

# Getting To a Real Earth: Globalised Development Data and New Politics

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I wonder what sort of person you need to be to imagine the UN's data collection framework for Sustainable Development Goals monitoring as a future whole-world governance system, and what sort of person you need to be to refute that idea. Then I think, is my act of wondering evidence of the banal, ineffectual cosmopolitanism of the contemporary global citizen, the continually captive observer of transient human social activity generated in an apparently perpetual self-referential loop? Or can I hope that by considering that there are answers to who we are, as individuals and as a collective, and to where we live, my questions can develop meaning in analysis of global politics?

Over the UK summer of 2018 I spent my time transcribing and analysing every word of ten hours of conference sessions at the United Nations' first World Data Forum, hoping that my subsequent discourse analysis would find direct evidence of conflict between political cosmopolitanism and nationalism. This was dissertation research for a Masters course in International Relations at the University of Nottingham. More than a year later I have developed conclusions that tie the spectre of unforeseen consequences from the globalisation of social data to the politics of response to global environmental crisis.

Researching the World Data Forum, a world conference for public statisticians and associated interests, I was looking for evidence of conflict between global and national positions. I aimed to explore whether this conflict supported my hypothesis that the capability of Big Data, if used to gather and analyse globalised socio-economic statistics, would contribute to the development of world government or other hegemonic global power, such as transnational business. I foresaw that this might happen by directly creating such an agent (for example if artificial intelligence systems took control of global data) or, perhaps more plausibly, by means of social construction: globalised information creating a policy system that through its use and demonstrable

effectiveness shifts the balance of public opinion away from the national and in favour of global power..

Unfortunately for me I didn't find overt evidence that national and global representatives recognised a conflict of interest generated by development of this globalised statistical architecture. The dominant discourse of the conference plenaries maintained a complementarity between nationalist and cosmopolitan meanings.

The essay that follows describes some of my thinking about this complementarity, this lack of national and cosmopolitan conflict, in an attempt to understand what it might mean for global governance in terms of the social construction of globalised politics. First though, because it's also important, and probably interesting, I describe my key findings about the transformative potential from the idea of newly globalised data power.

## **The politically transformative power of Big Data**

Look at the long list of social and economic indicators required to track the SDGs, the need to observe and sum everyone everywhere, and the accelerating power of Big Data analysis to forecast and influence outcomes, and the globalised dataset appears – to my mind at least – as a potential risk to sovereign national government and primogenitor of a global government statistical system. It threatens to undermine both the state's credibility as best-placed to formulate knowledge-based policy for the national population and, as a consequence of taking information system design out of the state's hands, nullify the nation's ability to tell its own story. If national statistical description constructs an image of the nation-state then SDG statistical monitoring appears to construct an image of the world state, and perhaps give it life.

The United Nations goals for worldwide sustainable development between 2015 and 2030 (the SDGs) aren't the UN's first go at a unified development programme. They are the successor to the Millennium Development Goals (MDGs), which were defined for the years 2000-2015 as an attempt to coordinate international progress on tackling poverty, with particular relevance to countries most affected by extreme poverty, health risks and lack of access to health and education services. But the transition from MDGs to SDGs involves a pronounced expansion in scope. From the MDGs focus on poverty to the SDGs focus on sustainable development, the UN has shifted from policy that affects some of us – those in poverty – to policy that affects all of us, because the whole Earth population needs sustainability. Further, the relatively tight MDGs – eight broad goals with 21 specific targets monitored via 60 indicators – have expanded to the SDGs set of 17 goals with 169 specific targets monitored via 232 indicators, including planetary or universal targets on social protection, economic rights, food security, biodiversity, mental wellbeing, road traffic accidents, access to healthcare and medicines, completion of secondary education, equal access to tertiary education, and the list goes on[i]. The SDG's were agreed by all 193 UN member states.

The SDG targets are a huge multinational commitment, and they require monitoring, so the UN has a strategy to bring countries and partners together to create a monitoring system. Monitoring of SDG progress against targets is worldwide – it includes the richest and largest states[ii]. In January 2017 the UN launched its Global Action Plan for Sustainable Development Data and a new body, the World Data Forum, to lead the developments in statistical practice called for in the plan. My research focused on this first meeting of the Forum.

No doubt the eightfold increase in number of targets from MDGs to SDGs reflects the SDGs' wider scope and their more participative goal development process, with diverse inputs from civil society and private sector, but I suspect it also reflects how information collection and analysis became more central in society between 2000 and 2015. From 2000 to 2015 the number of worldwide Internet users leapt from about 400 million to over 3 billion[iii] and a range of sources of data suggest that the 2015 Internet user would have been spending at least twice as much time with the Internet as the year 2000 user. And since 2015 the growth of Internet use continues. This means an explosion in use of published information but also an explosion in the amount of information provided by the public to companies, governments and NGOs, exploitable in all its forms, from search interests and shopping preferences to where we have been, who we associate with and the world we wish for. As data availability has expanded, so have analytical practices, now extending to self-taught processes able to experiment and refine their approach to achieve more and more accurate assessments. When Google set one of their computers to teach itself how to play chess it became the best player in the world in four hours[iv].

The question arises, what political effects would arise if the powers of globalised computing were applied – as an outcome of the UN's global action plan - to analysis of standardised globalised development data, covering indicators as broad as mental health status, road traffic accidents and biodiversity?

Statisticians and computer engineers might snort at the idea that technology could control global social policy through some form of always everywhere monitoring and analysis system and I would have to bow to their expertise. Nevertheless, the idea of the super-powerful 'technological singularity', a machine-based agent whose iterative self-improvement processes raise its intelligence far beyond that of all humanity, is discussed in research. Surveys of technology experts find expectations that 'high-level machine intelligence', when machines can out-perform human intelligence at every task, will arise between 21 and 46 years from now, to be followed by vastly superior intelligence before the end of the century[v].

What I am most concerned with is how technological development affects thinking now and in future. In their survey of IT experts Grace et al found that 48% of respondents thought more priority should be given to 'research on minimizing the risks of AI'[vi]. They could see something super-powerful coming over the horizon and they thought humanity was not doing enough to control it. They, like most of the rest of us, have already observed a technological revolution generated by thousands of small acts of ingenuity, and billions of banal transactions as we search and browse and interact and download, with transformational effects for economy and society around the world. It seems that as a social phenomenon, the development of information technology has its own momentum. What reason would any of us have to expect that future

iterations of technological development would be resisted, even if they carry the risk of catastrophic harm that a non-human global superintelligence might bring?

## Observed effects of hypothesis

Even before sitting down to watch and analyse the 2017 World Data Forum's plenary sessions, my reading around the UN's data strategies revealed affect similar to IT experts' anticipation – and perhaps fear – of technological singularity, because so much of the UN's discourse featured the idea of 'data revolution'. It was such a central idea that it almost seemed to be the strategy. Initially an external force to be responded to, the strategy for development data appeared to be to accept and harness revolution.

One other force likely to be as affective on the World Data Forum as it was in the UN was apparent from my reading about the SDGs. Global climate change loomed as an urgent threat.

As I followed the conference sessions the image of a new all-encompassing, transformational global information system appeared ever more clearly in what speakers were saying. The speakers were predominantly national statisticians plus a mix of academics, business entrepreneurs, civil society activists and UN dignitaries. Impressions emerged from my detailed analysis of their speech: they perceived data as ever more Big and revolutionary; history described the nation-state but data had the power to describe its objects; national statistical architectures were to be homogenised[vii]; the repurposed, perhaps diminished, and to cope with the size and complexity of the inexorable revolution the national statistician was to welcome partnership with the transnational commercial sector's data experts.

Everything I saw added up to revelation of Big Data and global risk like a pair of mindless norm generators, embodied with planetary-scale energy, orbiting each other like a celestial binary, new in the social Heavens, demanding that we understand and absorb them into our globalised institutions and practices. And rather than resist or contest this development, presented by the UN as part of the global data revolution (revolutions being massive, inevitable, transformational), the community of national statisticians assembled at the conference appeared to accept it as their new task, although not without notable exception.

Statistician-General of South Africa Pali Lehohla gave this warning,

'I see in big data and statistics and other things, I see the emergence of tyranny of data and I think that will rob us of the democratic rights that we have. And we should guard against the tyranny of money, data and statisticians by ensuring that we democratise the processes that go through. And go back to the philosophy of objectivity, where it is about sitting down, discussing and getting the best solutions. Otherwise there is a real danger of tyranny of data, statistics and money.'

In summary I found that the Forum presented quite convincing evidence of constructivist effect from the combination of data revolution and the new task of monitoring global sustainable development. Faced with the revolutionary task, some responded by urging reconfiguration of

systems for national statistics, some accepted the prescription and some pushed back, apparently in fear of anti-democratic forces and economic interests.

As I have said earlier in this essay, I didn't find evidence in the Forum discourse of overt conflict between national and global interests. Sometimes national histories were described but largely they served as expressions of diversity rather than opposition. Even when perceiving the possibility of revolution and tyranny from data, the communal 'we' of the people in the room took precedence over the national interest to protect its capability for independent national analysis from the manifest threat of data globalisation.

I have satisfied myself that the globalisation of development data represented by the UN's effort to create the information system needed to monitor implementation of the Sustainable Development Goals is subject to the influence of social forces whirling around information technology and Big Data, forces which permit transformational change in the control and function of socio-economic and environmental data.

In the next section I return to the question of why I didn't find expressions of conflict between cosmopolitanism and nationalism. My reflections take the essay away from the World Data Forum and into planetary morality but eventually return to considering its possible contribution to the development of the role of global institutions.

## **Asking why nationalism and cosmopolitanism are compatible**

For me what's most important from my discourse analysis exercise is that my observation of the World Data Forum led me to ask why expressions of cosmopolitanism and nationalism in political discourse are harmonious rather than discordant – why our language avoids the global vs local debate - and to one possible answer that exposes a fault in cosmopolitan politics.

This has important material consequences in the search for effective responses to global risk. If it's true that our political conversation is historically constructed to conceal cases of conflict between national and global positions, then we are failing to give adequate consideration to certain political outcomes and solutions, particularly those where the idea of a worldwide system of distinct national interests gives way to an idea of pan-human justice. For those seeking to construct a system of global justice, whether through civic activism or political theory, if there is a gap in how *we talk* about global politics then perhaps there is a gap in how *you think* about global politics, and you may benefit by searching for a way to think differently.

## **Daniel H Deudney: All Together Now**

Looking for a logical explanation for the peaceful co-existence of nationalism and cosmopolitanism I have been impressed by an idea recently expressed by Daniel H Deudney in Luis Cabrera's 2018 edited volume *Institutional Cosmopolitanism*[viii]. Deudney's chapter

explains what I understand as the fault or blind spot in contemporary political cosmopolitanism in terms of the history of human understanding of geography, in particular in the side by side development of our conceptions of local place and universal space. It's an explanation that links our experience of the physical geography of our planet with the presence in language and meaning of philosophical concepts.

Deudney describes the genesis of cosmopolitanism in ancient Greek philosophy and its development through the age of Enlightenment, the Greek 'Archipelago Earth' and the Enlightenment 'Global Earth', to the current moment, 'Planetary Earth'[ix]. Across these ages, the foundational social context that underpinned the development of meaning included common understanding of 'the world' as a place beyond; for ancient Greeks, barely imagined, and for 18<sup>th</sup> century European philosophers like Kant, a world represented on a globe yet still distant and understood as other, a place of wonder. Meanings of cosmopolitanism founded in this history have therefore developed as a theory not for a specific planetary geography but for an imagined realm, the universal beyond the horizon.

Consequently the harmony I found between nationalism and cosmopolitanism is explained: cosmopolitan politics is never about the real-life politics that nationalism represents, it's always about otherworldly possibilities beyond the practicalities of national interest. This allows us to maintain general commitments to cosmopolitan universals, because we know they are never conceptualised as existing in the same place as the national. We can talk about a global family, imagined as diverse yet undivided, and concurrently maintain an absolute commitment to our national compatriots without inconsistency.

## **The gap in our thinking**

It seems to follow that there is a blind spot in conventional thinking about politics, one with the potential to affect proceedings ranging from the World Data Forum to global climate change conferences to the UN General Assembly, because it is founded in language and reinforced through processes of national cultural socialisation that affect every participant. If an idea of world as unknown space is woven into our understanding of the planetary polis, then it may be acting as a continual resistance against political progress at the global level: aims always appearing as fantasies, challenges always appearing as horrors. Accepting this as true of what we mean by 'world' would not be to deny that some of the apparent obstacles to justifying global power aren't real practical problems, but it would allow us to analyse them as particular contemporary problems, by rescuing them from the realm of the mystic. Later in the essay I consider what this might mean for the particular contemporary problem of personal ethics for a sustainable biosphere and the demands we might make on world government. Next I complete my reference to Deudney by discussing his extension of cosmopolitanism to politics of today's geography of planetary place.

# Terrapolitanism

Deudney argues that the shift in perspective brought by globalisation has us beginning to understand our world as particular, specific, limited place rather than unbound space, so historically universalist cosmopolitanism now has a possible rival in theory of global politics: demand for world politics now a demand for governance of a non-ideal, really-seen polis of terra rather than a demand for idealised governance of an always-imagined polis of space-located cosmos. Deudney proposes a development in global political theory towards a particular ‘terrapolitanism’, not so much a rejection of cosmopolitanism or ideas of justice, rather a grounding of cosmopolitanism in the here and now.

Terrapolitanism appears to add political meaning to cosmopolitanism. Suddenly the gap in our thinking is filled, the one sustained by our habitual conceptual leap from local place to global space. By conceiving of Earth as a particular place, and discarding framings that understand the surface area we live on as equivalent to the cosmos, we can make the problems of global governance similar in kind to those of national governance, practical not transcendental. We can treat the maximum 12,451 miles between two homes as non-infinite (finite, in fact) and the difference between two individuals originating in their nationality as socially constructed within a particular species community at a particular point in history. Human rights become civil rights. The individual can make planetary demands, institutions of particular global place can arise in response.

The logic of a governable terrapolitan world leads to requirement of technological and scientific approaches to measurement and analysis, bringing us back to Big Data, the World Data Forum and the potential contemporary emergence of a real global governance system. Our awareness of our capacity to observe and describe the particulars of our planet, including our perception of the need to manage risk generated by our expansion and our profligate economics, suggest a contemporary social context which combined with the apparently irresistible force of information technology development will lead to politically influential institutional forms of global data analysis. Analysis which national decision-making will struggle to compete with. Analysis which may reflect our image of world government.

We might reject such a proposition because it doesn’t fit with our liberal cosmopolitanism, which presupposes that world government arises from ideal intentions, or because it doesn’t fit with our realism and remains vulnerable to the realities of military power and national self-interest, but in terrapolis neither a liberal precondition of universal love or the realist’s fear of international tyranny are sufficient to preclude the possibility of globalised observation, worldwide information-sharing and transnational policy effect.

But the constructivist has to consider other social forces and admit that we don’t yet know what these developments will look like. While technology is enabling a new perspective on our planet, it isn’t yet clear that this perspective will override other social forces enough to defeat the mythical nation-state and generate social determination of a human terrapolis. One might argue that, fundamentally, our personalities are centred in our particular local environment, that Earth citizenship will always be secondary to our localised home allegiance. One might also argue that

technology is constructing a contrary human perspective focused on the artificial experiences generated by technology and looking away from social and planetary material experiences (witness empirical studies of ‘technofence’ documenting effects on child welfare caused by parents’ screen time[x]). Nevertheless, I think Deudney has correctly identified that the gap between our empirically observed planetary existence and socially-constructed understanding of our world(s) is politically meaningful. I am confident that these are two very different perspectives. How things turn out will be influenced by forces within society but also by the individual relation to planet and society.

## **New state of nature**

We aren’t in the habit of observing ourselves as mere organisms held by local gravity on a crust just 25 miles above molten rock and 62 miles from outer space, dependent on a forever limited volume of air and water, experiencing sustained liveable temperatures rarely found in a universe where extremes of cold and heat are the normal rule. Our lives are predominantly social and society constructs our lens on the world: shelter is a building and home, not a barrier against galactic radiation, cold, and gravity-driven precipitation; weather describes effects within our community not today’s instance of planetary climate; nature is wildlife and countryside not a bizarre miracle of organic chemistry; objects fall downwards, not inwards to the centre; at day or night we look up at the sky, not into or through the atmosphere; we lead our lives in relation to a map of homes, streets, properties and communal areas, not to the singular planet surface that inspires the map. Each of us is stationary in our place, yet we are all at points on the surface of a giant ball of hot rock spinning in orbit around its own local star. Now subject to the twin revelations of globalising technology and planetary risk it’s hard to see how much longer we can avoid this totalisation of our sense of place, how much longer we can imagine that the material ends at our national border.

We can’t know, yet, how the local-area and all-terran perspectives on place will interact, whether the terran will dominate or whether they will coincide. We have no similar history to guide us and a long pre-history of local perspective and unseen world. Evolution prepared our brains for a two-dimensional wilderness of forest, savannah and small community but offers those brains no help in adapting to our new-seen state of nature, exposed to the universe on the fragile surface of a remote planet.

## **Things might not change**

Modern cultural forces may be capable of sustaining the idea of the whole world as mythic, perhaps created and sustained by the supernatural, or merely a backdrop to a more fundamental, social reality, and humanity, or dominant social forces within our population, may resist even as technology and science reveal. After all the image of cloud-marbled blue planet, the image itself a consequence of 20<sup>th</sup> century technological development, is almost a cliché, more stereotypical portrait of universalised humanity’s home than observation of material place situated in a real space and time, perhaps inescapably compromised as a generator of new perspective. And there is a sense in which our failure to fully appreciate our planetary place is exacerbated by



modernity, because its technologies have permitted us to build an image of human existence that is distinct from the natural, producing the possibility of resistance to understanding humanity as inextricably, comprehensively part of the natural world.

Perhaps it won't be possible for us to see Earth and our relation to it in the way that we appreciate the reality and value of our local community. Maybe we can't see it from within, maybe the design of our bodies and minds are structural barriers to this sort of seeing, maybe the thought is just too weird and frightening to admit to ourselves and others.

## The will to change

It seems we ought to be cautious about concluding that technologies that allow us closer, more information-packed and more frequent observation of our planet will be sufficient to develop a new terrapolitan mindset in the general population. We need to identify something markedly different about contemporary human reality that could bring about the terrapolitan shift if we are to be confident in Deudney's idea. Our psychological and social unpreparedness for planetary reality suggest we need acts of will and acts of cooperation.

What if ethical motives for political action arising from recognition of global risk are the catalyst that supplants cosmopolis with terrapolis? Not through simple policy action, but by generating a rich, multi-faceted, creative political discourse that provokes reflection and debate about the foundation and aims of self and society?

Recent political, economic and cultural norms have produced risk scenarios – for example on climate change, plastics pollution, soil depletion, loss of biodiversity – that threaten to end the capacity of my local environment to support human life: my life, that of my loved ones, that of all others around the world. The dominance of nation-states, each constituted solely to meet its own interests, limits government of place to discrete national territories and hides the planet as a whole from political view. In the space beyond community life, long-established economics of production, consumption and waste disposal continually – and on a planetary scale, rapidly - diminish the availability of raw materials, reduce biodiversity and pollute the commons of the biosphere. Socialisation processes originating in political and economic power develop and reinforce cultural norms of nation before species, exploitation before conservation.

Wishing, it seems to me quite reasonably, to take action to eliminate the existential risk now seen to be generated by these norms – to divert Spaceship Earth from crashing into the Sun, to avoid early death, suffering and the end of dreams – I plan what action I can take. The first thing to do is recognise that I can no longer rely on the norms that generate these risks, either to avoid catastrophe or to protect me from catastrophic effects, the latter because political norms of nationalism restrict my freedom to escape disaster in my home country. Secondly, my wish to be identified a moral being and hold all others as deserving of equal treatment means I require a new ethic that insists on a pan-human duty not to pollute the shared biosphere or irrevocably deplete it. Alienated from society defined by contemporary political structures and dominant economic practices I recognise my need to create new rules of cooperation that transcend these high-risk, demonstrably harmful institutions and permit a new set of institutions to emerge. On

this basis it doesn't matter whether these new norms are variations on the old or whether they are radical departures from established ways of living. What matters is that they reduce risk to a level I and all others can accept.

The objective of such a plan could be conceived as an act of terrapolitan self-determination, establishing a particular worldwide community founded on particular human objectives. Others may prefer different political strategies but if they share my understanding of global risk then they will need to find a defence for the political, economic and cultural norms that generate that risk, or acknowledge the reasonableness of my choice to try to determine new institutions. My expectation is that even if we soon find solutions to climate crisis, plastic pollution and other global challenges on the near horizon, then the combination of globalised technology, our continuing vulnerability to natural disaster and our understanding of the finite limits of our planetary resources will sustain perception of significant global risk. Systems of politics and economics that don't reflect this reality will be hard to defend from the demand for global justice and institutions.

So in the face of global risk the terrapolitan person – not yet subject or citizen – has more than a participative role, they are determinative of the state. The act of terrapolitan self-determination is justified as a transcendence of national self, an act of will to embrace the revealed state of planetary nature and establish a social order based on common interest in sustaining the planetary biosphere. But for the terrapolis to emerge, its citizens must be seen.

## **Recognising the terrapolitan citizen**

For self-determination of a terrapolis for planetary environmental sustainability it follows that the citizens of terrapolis must be seen and their relation to planet and society must be accepted. We might expect a demand for globalised development data, so institutions can form and test policy and so citizens can assess the acceptability of rules and duties applied to them. Without terrapolitan data systems of some form, the ethical citizenship that underpins determination of terrapolis is undermined, because the citizen must be able to assess their relation to the world and to the behaviour of others if they are to accept as integral to their citizenship their planetary identity and associated responsibilities.

Search in your browser for the Global Action Plan for Sustainable Development Data[xi]. Even if you aren't tech savvy you can get a sense of the ambition represented by the plan. It's an agenda to make global-level sense of each nations' statistics by ensuring technological borders are removed for the sake of worldwide sustainable development. Consider it the beginning of a terrapolitan task: recognition of all citizens, identification of their location in the planetary place and measurement of their relation to progress across the entire planetary polis.

# Constructing terrapolitan ethical norms

We have found the development of information technology to be irresistible, continuing to accept its innovations and their social effects. It seems safe to expect the ongoing globalisation of sustainable development data in the coming decades, a very very long time in technology terms. The question of development of terrapolitan ethical norms remains, and is up to terrapolitans to answer.

I think such norms may be emerging in contemporary discourse of environmental activism. I accept it is possible that my argument for determination of political and economic institutions based on ethics of environmental mutuality in the face of global risk will remain just the vision of a solitary person, imagined at just one point on the planet surface. Nevertheless I am interested in what is revealed in the actions and speech of activist Greta Thunberg, who has appeared as a leading and apparently influential voice in international politics and media, and her success in finding an audience.

Thunberg's speech shows intent to determine new institutions to deliver environmental justice in response to global risk: her call for 'cathedral thinking' in a speech to UK MPs- 'We must lay the foundation while we may not know exactly how to build the ceiling'[xii] and her urgent demand for the totally new - 'We can't save the world by playing by the rules. Because the rules have to be changed. Everything needs to change. And it has to start today'[xiii]; finally her declaration that the world's future is to be determined by the people:

'If solutions within this system are so impossible to find then maybe we should change the system itself. We have not come here to beg world leaders to care. You have ignored us in the past and you will ignore us again. We have run out of excuses and we are running out of time. We have come here to let you know that change is coming whether you like it or not. The real power belongs to the people!'[xiv].

Perhaps as indicative of terrapolitanism as her speeches, Thunberg's choice to travel by the greenest method possible, including by sail instead of air when crossing the Atlantic, reinforces a consciousness of physical experience of planet as place in contrast to the spacelike experience of air travel. The choice speaks to the idea of a shift in human identity associated with an environmentally-aware ethics of planetary place. Contrary to the image of the eco-hippy and late 20<sup>th</sup> century environmentalism's place-focused insistence on 'act local', the conscious terrapolitan sees themselves as a planet-dweller and founds the morality of their actions in the planetary community. Activists recognising the failure of national and international political leadership and conventional market economics are still protesting to the established institutions rather than replacing them, but they see the necessity of change, and the change they seek is planetary, not national.

# Conclusions

Four factors combine to produce an idea of transformed global politics and personal identity: irresistible, unyielding development of world-changing information technology; awareness of biosphere-threatening, human-generated environmental crisis; humanity's material bounds and planetary place measured, described and understood; the individual's acceptance of contemporary economic and political institutions at question.

Deudney's review of the history of cosmopolitanism and identification of a turn from the universal-global to the terrapolitan planetary society makes way for the development of agency and structure designed for a real, demystified Earth. The individual's awareness of their planetary existence, the possibilities of technology and the threat situations they are caught up in, makes possible individual ethics and political action to determine a new sustainability-based global community, but they will need the data of sustainable development to make terrapolis work.

What all this means for the World Data Forum is a demand and a freedom to be confident in asserting a non-universal, terrapolitan cosmopolitanism of particulars. What human society needs now is entrepreneurial attempts to watch and weigh our world-place and our influence on it, adopting a methodological terrapolitanism that enables recognition of our individual and collective world dependency and recognition of the validity of politics of rights and duty not simply for the universal 'all', but particularly for *all human beings here and now*.

[i] United Nations (2019) *SDG Indicators* [online], United Nations Statistics Division, available at <https://unstats.un.org/sdgs/indicators/indicators-list/>

[ii] Annual reports on the website <https://www.sdgindex.org/> include the additional G20 and Large Countries Edition

[iii] Source for approximate numbers of Internet users is <https://ourworldindata.org/internet>

[iv] Silver, Hubert , Schrittwieser et al (2017) *Mastering Chess and Shogi by Self-Play with a General Reinforcement Learning Algorithm* [online] at <https://arxiv.org/abs/1712.01815>

[v] HLMI is predicted by 2040 by respondents in Müller, Vincent C. & Bostrom, Nick (2016) 'Future progress in artificial intelligence: A survey of expert opinion' in Vincent Müller (ed.) *Fundamental Issues of Artificial Intelligence*. Springer. pp. 553-571, found online at <https://philpapers.org/rec/MLLFPI>.

Alternatively Katja Grace et al (2018) ('Viewpoint: When Will AI Exceed Human Performance? Evidence from AI Experts', *Journal of Artificial Intelligence Research*, vol 62 (2018) found online at <https://www.jair.org/index.php/jair/article/view/11222/26431>) find median expectation of HLMI by 2057 and cite another study's finding of an expectation of HLMI by 2065.

[vi] Katja Grace et al (2018) ‘Viewpoint: When Will AI Exceed Human Performance? Evidence from AI Experts’, *Journal of Artificial Intelligence Research*, vol 62 (2018)  
[online] <https://www.jair.org/index.php/jair/article/view/11222/26431>

[vii] Well before the World Data Forum the UN had begun a process to align practice and systems across national boundaries. UN General Assembly resolution 28/261, Fundamental Principles of Official Statistics, principle nine states ‘The use by statistical agencies in each country of international concepts, classifications and methods promotes the consistency and efficiency of statistical systems at all official levels’ and principle 10 states, ‘Bilateral and multilateral cooperation in statistics contributes to the improvement of systems of official statistics in all countries’.

[viii] Daniel H Deudney (2018) ‘All Together Now: Geography, The Three Cosmopolitanisms, and Planetary Earth’ in Luis Cabrera, ed., *Institutional Cosmopolitanism*. Oxford: Oxford University Press

[ix] Ibid., p 256

[x] Arianna Huffington (2019) ‘Parenting While Distracted - “Technoference” and how screens are disrupting our most important relationship’ [online], *Thrive Global*,  
<https://thriveglobal.com/stories/arianna-huffington-parenting-distracted-technology-screen-time-impacting-children-relationships/>

[xi] Or click this direct link

[https://unstats.un.org/sdgs/hlg/Cape\\_Town\\_Global\\_Action\\_Plan\\_for\\_Sustainable\\_Development\\_Data.pdf](https://unstats.un.org/sdgs/hlg/Cape_Town_Global_Action_Plan_for_Sustainable_Development_Data.pdf)

[xii] Greta Thunberg (2019) ‘Speech to UK parliamentarians - You did not act in time’ [online], *The Guardian*, transcription at <https://www.theguardian.com/environment/2019/apr/23/greta-thunberg-full-speech-to-mps-you-did-not-act-in-time>

[xiii] Greta Thunberg (2018) ‘Speech at the “Declaration of Rebellion” in London on 31<sup>st</sup> October 2018 – The rebellion has begun’ [online], *Medium*, transcription at <https://medium.com/wedonthavetime/the-rebellion-has-begun-d1bffe31d3b5>

[xiv] Greta Thunberg (2018) ‘Speech at COP 24 Dec 12 2018’ [online], *Fridays For Future*, transcription at [https://www.fridaysforfuture.org/greta-speeches#greta\\_speech\\_dec12\\_2018](https://www.fridaysforfuture.org/greta-speeches#greta_speech_dec12_2018)