source of planetary pollution (*Earth as a Shithole Planet -- from a Universal Perspective? Understanding why there are no extraterrestrial visitors*, 2018). Far more complex is the strange relationship then implied between "arse" and "mouth". This is only too evident in the extensive use of "bullshit" to deprecate the assertions of others, as formally studied (Harry Frankfurt, *On Bullshit*, 2005; Stephen Law, *Believing Bullshit: how not to get sucked into an intellectual black hole*, 2011).

Numerous web references frame Trump's declarations with that term, as well as noting his use of the term to frame those of others (Lars Kristiansen and Bernd Kaussler, *The Bullshit Doctrine: fabrications, lies, and nonsense in the Age of Trump*, *Informal Logic*, 38, 2018, 1; Kenan Malik, *Bullshit, not lies, is the corrosive influence blighting our public life*, *The Guardian*, 2 February 2019). Of relevance to this argument, there are also numerous web references to "bullshit" in relation to climate -- and the challenge of "no bullshit" advocacy. The difficulty would appear to be that those critical of official reports tend to use such terminology (Maya Rhodan, *Dick Cheney Says Senate Torture Report Is 'Full of Crap'*, *Time*, 11 December 2014; Rebecca Klar, *Trump blasts Mueller investigation as 'bulls---'*, *The Hill*, 17 July 2019).

More generally it is appropriate to recognize that footprint has an inherent historical bias -- offering only a possibility of inferring the implications for the future. The footprint of a tiger offers no indication as to whether it is waiting behind the next rock. **An ecological footprint is an indicator of past performance from which future performance may only be questionably inferred.** It offers little indication of capacity for its reduction, even if that is recognized as desirable (*Remedial Capacity Indicators Versus Performance Indicators*, 1981)

**Strategically following footprints?** Tracking also offers the sense in which a person may choose to follow the trail of footprints of another. In the wild this is typically evident in following the path defined by others and thus presumed secure -- or in pursuit of prey. Both patterns continue to be evident, through following the guidance of "those who have gone before" or in quest of profitable targets and "marks" -- as is now so characteristic of profiling for marketing purposes.

Neither pattern offers a strong sense of how any ecological footprint might be reduced. The current importance given to **"following"** by social media can be challenged in that respect. How does following trends and following others lead to footprint reduction? How is the elegance of the collective [swarming behaviour](#) of some animals to be understood in that respect, when it is so disastrously characteristic of [locust swarms](#)? Given the ecological challenge, does [collective intelligence](#) -- a hive mind -- offer as yet unrecognized potential?

## From strategic disorientation to strategic destiny

**Disorientation:** What contributes to strategic disorientation -- to being misled and not knowing where to go? Again the amazing capacity of the smallest of birds to migrate annually to the other side of the globe is suggestive, especially given the capacity to return. More locally the phenomenon is evident in the case of [homing pigeons](#) -- proven to be vital in time of war. Explanations for that capacity have proved elusive.

Only in 2014 has research been able to confirm the role of magnetism in enabling the capacity of birds to orient themselves in relation to the Earth's magnetic field, as summarized with its implications for humans by cognitive neuroscientist Philip Jaekl (*Can humans navigate by sensing the Earth's magnetic field?* *Aeon*, July 2019). This notes the demonstrated skill of some seafarers in the Pacific. The findings have set the stage for new experiments that, over time, have shown that flies, honeybees, ants and termites, snails, newts, various fish, frogs, sea turtles, lobsters, pigeons, mice, bats, mole rats, foxes, cattle and deer all have a [magnetoreception capacity](#).

That orientation capacity can however be disrupted through manipulation of the magnetic field. This raises the possibility that the

navigational ability of humans might be similarly disrupted. Research suggested that failure to replicate in the USA the earlier successful research in the UK was due to the incidence of AM radio broadcasts throughout the US, but nearly nonexistent in the UK at the time. If magnetoreception can be jammed by AM frequencies, this explained why so much time and effort put into replicating earlier results ended in failure.

Understanding of such matters is as yet in its initial phase. It does however frame the question of the nature of an "electromagnetic footprint" which might prove to be a dimension of an ecological footprint -- especially given increasing wifi facilities at home. There is no lack of concern at the potential [health risks of electromagnetic pollution](#) -- readily dismissed as insignificant with respect to those held to be more obvious, despite arguments to the contrary (Priyanka Bandara and David Carpenter, *Planetary Electromagnetic Pollution: it is time to assess its impact*, *The Lancet: planetary health*, 2, 2018, 12). This notes that:

Due to the exponential increase in the use of wireless personal communication devices (eg, mobile or cordless phones and WiFi or Bluetooth-enabled devices) and the infrastructure facilitating them, levels of exposure to radiofrequency electromagnetic radiation around the 1 GHz frequency band, which is mostly used for modern wireless communications, have increased from extremely low natural levels by about  $10^{18}$  times... Evidence also exists of the effects of radiofrequency electromagnetic radiation on flora and fauna. For example, the reported global reduction in bees and other insects is plausibly linked to the increased radiofrequency electromagnetic radiation in the environment. Honeybees are among the species that use magnetoreception, which is sensitive to anthropogenic electromagnetic fields, for navigation

More intriguing is the potential implications for subtle disorientation in a global environment, especially given the enhanced levels of electromagnetism through implementation of [5G networks](#) worldwide. Will these prove even more disruptive to the long-distance navigational capacity of migrating birds, for example?

**Destination disruption engendering circularity?** Without relying on any magnetic analogue, a fruitful question is then how any sense of a fruitful strategic direction might now be disrupted. Potentially as subtle as any electromagnetic effect is the manner in which advertising endeavours to create a memetic field of influence through which people are oriented towards particular ends -- into a catchment area. People are necessarily and increasingly subject to such fields of influence -- as much as they are subject to electromagnetic effects. Whilst the disorienting effects of the latter may be dismissed, great credibility is attached to fields of influence and the possibility of investing in them. The scandal of the influential role of Facebook and [Cambridge Analytica](#) has been explored at the highest level.

Whilst efforts to influence in that way are significant in the shorter term -- with respect to product marketing, interference in elections, or in framing the justification for war -- the longer term implications can be usefully explored as disruptive of any sense of orientation. The capacity to detect a substantially meaningful "home" is effectively "jammed" through exposure to short-term, ephemeral surrogates..

As in references to the tracking context, the situation for many could be compared to being lost in the desert -- reinforced by a sense in which the planet is now subject to a form of desertification through environmental degradation. As in the anecdotal tale in that regard, in the absence of any sense of the direction of "home", there is then a tendency to walk in circles -- returning endlessly to the point of departure, as in many debates regarding climate change and the need for immediate action. This recalls the strategic adage of [George Santayana](#): *Those who cannot remember the past are condemned to repeat it.*

A remarkable description of this process from a mathematical perspective has been provided by [Ron Atkin](#) (*Multidimensional Man: can man live in 3-dimensional space?*, 1981). He illustrates this by the challenge of comprehension in relation to experience "within" the geometry of a triangle -- especially with regard to the perspective necessary to comprehend the triangle as a whole. Experimentally he applied this approach to the exploration of the pattern of academic committees in a university. The pattern of communication within the committee can then be understood in terms of traffic around the geometry of the triangle centred on a "hole" as discussed separately ([Communicable Insights](#))

Generally speaking it seems to be confirmed that action (of whatever kind) in the community can be seen as traffic in the abstract geometry and that this traffic must naturally avoid the holes (because it is impossible for any such action to exist in a hole). The holes therefore appear strangely as objects in the structure, as far as the traffic is concerned. The difference is a logical one in that the word "q-hole" describes a static feature of the geometry  $S(N)$ , whilst the word "q-object" describes the experience of that hole by traffic which moves in  $S(N)$  (p. 75).

As an "object" this phenomenon is an obstacle to communication and comprehension and obliges those confronted with it to go "around" in order to sense the higher dimensionality by which it is characterized. Communications "bounce off" such objects. As a "hole" this phenomenon engenders, or is engendered by, a pattern of communication. It appears to function both as "source" and "sink". Atkin suggests that, in some way which is not yet fully understood, such object/holes act as sources of energy for the possible traffic around them. From the initial research it would appear that such objects/holes are characteristic of communication patterns in most complex organizations. It seems highly probable that they can also be detected in any partially ordered pattern of communication. As such "societal problems", "human needs", and "human values" merit examination in this light from the perspective of different languages and modes of socio-economic organization.

Atkin notes that even though the geometry may not have been rendered explicit, such structures generate the feeling throughout a community of some "power behind the scenes" acting to outwit the formal structure. The special value of q-analysis is that it can clarify why action/discussion in connection with (development) issues tends to be "circular" in the long-term, however energetic it may appear in the short-term. As such it shows how social change is blocked by the way in which conceptual traffic patterns itself around the

sensed core issue which is never confronted as such because the connectivity pattern is inadequate to the dimensionality of the issue. This would explain why so many issues go unresolved and why the process of "solving" problems becomes institutionally of greater importance than the actual "elimination" of the problem.

Atkin analyzes much more complex situations in exploring information flows through the committee structure of a complex organization. He is especially concerned with how information on substantive issues gets moved around through appropriate committees without it being necessary to confront core issues or bring them into focus, namely the bureaucratic technique of handling information overload by avoiding use of that information.

#### Succinctly: an analogous fishy illustration?

Ironically the situation Atkin describes is usefully illustrated by the design of a very small farm pond for a single fish. As in some traditional practices, by placing a rock in the centre, the fish has the illusion of a second side to a river bank and therefore swims perpetually around the rock -- whereas otherwise it would remain stationary in the centre and be more vulnerable to illness.

**Returning "home" in a period of strategic disorientation:** The subtle sense of "home" and its location could be understood as implied, if only metaphorically, by the argument regarding a human magnetosense. Indications, variously upheld as of fundamental significance, include:

- **homeland**, as variously stressed with respect to cultural, national, or racial identity:
  - in patriotic discourse (*heimat*, *patrie*, etc), notably in use of **Motherland** or **Fatherland**
  - by displaced peoples seeking to return, especially evident in the case of indigenous peoples and refugees
  - in the attachment to profound ancestral lands and their topography (as with the song lines of the Australian Aborigines)
  - as cultivated in the ritual phrase *Next year in Jerusalem*
  - a **promised land**, in the light of spiritual revelation
- returning home, understood in mythical terms:
  - **eternal return**
  - **prodigal son**
  - as nostalgically cultivated in the mythology of the TV series *Battlestar Galactica* -- both protector and provider to a small fleet of civilian vessels "searching for the legendary planet Earth", following destruction of the human galactic civilization.
- questing, variously understood by:
  - a "place to be", characterized by a "quality without a name", as framed by the efforts of **Christopher Alexander** (*A Pattern Language*, 1977)
  - a place "to call home"
  - a **vision quest**
  - exploration of genealogical roots
  - the knights of the King Arthur legend -- following the trail of "fewmets", so significantly left by the **Questing Beast**, as described by **T. H. White** (*The Once and Future King*, 1958).
  - tourism as a surrogate form of questing
- symbolic focus, notably aspirations and obligations for **pilgrimage**, especially to Jerusalem, Mecca and Kailash

**Human destiny?** The above may variously contribute to a subtle sense of **destiny**, governing a strategy which has been effectively predetermined. It has been evident in the sense of **Manifest Destiny** in the USA, of Japan's **Greater East Asia Co-Prosperity Sphere**, the **Greater German Reich**, and with respect to **Greater Israel**. Similar beliefs may be evoked in support of expansion and conquest, previously evident in imperialist ambitions, and potentially evident in the current space race.

As with animals, it is appropriate to recognize the manner in which humans may be **imprinted** by a place subsequently felt to be "home" to which they may seek to return in some manner. Ironically it could then be said that irrespective of an subsequent anatomically-related "print", there is a sense of an original "imprinting" which governs a homing tendency to some degree.

Beyond any experiential sense of "home", and the longing for it, there is however a sense in which the strategic efforts by the United Nations to frame **Millennium Development Goals** and **Sustainable Development Goals** merit interpretation as framing the destiny of humanity -- effectively designing a "planetary home for humanity" in the light of conventional insights. This is suggested by the subtitle of the influential report by **Johan Rockstrom** and Will Steffen (*Planetary Boundaries: exploring the safe operating space for humanity*, 2009). The challenge is the unrecognized psychosocial constraints to any such ambition, as is evident in the feeble response to issues implied by "ecological footprint" (*Recognizing the Psychosocial Boundaries of Remedial Action: constraints on ensuring a safe operating space for humanity*, 2009).

## Learning from the anthropomorphisation of rabbits in children's tales

With respect to environmental and other crises, studies have noted the incapacity to recognize the reality of the life-threatening nature of the challenge (**Karen A. Cerulo**, *Never Saw It Coming: cultural challenges to envisioning the worst*, 2006; **Joshua Cooper Ramo**, *The Age of the Unthinkable: Why the New World Disorder Constantly Surprises Us And What We Can Do About It*, 2009; **Nassim Nicholas Taleb**: *The Black Swan: the impact of the highly improbable*, 2007). Is the comparison appropriate with the widely cited phenomenon of **rabbits caught in the headlights of an oncoming vehicle at night**? (Frank Shapiro, *Fear - Rabbit Caught in Headlights*). Given the context, and the glare of the informational "headlights", should the reaction of humans be compared with that of rabbits?

**Br'er Rabbit:** As noted above, there is a case for learning from the behaviour of rabbits, especially given the role they have acquired in influential folk tales and children's stories. In the USA, that of **Br'er Rabbit** as a trickster derives both from the Cherokee and from tales

of African slaves. The tales have been used there to highlight aspects of environmental politics (Peter F. Sale, *Tar Babies, Pipelines, Plunderers and Stewards: a review of the environmental impacts of development of the Athabasca tar sands* *Our Dying Planet*, 31 May 2013). In the UK, as a hare, it has acquired yet another identity as one of the icons of the environmental movement with its own protection group, the British Brown Hare Preservation Society (Peter Marren *Hare today, gone tomorrow?* *The Independent*, 13 July 2006).

Of some relevance, the **Tar-Baby** tale has notably been evoked by Allan K. Fitzsimmons (*Ecosystem Health: a flawed basis for Federal Regulation and Land-Use Management*) in a challenging conclusion to the effect that:

After repeated "Howdies" do not get the desired response, Br'er Rabbit -- refusing to accept the now obvious -- pounds on the Tar Baby in a fruitless attempt to force it into doing something it cannot do -- talk. Eventually our rabbit friend is hopelessly enmeshed in goo, but the Tar Baby still does not speak. It seems to me that is where we are with respect to ecosystems and public policy. The tar baby of ecosystems attracts many people. But for reasons I note here and elsewhere, defending illusions on the landscape is not a responsible goal for public policy.... Instead of continuing to try and turn the ecosystem tar baby into something it cannot become-- a rational foundation for land use management -- I suggest we extract ourselves and move on down the road in search of better constructs because, at least in the realm of public policy, the ecosystem concept and its attendant notions of health, integrity and sustainability represent intellectual and evolutionary dead ends. (In: David J. Rapport, et al. *Managing for Healthy Ecosystems*, 2002 p. 195)

Appropriately *Wikipedia* links the Tar-Baby tale to the policy science concept of a so-called **wicked problem**.

**Watership Down:** Of particular relevance is the tale by **Richard Adams** of *Watership Down* (1972) and its subsequent movie adaptation. Although they live in their natural wild environment, with burrows, they are anthropomorphised, possessing their own culture, language, proverbs, poetry, and mythology. As a survival novel, the tale follows the rabbits as they escape the destruction of their warren and seek a place to establish a new home (the hill of Watership Down), encountering perils and temptations along the way. It is also appropriate to note its recent destruction (Siobhan McNally *The REAL Watership Down woodland is set to be concreted over for a housing estate* *Mirror*, 21 December 2018) as with "Hundred Acre Wood", the inspiration for the tales of *Winnie-the-Pooh* (1926) figuring another famous rabbit (Gareth Davies, *Ashdown Forest fire: Winnie the Pooh's Hundred Acre Wood ablaze*, *The Telegraph*, 29 April 2019; Carol Kuruville, *The Forest That Inspired Winnie-The-Pooh's Hundred Acre Wood Ravaged By Fire*, *The Huffington Post*, 30 April 2019).

The dynamics of *Watership Down* were significantly informed by the insights of (**Ronald Lockley**, (*The Private Life of the Rabbit; an account of the life history and social behavior of the wild rabbit*, 1964). In a comment on that influence by Charles A. Meyer (*The Power Of Myth And Rabbit Survival In Richard Adams' "Watership Down"*, *Journal of the Fantastic in the Arts*, 3, 1994, 3/4, pp. 139-150), it is noted that:

... any serious exploration of meaning in *Watership Down* must take into account both the power of myth to revitalize and Richard Adams' use of Ronald Lockley's *The Private Life of the Rabbit* as a source for rabbit realism... The pervasive identification of rabbits and their behavior with humans and theirs is what Adams has found so meaningful in *Private Life*. Like us, especially we denizens of inner cities, the rabbits of Lockley's experiment live in a closed environment they cannot control. Like us, they are highly adaptable to the shifting demands of their surroundings. The strong exert their strength to dominate the weak so that life for the strong can become even more satisfactory in times of want or trouble. 'To the rich [in the rabbit world and our own] shall be given richer, but the poor shall be made poorer.'

*Watership Down* has been used to frame the challenge of climate change (Thomas Smyth, *Climate Change – Our Watership Down Moment* 2 January 2017). Related points of relevance have been made (Sarah Zielinski, *Children's classic 'Watership Down' is based on real science*, *ScienceNews*, 12 July 2015; *On the Unsettling Allure of 'Watership Down'*, *The New York Times*, 15 May 2018).

If climate change is the threat it is claimed to be, **is an overly informed humanity "caught in the headlights", as in accounts of the paralysis of rabbits on a highway at night?**

Of course humans are far from paralyzed in such a situation, but is the behaviour in which they indulge then equivalent to paralysis in failing to enable them to act appropriately and immediately? Exploiting the dynamics of *Watership Down*, would they immediately get into a huddle and form a committee to discuss the challenge and its urgency at some future time -- a committee dominated by the "usual suspects" primarily concerned with the preservation of their status?

**Down the rabbit hole?** Any such bleak picture can of course be contrasted with another favourite children's tale featuring a rabbit, namely **Lewis Carroll's** *Alice's Adventures in Wonderland* (1865). Given the surreal nature of society at this time -- a wonderland in its own right -- is there scope for humanity to "escape down a rabbit hole"? Variants of that theme have featured as *What the Bleep! Down the Rabbit Hole* (2006) expanding on an earlier book *What the Bleep Do We Know!? Discovering the Endless Possibilities of Your Everyday Reality* (2005). Appropriate to that possibility, *Down the Rabbit Hole* has become an annual festival since 2014.

What indeed do we know about climate change and the threat it constitutes? How indeed to escape that reality? Is the renewed enthusiasm for getting to the Moon, and to Mars, to be recognized as a "rabbit hole" of appropriately extraordinary proportions for those least sensitive to any ecological footprint, on Earth or elsewhere? (*Challenges More Difficult for Science than Going to Mars*, 2014; John Schwartz, *We Went to the Moon. Why Can't We Solve Climate Change?* *The New York Times*, 19 July 2019).

## Recognizing the "ecological childprint"

How unfair is it to compare the many climate change gatherings to groups of rabbits "caught in the headlights" on a highway at night? Rather than any understanding of ecological footprint, the question is whether their mouthprint in endlessly discussing the challenge can be recognized to be as unfruitful as that of a huddle of rabbits. Whilst their bonding rituals are indeed to be honoured, it is the incapacity to "get off the road" which is cause for reflection. Rather than honouring the philosophical heritage of the Aristotelian [peripatetic school](#), with its circumambulating modality, is there a tragic irony to the possibility of recognizing its transmutation into a "peripathetic school" -- meandering continuously around an issue?

**There is no alternative?** The strategic peculiarity of the times is the ability of esteemed authorities to talk endlessly about matters of urgency -- framing urgent action in terms of scheduling future gatherings to discuss them further. The added twist is to be seen in crafting the agendas of such gatherings to avoid longer-term issues in favour of secondary issues of immediate value to public relations, the news cycle, and electoral possibilities, as can be variously discussed ([Vigorous Application of Derivative Thinking to Derivative Problems](#), 2013; [Group of 7 Dwarfs: Future-blind and Warning-deaf -- self-righteous immoral imperative enabling future human sacrifice](#), 2018).

Little can seemingly be effectively done about this dynamic in practice, as so succinctly summarized by Margaret Thatcher's TINA ([There Is No Alternative](#)) -- perhaps usefully interpreted as *There Is No Answer*. With the road as "business as usual", blinded by the headlights, the challenge for rabbits is indeed: **where is off the road?** ([Considering All the Strategic Options -- whilst ignoring alternatives and disclaiming cognitive protectionism](#), 2009)

**"Childprint"?** In reviewing "ecological footprint" above in terms of alternative anatomical metaphors of potential significance, a highly significant candidate was omitted, namely the penis. As with mention of excrement, this could have been discussed in terms of its excretory function, especially given the significance associated with pissing. This can of course also be used to indicate destructive criticism of initiatives.

Curiously, for many animals, pissing has another role in marking a territory. This is a role which can be recognized in human initiatives, most notably through claims to territorial ownership, reinforced by use of intellectual copyright as an analogous means of marking domains.

More relevant to this argument is however the reproductive role of the penis and the remarkable tendency to avoid any reference to it in relation to "ecological footprint". Exceptions are evident in the extensive discussion evoked by the question: [How many children can I sustainably bring to this world?](#) ([Sustainable Living Stack Exchange](#), 6 May 2013) and in two reviews of the question (André Gonçalves ([Should We Stop Having Babies To Be Truly Sustainable And Save The Planet?](#) *CSR and Sustainable Development News*, 19 September 2018; Simon Beard, [Should we stop having children?](#) *BBC Free Thinking*, 2018).

**Breeding like rabbits?** Rather than "penisprint", reference might then be more appropriately made to "childprint". In principle it is only too evident that increasing population numbers increases the human ecological footprint. A one-child family could be said to have a 3-person footprint. A 7-child family can be recognized as having a 7-person footprint. Multiplying the number of children, through multiplying the "childprint", multiplies the footprint -- if that is the preferred terminology. Discussion of "ecological footprint" skillfully avoids the religious and politically charged dimensions of this impact ([Lipoproblems -- Developing a Strategy Omitting a Key Problem: the systemic challenge of climate change and resource issues](#), 2009).

Of fundamental significance to the childprinting process is the nexus of symbolic associations involving legacy and heritage -- having children to be remembered by. Curiously the challenge of acquiring resources to meet the needs of the increasing number of "mouths to feed" is typically forgotten, set aside or reframed -- suggesting issues to be explored in relation to "mouthprint".

Again little can seemingly be done about this dynamic, reinforced as it is by widespread belief in the unquestionable doctrines of various religions. There is however a case for seeking further inspiration from rabbits. Appropriately perhaps, a primary survival strategy for rabbits is intensive unchecked breeding -- hence the phrase "breeding like rabbits".

Although this has been specifically deprecated on a single occasion by Pope Francis, and notably with respect to the Philippines, this has not prevented the president of that country from specifically blaming the Pope for the condition of that society ([Don't breed 'like rabbits': was Pope Francis breaking new ground on birth control?](#) *Religion News Service*, 20 January 2015; Emily Rauhala, [Stop Breeding Like Rabbits? The Pope Misses the Point on Contraception](#), *Time*, 20 January 2015; Clemente Lisi, [Duterte's Moral Crusade Against Drugs Is Targeting The Catholic Church](#), *Religion Unplugged*, 9 July 2019).

**Engendering "eco-fodder":** In anticipation of the mythical disaster exacerbated by excessive population increase, the strategic situation can be seen as one requiring population reserves ("environmental cannon fodder") as so successfully achieved by the survival strategy of rabbits -- despite their exposure to existential threats of resources and predation. The problematic sense of **cannon fodder** can then be fruitfully related to that of "cannon fodder", as argued separately ([Metaphorical entanglement of "cannon fodder" with "cannon fodder"?](#) 2018). Rather than vain arguments for constraints on population, a proactive case could then be made for rapid and extensive increase in global population numbers ([Enabling Fruitful Multiplication of Global Population: eliciting massive social consensus by unconstrained reframing of strategic priorities](#), 2015).

In contrast to any "negative" reflection on whether there will be enough resources, the "positive" case can be systematically reinforced to counter arguments to the contrary ([Is There Never Enough? Religious doublespeak on population and poverty](#), 2013). The optimistic message is then: *there will always be enough*.

## Advocating more of what comes naturally?

**Increasing the ecological mouthprint?** Rather than focus on reducing the ecological footprint in practice, there is therefore a paradoxical case for intensifying the mouthprint through discourse to the extent possible -- namely multiplying the number of

authoritative gatherings in which the footprint is discussed to little substantive effect. In terms of "going with the flow" rather than "pushing the river", this is consistent with the current pattern and calls only for a reinforcement of current behaviour, rather than evoking resistance through endeavouring to change it.

This has the advantage of being recognized as a non-threatening strategy of "business as usual". **Rather than minimizing the footprint, the challenge is how to magnify the mouthprint.** Megaphone-enhanced mass gatherings, international assemblies, use of the media and the internet, all serve together to magnify the mouthprint. It can even be seen as consistent with increasing reliance on political slogans to make a country "great again".

**Paradoxical strategies:** The approach can be understood as inspired by another rabbit folk tale, in this case *Br'er Rabbit*, whose insights are occasionally cited with respect to environmental and other challenges. Known and valued as a **trickster**, the strategic skills Br'er Rabbit would seem to be appropriate to the problematic dilemma of the times, helpfully framed by Anita Girvan (*Trickster Carbon: stories, science, and postcolonial interventions for climate justice, Journal of Political Ecology*, 24, 2017, 1)

In one well-known tale, Br'er Rabbit, escapes from his predator by begging him not to throw him into the Briar Patch -- knowing that Br'er Fox will indeed throw Br'er Rabbit into the Briar Patch since that is what Br'er Rabbit claims to fear most, and knowing that Br'er Fox will want to do whatever causes Br'er Rabbit the greatest suffering. Of course Br'er Rabbit, isn't really afraid of the Briar Patch in which he was born and raised. This is an appropriately "unthinkable" strategy to take with an adversary -- arguably one that matches the nature of the problem (even justifying some discussion of it by chess players).

Who is the Fox of this tale? In systemic terms, candidates for Br'er Fox could include:

- Business, as currently conceived and widely criticized? This would be consistent with a need to reinforce Br'er Rabbit's desire to consume wherever possible, and naturally to "breed like rabbits" to maximize the numbers of consumers. The slogan is *shop till you drop*.
- Religion, given the beliefs it cultivates for a higher cause. This would be consistent with Br'er Rabbit's desire for unconstrained breeding, irrespective of resource constraints and the consequences for those unable to be nourished.
- Government, given its complicity in the agendas of Business and Religion, and the income benefits it derives from encouraging Br'er Rabbit to follow its instincts in the short-term, whatever the consequences in the long-term.

The flaw in any such comparison is of course the assumption with regard to the ability of Br'er Rabbit to escape from the Briar Patch -- and the pain with which it is associated.

Strategically such seeming madness can however be understood otherwise in the light of a 19th century poem by [Emily Dickinson](#) (see [commentary](#)):

<i>Much Madness Is Divinest Sense</i>	
Much Madness is divinest Sense	'Tis the Majority
To a discerning Eye	In this, as all, prevail
Much Sense -- the starkest Madness	Assent -- and you are sane
	Demur -- you're straightway dangerous
	And handled with a Chain

Recognized as [reverse psychology](#), examples of reflection on "briar patch strategy" include:

- Ross Kaminsky: *The Border Wall Briar Patch* (*The American Spectator*, 29 January 2019)
- M. S. Bellows, Jr: *The Trap: Clinton's "Briarpatch" Strategy for the DNC Rules Committee Meeting* (*The Huffington Post*, 6 June 2008)
- Richard John Stapleton, *Br'er Trump burrowed in his White House briar patch* (*Intrepid Report*, 10 April 2018)
- Gregory S. Forman: (*Don't*) *throw me in the briar patch; Pelosi's Briar Patch Strategy*, *Daily Kos*, 19 May 2019).
- *Tale of the Clinton Briar Patch: how Brer Trump Rabbit "outfoxes" Brer Hil and Brer Barack* (*Common Sense Blog*, 11 November 2016)
- *Reverse Psychology: plea, dont throw me in the Briar Patch* (*TV Tropes*)

The term has long been used as the title of a magazine on critical political and social commentary (*Briarpatch*).

**Focusing on extraterrestrial myths?** The argument above noted the tendency of science to dismiss as myth any data that it is not yet able to handle -- or to associate with extant models. This is especially regrettable in that science has not proved able to address the complexity of the crises of society -- preferring instead to enable escape for some down various "rabbit holes" using the best of mechanistic thinking, as authoritatively reinforced ([Martin Rees](#), *The Moon was once a Frontier: but new worlds now beckon*, *The Guardian*, 20 July 2019; [Stephen Hawking](#), *Humans need to leave Earth or risk being annihilated by nuclear war or climate change*, *Business Insider*, 18 October 2018; [James Wignall](#), *The Silicon Valley Space Race*, *BBC News*, 22 July 2019).

Most curious is the sense in which the current crises on Earth could be said to be all about space -- territory and the lack of it -- and a place for many to call "home". Extraterrestrial space is framed as a window of opportunity for humanity. But the "gateway to the stars" is extremely narrow -- a possibility for only the very few in the foreseeable future. The destinations possible are far more arid than Earth, although every effort is made to render the Earth as arid as they are.

Perhaps the most widely known source of insights from rabbits is [Aesop's fable](#) regarding the race between the [hare and the tortoise](#). Are space techno-optimists to be understood as hoping to "hare off" into space to discover a new home for humanity -- naturally defeating the tortoise in the process. Is the tortoise then to be understood as the [global problematic](#) for whom remedial change at humanity's

current "home" is inherently slow? The fable stresses the over-confidence of the hare -- so confident that it can beat the problematic, that it chooses to take a nap before addressing its attention to its rival. That the tortoise won in the fable is of course the essence of the tale. **Is science taking a nap -- maybe dreaming of rabbit holes?**

Further insight is offered by [Nasreddin](#) -- the Aesop of the Middle East. In one tale the rabbit takes a role of potentially symbolic significance for a resource-challenged future (in which cannibalism may be more common than currently foreseen). The rabbit is brought by a guest to Nasreddin's home as a welcome contribution to the evening meal. Informed of this hospitality, the following day another arrives without a rabbit and is offered soup prepared from the bones of the previous day. On the following day yet another appears, hoping to benefit from such hospitality. Nasreddin serves water with a few bones, saying this is the "[soup of the soup of the rabbit](#)". What "soup of the soup" will people eat when [global population](#) grows to 10 billion by 2100?

Is trashing the Universe to be recognized as humanity's footprint -- given the unabashed skill with which science and religion have enabled the trashing of Earth and the degradation of its ecosystems -- without caring adequately for its inhabitants? Far more subtle, given the Freudian associations of rockets of ever larger dimensions, the commitment to "being great again", and the traditional symbolism of the Moon as a target, is the manner in which escapism "down the rabbit hole" can be readily reframed for many through its sexual connotations, as for the poet [W. H. Auden](#) (Edward Mendelson, *'So Huge a Phallic Triumph': Why Apollo Had Little Appeal for Auden*, *New York Review of Books*, 12 August 2019). In a period of widespread concern with sexual harassment and rape, the current enthusiasm of the USA, Russia, China, France and India for a "[space force](#)" by male-dominated institutions merits reflection.

**Doing more of what comes naturally?** The argument above cited the purported myth of the contribution of human breathing to climate change in relation to the myth of the problematic consequences of increasing population in the coming decades -- then to be compounded by the disastrous consequences of global warming. The argument with respect to human breathing is especially significant in that it is claimed to be a feature of a natural closed cycle. As such it is therefore unable to contribute to climate change in the short-term, or presumably in the longer-term despite any unexplored increase in the population (and its smokers). There is therefore a strong case for advocating much more of "what comes naturally", namely human reproduction -- given that its consequences for the planetary ecosystem can be dismissed by science as only mythical. This is a claim curiously consistent with the myths of religion in justifying unchecked reproduction.

The increasingly recognized concern with [recycling](#) then suggests much further development of closed loop thinking, of which the case for a [circular economy](#) is but one example. With respect to consideration of the proposed increase in the ecological mouthprint, the challenge would seem to be the further transformation of closed loop thinking into patterns of discourse characterized by circularity. How indeed can repetitive argument in the short-term be rendered sustainable on a long-term basis -- without engendering action liable to undermine its viability through any need for shock learning?

The question is especially pertinent in a society characterized increasingly by both media-enabled [dumbing down](#) and by a progressive decrease in the average intelligence through which innovative responses might otherwise be engendered (Peter Dockrill, *IQ Scores Are Falling in "Worrying" Reversal of 20th Century Intelligence Boom*, *ScienceAlert*, 13 June 2018; Rory Smith, *IQ scores are falling and have been for decades, new study finds*, *CNN*, 14 June 2018). In terms of sustaining patterns of repetition, the problematic adage cited above can therefore be given a positive spin: *Those who cannot remember the past are condemned to repeat it.*

**Cultivating a mystical quest for non-action?** References to governance in mythical settings variously imply a level of insight characterized by a subtle form of "non-action" which is a challenge to conventional understanding (*The Quest for the Socio-Economics of Non-Action*, *Futures*, 25, 1993, 10). In increasing the mouthprint, one approach would then be to encourage the current pattern of repeated for action by a mythical "[international community](#)" for whose existence there is little evidence (*Appeals to the international community (whether it exists or not)*, 2015). Another opportunity exists through the more intensive production of "resolutions" as the outcome of representative gatherings -- especially then to be understood as the re-resolution of a strategic solution for which re-solutions had previously been formulated.

Arguably the promotion of an increased ecological mouthprint could come to be interpreted as the art of skilled avoidance of modes of action whose consequences are otherwise experienced as problematic (*The Art of Non-Decision-Making -- and the manipulation of categories*, 1993). Rendering problems ever more "insubstantial", through an increased mouthprint commitment to "talking them up", could be explored through "encycling" (*Encycling Problematic Wickedness for Potential Humanity*, 2014).

Global Mouthprint Day
The day in the year when the accumulation of fake news is such that for the remainder of the year social processes are unable to distinguish bullshit from any underlying reality
natural complement to <b>Earth Overshoot Day?</b>

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