*Review of International Studies (2010), 36, 181–200* *© 2010 British International Studies Association*
*doi:10.1017/S0260210510001063* *First published online 2 Sep 2010*

# Cosmological sources of critical cosmopolitanism

HEIKKI PATOMÄKI*

Abstract. Critical cosmopolitan orientation has usually been embedded in a non-geocentric physical (NGP) cosmology that locates the human drama on the surface of planet Earth within wide scales of time and space. Although neither a necessary nor a sufficient condition for critical cosmopolitanism, NGP cosmology provides a contrast to the underpinnings of centric cosmologies, such as those of Aristotle, which see the world as revolving around a particular observer, theorist and/or communal identity. NGP cosmology makes it plausible to envisage all humans as part of the same species. The connection works also through homology and analogy. An astronomic theory can be isomorphic with an ethico-political theory, that is, a structure-preserving mapping from one to the other is possible. Key cosmopolitan theorists have situated morality within a cosmic framework. However, the ethico-political implications of the NGP cosmology are ambiguous. Nietzsche was among the first to articulate its sceptical and nihilist implications. Various reactions have encouraged territorial nationalism and geopolitics. I suggest that critical cosmopolitical orientation should now be grounded on the notion of cosmic evolution, which is not only contextual, historical, pluralist and open-ended but also suggests that humanity is not a mere accident of the cosmos.

**Heikki Patomäki** is Professor of World Politics and the Vice Director of the Centre of Excellence in Global Governance Research at the University of Helsinki, Finland. He is also an Innovation Professor of Human Security – Globalisation and Global Institutions at the RMIT University in Melbourne, Australia. Patomäki's research interests include philosophy and methodology of social sciences, peace research, futures studies, global political economy, and global political theory. His most recent book is *The Political Economy of Global Security. War, Future Crises and Changes in Global Governance* (Routledge, 2008). Heikki can be contacted at: {heikki.patomaki@helsinki.fi}.

## Introduction

There are two distinct ideal-typical forms of cosmopolitanism. The first is rooted in the context of separate communities and states and asks: do we have duties to others by assisting or civilising them or at least by preventing major maldevelopments – such as massive human rights violations – within their communities or states? Cosmopolitanism answers affirmatively, yes, we do have universal duties to everyone, including foreigners; whereas state moralists deny the wisdom of such universalism.[1] From a classical political realist viewpoint, this kind of universalism

* I am grateful to Pamela Slotte, Manfred Steger, Jennifer Gidley and the journal's anonymous referees for their very helpful comments; and to Jennifer also for her assistance in editing the text.

[1] In IR theory, the distinction between state-moralism and cosmopolitanism has been popularised by Chris Brown, *International Relations Theory: New Normative Approaches* (London: Harvester



https://doi.org/10.1017/S0260210510001063 Published online by Cambridge University Press

comes close to moral imperialism. Hans Morgenthau discussed moral imperialism in terms of a general temptation to see oneself as the bearer and promoter of universal values: 'All nations are tempted – and few have been able to resist the temptation for long – to clothe their own particular aspirations and actions in the moral purposes of the universe'.[2]

In the second sense, however, cosmopolitanism has been used to take distance from any particular 'us' and criticise 'us' as a particular community, nation or state. Prior to the modern era, this criticism was usually confined to negative distance-taking, but since the late 18th century, critical cosmopolitanism has explored the possibility of creating better global institutions (becoming more political and transformative a century later). In this article, I leave the non-detached forms of both imperialism and cosmopolitanism aside and focus on explaining the possibility and emergence of detached – or what I also call critical – cosmopolitanism.[3] What is it that has made critical cosmopolitical thinking possible and plausible? From ancient proto-cosmopolitans to the 21st century transformative globalists, critics have challenged parochial ideas by re-contextualising particular histories, identities and moral understandings in broad, holistic terms. Somehow, at least since the 5th century BCE, human imagination has had the capacity to overcome its particular communal conditions and transgress existing divisions and boundaries. Does this mean that man is not a political animal in the Aristotelian sense? Is it not part of human nature to live in particular communities? Are ethical and political meanings not tied to specific languages, and thereby to specific human groups and communities? And has it not been risky, and often outright dangerous, to question the understandings and values of the community backed up by state-powers?

I argue that critical cosmopolitan orientation has usually been grounded on a non-geocentric physical cosmology (to be explained below) that locates the human drama on the surface of planet Earth within wide scales of time and space. The

Wheatsheaf, 1992). In this and related works Brown has assumed that cosmopolitanism usually comes in a rather parochial form: 'Most accounts of the universal values that might underlie a cosmopolitan ethic seem suspiciously like inadequately camouflaged versions of the first ten Amendments of the Constitution of the US of America'. Chris Brown, 'Cosmopolitan Confusions: A Reply to Hoffman', *Paradigms*, 2:2 (1988), p. 106, n. 2. For an analysis of how these two positions are defined negatively against each other, while circularly presupposing the other's position, see Heikki Patomäki, 'From Normative Utopias to Political Dialectics: Beyond a Deconstruction of the Brown-Hoffman Debate', *Millennium: Journal of International Studies*, 21:1 (1992), pp. 53–75. In that paper I argued, furthermore, that Hoffman's cosmopolitanism is at once too modest (it leaves many, perhaps most problems unanswered) and too strong (in some historical contexts Brown may well be right about the imperialist implications of Hoffman's view on human rights).

[2] Hans Morgenthau, *Politics Among Nations. The Struggle for Power and Peace*, 3rd edition (New York: Alfred A. Knopf 1961), p. 11.

[3] The two cosmopolitanisms are of course often intertwined. Many thinkers have oscillated between: (i) a view that justifies 'our' imperial interventions or expansion and, (ii) a view that denies that 'we' should have any specific position, rights or duties in the order, or city, of the universe. This applies of course to contemporary critical cosmopolitans as well. Even when arguing for just or democratic global institutions, cosmopolitans may still be embedded in a particular cultural and ethico-political context in a way that escapes their conscious attention. In other words, even the critical cosmopolitan sentiment may lack in self-reflexivity. For a recent attempt to carefully balance between the two distinct forms of cosmopolitanisms and elements of communitarianism or state-morality, see Toni Erskine, *Embedded Cosmopolitanism. Duties to Strangers and Enemies in a World of 'Disclosed Communities'* (Oxford: Oxford University Press, 2008). Also in this account, however, there are others who emerge as enemies (even when seen as 'fellow members of overlapping communities'); and thereby, the rules of just war becomes a key issue.

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word 'cosmos' originates from a Greek term κόσμος meaning 'order, orderly arrangement, ornaments'. From Pythagoras onwards, the term has been applied to the visible, physical universe including planets and stars. This is of course not the only meaning of the term. There have been numerous mythical and religious attempts to understand the implicit order within the whole of being. Cultural theorists and social scientists discuss cosmologies in this sense, referring to the basic world views of various human groups (cultures, nations, civilisations).[4] Horizontal comparisons of cosmologies may easily lead to the conclusion that cosmologies are enduring cultural deep-structures that do not change easily. Furthermore, cosmologies may be depicted as being outside the realm of validity claims such as truth and good. This would imply a version of the thesis of cultural relativism.[5]

A non-geocentric physical (NGP) cosmology is built upon a scientific account of the distances and nature of the solar system and interstellar space, and of the cosmic conditions of life and society on planet Earth. NGP cosmology can of course be given meaning – framed and conceptualised – in a variety of ways.[6] My point is only that scientific NGP cosmology provides a clear contrast to the underpinnings of ego-, ethno – and geo-centric cosmologies, which see the world as revolving around a particular observer, theorist and/or communal identity.

A non-geocentric physical (NGP) cosmology may be neither a necessary nor a sufficient condition for critical cosmopolitanism. Yet I maintain that the two are closely related. Given a series of possible further assumptions (which I try to explicate below), NGP cosmology makes it plausible to envisage all humans as part of the same species. Humans have the shared potential for interbreeding, communication and learning. Furthermore, the connection works also through homology and analogy. There is an important similarity between the perspectives of NGP cosmology and cosmopolitanism. The similarity of perspectives explains their shared classical and modern ancestry. It also explains why an astronomic theory can be isomorphic with an ethico-political theory, that is, why a structure-preserving mapping from one to the other is possible. The connection works also through the substance of ethico-political theories, which give meaning to the NGP cosmology. Many cosmopolitan theorists have made explicit links between the two.

[4] For instance, Johan Galtung, *Peace by Peaceful Means, Peace and Conflict, Development and Civilization* (Oslo & London: PRIO & Sage, 1996), pp. 211–22; Juan M. Ossio, 'Cosmologies', *International Social Science Journal*, 49:4 (December 1997), pp. 549–62; Denise Martin, 'Maat and Order in African Cosmology A Conceptual Tool for Understanding Indigenous Knowledge', *Journal of Black Studies*, 38:6 (July 2008), pp. 951–67.

[5] From Giambattista Vico, we have learnt that myth – or cosmology in the cultural sense of the term – should not be opposed to abstract rationality or scientific truth; myths are narratives that can have truth-value and be based on the results of science, although myths themselves are not established scientific facts or theories. See Joseph Mali, *The Rehabilitation of Myth. Vico's New Science* (Cambridge: Cambridge University Press, 1992). For an explicit argument that modern scientific cosmology and big history of cosmic, biological and cultural evolution constitute a well-grounded and thus plausible modern creation myth, see David Christian, 'The Case for "Big History"', *Journal of World History*, 2:2 (Fall 1991), pp. 234–8; David Christian, *Maps of Time. An Introduction to Big History* (Berkeley, CA: University of California Press, 2005), pp. 1–5, 17–38.

[6] See, Helge S. Kragh, *Cosmology and Controversy: The Historical Development of Theories of the Universe* (Princeton, NJ: Princeton University Press, 1996); John North, *Cosmos. An Illustrated History of Astronomy and Cosmology* (Chicago: University of Chicago Press, 2008); Jayant V. Narlikar and Geoffrey Burbridge, *Facts and Speculation in Cosmology* (Cambridge: Cambridge University Press, 2008).

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My discussion proceeds as follows. First, I summarise the difference between centric cosmologies and NGP cosmology in terms of Aristotle versus his opponents. I survey ancient proto-cosmopolitanism, and compare developments in ancient Greece with those in other main hubs of the Old World; and suggest a link between the first emergence of NGP cosmology and critical cosmopolitanism. Next, I explore early modern and Enlightenment cosmopolitanism in Europe, stressing the role of the new scientific framework of time, space and humanity; and then shed light on the nearly simultaneous emergence of the idea of world state in the 19th and early 20th centuries in Europe, Persia and China.

However, the ethico-political implications of the NGP cosmology are ambiguous. While enabling cosmopolitanism, it has also generated scepticism and nihilism, encouraging territorial nationalism and geopolitics. In the conclusion, I tentatively suggest that critical cosmopolitical orientation should now be grounded on the notion of cosmic evolution, which is not only contextual, historical, pluralist and open-ended but also suggests that humanity is not a mere accident of the cosmos.

## Aristotle vs. cosmopolitans: two different cognitive perspectives

Aristotle (384 BCE–322 BCE) collected and synthesised the best astronomical theories of his day.[7] Following Plato's (427 BCE–347 BCE) teachings, it was clear to Aristotle that the Earth is a sphere. For Aristotle, however, the question was whether he should put the Earth or Sun at the centre of the planetary and, by implication, stellar system. From an empirical point of view, a key consideration was the lack of parallax. If Earth moved around the Sun, then one ought to be able to observe the shifting of the fixed stars in half-a-year cycle – say from spring to autumn – in relation to the background of other stars. The difference in angle from one side of the Earth's orbit around the Sun to the other side is called parallax. The shapes of star-constellations should change considerably over the course of a year; otherwise the stars are so distant that this motion remains undetectable.

Aristotle ignored the possibility of real cosmic-scale distances. As a matter of fact, the parallax angles are so tiny that they are measured in arc seconds where one second is 1/3600 of a degree (for Alpha Centauri, with a 4.3 light-years distance from the Earth, the parallax is 0.75 seconds). Therefore, stellar parallax was not detected until the early 19th century, when developments in optics and time-keeping created sufficient technological capacity for detecting effects so subtle. There were, however, other empirical anomalies in the Aristotelian system. For example, it could not explain the changes in brightness of the planets caused by a change in distance as they orbit the sun. Over time, some of Aristotle's and his

[7] Aristotle's astronomical theories were developed in his *On the Heavens* and to an extent in *Meteorological*, rather than in his famous *Physics* (which is about meta-physics). J. L. Stocks' translation of *On the Heavens* is available online at the Internet Classics Archive at: {http://www.classics.mit.edu//Aristotle/heavens.html} accessed on 20 July 2009). For a detailed account of Aristotle's cosmological system is J. L. E. Dreyer, *A History of Astronomy from Thales to Kepler*, 2nd edition (New York: Dover Publications, 1958), pp. 108–122; and also North, *Cosmos. An Illustrated History*, pp. 80–4.

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followers objections to the heliocentric model started to appear increasingly superficial and confused.[8] The Copernican revolution occurred centuries before it was possible to detect and measure parallax empirically.

Arguably, Aristotle's and his followers' preference for a geo-centric model had roots in the cognitive perspective they took for granted. In short, Aristotle assumed that he has a privileged position to observe the world. The starting point is that the observer-theorist is at the centre of the world, and that the world revolves, literally or metaphorically, around him. In terms of figure-ground distinction, the observer-theorist forms the ground and everything else is figures that move, or are being caused, in relation to it. Sometimes, common sense misleadingly supports this assumption. If you stay awake overnight looking at the stars and planets, they indeed seem to revolve around you – even though this is merely an illusion of perspective caused by the rotation of the planet Earth.

By way of metaphoric extension, society too can be seen through an observer-centric cognitive perspective. Accordingly, Aristotle's geocentric astronomic theory is isomorphic with his ethico-political theory, that is, a structure-preserving mapping from one to the other is possible. There is a centre and a hierarchical system of layers. For Aristotle, natural slaves, women and lower-status men are essentially meant to serve the purpose of the good life of the aristocracy and free men (this is the centre, to which Aristotle himself belonged). And the outside world forms concentric circles of increasing barbarity. The further you go, the more barbarity you should expect to find.[9] Like the apparent rotation of planets and stars around the Earth, this kind of ethnocentrism is essentially an illusion of perspective stemming from being familiar with things that are close; from social practices that are structured to serve the purpose of a few and their sense of community; and from asymmetrical relations of power.[10] It is noteworthy that Aristotle did not support democracy – in our sense – even among the free male citizens, but rather argued for a compromise between what he called polity and aristocracy (*aristoi* means literally 'best persons'). For Aristotle, the true centre consists only of the central observer and of the few that are equal to him.

In the 4th and 3rd century BCE Hellenic world, Aristotle was not quite as dominant as he may now seem to us. Aristotle was arguing against distinguished thinkers who held different views. For instance, he was opposing the influential theory of Pythagoreans that the Earth is orbiting a central fire (which would explain day and night). He was also against the atomism of Democritus (c. 460

[8] North, *Cosmos. An Illustrated History*, pp. 82–4, 101–5, 429–31, 473–4; Dreyer, *A History of Astronomy*, pp. 310–412.

[9] For relevant passages about the nature of slaves (note that for Aristotle not all actual slaves are natural slaves), women, and barbarians, and differences among these categories, see Aristotle, *Politics*, trans. B. Howett (Mineola, NY: Courier Dover Publications, 2000), pp. 1252b, 1254b, 1255b, 1260b; and Aristotle, *Nicomachean Ethics*, 2nd edition, trans. T. Irwin (Indianapolis, IN: Hackett Publishing, 1999), pp. 1158b, 1160b–1161b, and 1177a. For a general discussion, see J. S. McLelland, *A History of Western Political Thought* (London: Routledge, 1996), pp. 59–67.

[10] Aristotle's perspective is in many ways structurally similar to world religions that assume a particular chosen people, or god's son, or the prophet, or anything equivalent, to have a special privileged place in the universe, that is, to constitute the ground around which everything else revolves. This explains the popularity of Aristotle among Christian and Islamic theologians. For an explanation of why Aristotle's theories did not allow him to look critically into his own conceptual metaphors and cognitive unconsciousness, see George Lakoff & Mark Johnson, *Philosophy in the Flesh. The Embodied Mind and Its Challenge to Western Thought* (New York: Basic Books, 1999), pp. 373–90.

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BCE–c. 370 BCE), abhorred by Plato, but a possible a source of inspiration to the Cynics, the early cosmopolitans. Democritus held that the earth is spherical; and maintained that at first the universe comprised of nothing but separate tiny atoms, until they collided together to form larger units and structures, including the Earth and everything on it. Democritus also suggested that there are many worlds, some growing, some decaying; some with no sun or moon, some with several. Thus for Democritus, the Earth is just a world among many worlds. By a rather anti-Aristotelian implication, no Earthly observer of the universe can be privileged. No wonder Aristotle found this doctrine objectionable.

While the basic ethico-political sentiments of Democritus seem to have been more democratic than those of Aristotle, the evidence about his precise ethical and political views is scant. As far as we know, it was the Cynics (from the late 5th century BCE onwards) that challenged the importance of being a *politēs*, that is, of belonging to a particular *polis*, of being a member of a specific society with all of the benefits and commitments such membership entails.[11] For the Cynics, being a *kosmopolitēs* meant more than just being a citizen of the world; it meant also being a part of the natural order of the universe (cosmos). The Cynics took god-nature as a source of guidance – even as a norm – about how to live. This may now appear as a fallacy, but what is important is that the Cynics adopted a different cognitive perspective from the ego-, ethno-, and geo-centric perspective of Aristotle. For the first time, cosmos provided a non-privileging perspective on human societies and thus enabled critical and self-reflexive ethico-political conclusions.

Aristarchus of Samos (310 BCE–ca. 230 BCE) was probably the first to propose a fully-fledged heliocentric model of the planetary system. The later summary of Aristarchus' theory by Archimedes is our most direct evidence of it:

> [. . .] But Aristarchus of Samos brought out a book consisting of some hypotheses, in which the premises lead to the result that the universe is many times greater than that now so called. His hypotheses are that the fixed stars and the sun remain unmoved, that the earth revolves about the sun in the circumference of a circle, the sun lying in the middle of the orbit, and that the sphere of the fixed stars, situated about the same centre as the sun, is so great that the circle in which he supposes the earth to revolve bears such a proportion to the distance of the fixed stars as the centre of the sphere bears to its surface. Now, it is easy to see that this is impossible; [. . .].[12]

Aristachus' theory was tolerated but not accepted by his contemporaries – and in spite of Archimedes was soon all but forgotten until the Copernican revolution. Why did not a basically correct theory gain more popularity and support? The lack of adequate techniques to make sufficiently accurate observations was not the only reason. It was probably more decisive that the perspective of Aristachus' NGP cosmology had the potential to challenge the moral principles of societies built upon the observer-centric horizons of: (i) the relatively few free men of republican

[11] Georg H. Sabine, *A History of Political Theory* (New York: Holt, Rinehart and Winston, 1961), p. 130, interprets the rise of Cynics as a nihilistic but critical response to the decline of the Greek city-state. *Kosmopolitēs* would thus be a mere negation of membership in a city-state. But Cynics remained important for centuries in the Roman Empire, and shaped both Stoicism and early Christianity.

[12] *The Works of Archimedes*, ed. T. L. Heath (London: C. J. Clay and Sons, Cambridge University Press Warehouse, 1897), pp. 221–2. Freely available at: {http://www.archive.org/details/worksofarchimede029517mbp} accessed on 15 July 2009.

https://doi.org/10.1017/S0260210510001063 Published online by Cambridge University Press

or oligarchic communities; or (ii) the privileged groups and strata within hierarchical empires; or, later, (iii) religious and political leaders of the communities founded on grand messianic religions such as Christianity and Islam that promised after-life redemption for believers.

Some scholars maintain that it was Stoicism, or the Stoic-Christian tradition, that first articulated universal moral principles in terms of laws of nature.[13] Stoicism was initiated by Zeno of Citium in the early third century BCE and subsisted until the collapse of the Roman Empire. However, Zeno's ideas were originally developed from those of the Cynics. Stoicism can be seen as a de-radicalised version of the Cynic idea that cosmos – the order of nature – provides guidance as to how to live and what the laws valid for all human beings are. The Stoics believed in something reminiscent of a NPG cosmology, but in more poetic-religious and compromised terms than the followers of atomists (and possibly Aristarchus). Occasionally, they delighted, or found comfort, in the idea of a city of all humankind, but the real, practical question for Roman Stoics was how far citizenship should be extended to the subjects of the Roman Empire. The ethics of Stoicism was based on the idea that wisdom is about simultaneous obligation to do one's duty and view one's consciousness and the world more or less as unchangeable, especially hierarchical relations of power.[14] It is no coincidence that Stoicism did not generate a research programme or develop a realist scientific theory of the cosmos and its true proportions, mechanisms and processes.

There were parallel developments in the other main hubs of the Old World. In India and China, there were sporadic atomists, heliocentrists, cynics, sceptics, democrats and cosmopolitans in various forms of manifestation, but hierarchical agrarian-military empires tended to adopt and enforce ideologies that were in important ways similar to the world-views of Plato, Aristotle and/or Stoics.[15] For

[13] Andrew Linklater's claim about a long-standing and unified 'Stoic-Christian tradition' that believes in the unity of mankind is based merely on one quotation from Sabine's dated history of Western political theory. Sabine, *A History of Political Theory*, pp. 148–51; Andrew Linklater, *Men and Citizens in the Theory of International Relations*, 2nd edition (London: MacMillan, 1990), p. 22; McLelland, *A History of Western Political Thought*, p. 85, gives some support by arguing that 'what Stoicism did was to connect the idea of individual character to the idea of *cosmos* '. For an argument that Roman Stoicism did shape Kant's thinking, see Martha Nussbaum, 'Kant and Stoic Cosmopolitanism', *The Journal of Political Philosophy*, 5:1 (1997), pp. 1–25.

[14] Hegel's famous discussion of Stoicism as 'unhappy consciousness' is *mutatis mutandis* applicable to much of classical Indian and Chinese philosophy as well. G. W. F. Hegel, *The Phenomenology of Mind*, trans. J. B. Baillie (Mineola, NY: Dover Publications, 2003), pp. 119–30. Roy Bhaskar has summarised and up-dated Hegel's analysis: 'The Stoic affects in-difference to the reality of the difference intrinsic to the $power_2$ relation in which she is held. The Sceptic even denies that it exists. The Unhappy Consciousness either (a) accepts the master's ideology and/or (b) compensates in a fantasy world of, for example, sport, soap or nostalgia'. Roy Bhaskar, *Plato Etc. The Problems of Philosophy and their Resolution* (London: Verso, 1994), p. 3.

[15] For similarities between Confucian schools and Roman Stoicism, see Warren W. Wagar, *The City of Man* (Boston, MA: Houghton Mifflin, 1963), pp. 18–22. For a general account of similarities, parallels and differences among the philosophies of the main hubs of the Old World, see Ben-Ami Scharfstein, 'Three Philosophical Civilizations: A Preliminary Comparison', in B-A. Scharfstein (ed.), *Philosophy East Philosophy West. A Critical Comparison of Indian, Chinese, Islamic and European Philosophy* (Oxford: Basil Blackwell, 1978), especially pp. 118–27. For an interesting contrast to Scharfstein's point that explicitly political thinking was mostly lacking in India, see Amartya Sen's argument about the relevance of India's ancient culture of disputation for democractic theory, 'Argument and History', *New Republic*, 233:6 (8 August, 2005), pp. 25–32, and Steve Muhlberger's somewhat speculative claim that in India in the Buddhist period, 600 BCE–200 CE, republican

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instance, despite noteworthy differences between Greek and Chinese cosmologies, the Chinese too were tied to a geo-centric perspective. They depicted the Earth as being surrounded by heavens, including stars and planets, and then at times added an infinite space behind the heavens (they also talked about infinite time).[16]

Confucians have usually concurred with Plato and Aristotle in that everyone has a given, rightful place in society; and with the related ideas of applying the principles of freedom and tolerance to the privileged few, and of governance by virtue and practical reason rather than by force.[17] The characteristic Confucian emphasis on the authority of the ruler, father, and husband is similarly Aristotelian – *or vice versa*, whichever tradition should be seen as prior.[18] In these systems of thought, there is always a centre around which the whole world revolves and a hierarchy that places the centre at the top. The centre is occupied by the aristocratic (free) male who can read and write – literacy was still rare – and articulate speculative theories about nature, ethics and politics. Obviously, most ancient philosophers and scholars were beneficiaries of the rulers and aristocracy.

## A cosmic perspective: the identity of human beings living on planet Earth

In 1543 CE, Nicholas Copernicus proposed to increase the accuracy and simplicity of astronomical theory by (re-)setting the Sun as the centre of the solar system. This implied a far-reaching shift of perspective: we are not observing the universe from a special position. However, the Copernican revolution – a starting point for the scientific revolutions of the 16th and 17th centuries – did not automatically generate cosmopolitanism. Rather the Copernican shift in perspective created a non-centric frame for reflexive self-observation. Moreover, by challenging the established tradition, it also constituted a space for spontaneous ethico-political learning that often resulted in tolerant cosmopolitanism.

Historically, the scientific revolution was a dialectical process. The Renaissance revival of ancient philosophies – including Stoicism – and the Atlantic voyages widened the prevailing terrestrial horizons, preparing the ground for both the new Copernican cosmology[19] and related planetary geography.[20] Although the

polities were common and vigorous; 'Democracy in Ancient India', available at the World History of Democracy site at: {http://www.infinityfoundation.com/mandala/h_es/h_es_muhlb_democra_frameset.htm} accessed on 8 May 2009.

[16] Joseph Needham, *Science and Civilisation in China Volume 7. Part II: General Conclusions and Reflections* (Cambridge: Cambridge University Press, 2004), pp. 24–35; and North, *Cosmos. An Illustrated History*, pp. 134–49.

[17] As pointed out, for instance, by Amartya Sen, *Development as Freedom* (Oxford: Oxford University Press, 2001), pp. 234–5.

[18] More interestingly, perhaps, the Confucian Golden Rule ('what you do not wish for yourself, do not do to others') echoes the teachings of Christianity, as do manifold debates on the real source of morality. As I have elsewhere argued, the realisation that there have been similar kinds of debates over language and reality in other times and places may also open up a more fruitful space for thinking about East and West. It is simplistic to imagine that it would be possible to synthesise either the East or the West into a coherent set of doctrines; rather there is global diversity of philosophical positions. Heikki Patomäki, 'From East to West. Emergent Global Philosophies – Beginnings of the End of Western Dominance?', *Theory, Culture & Society*, 19:3 (2002), especially pp. 100–1.

[19] Thomas S. Kuhn, *The Copernican Revolution. Planetary Astronomy in the Development of Western Thought* (Cambridge, MA: Harvard University Press, 1957).

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Copernican cosmology was thus neither a strictly necessary nor a sufficient condition for cosmopolitanism, it provided a clear alternative to Aristotelian centrism. Obviously, also the meanings and values ascribed to the NGP cosmology are important.[21] The knowledge of basic physical laws and real cosmic dimensions and relations does not in itself impose cosmopolitanism; for instance that an object at rest tends to stay at rest and that an object in uniform motion tends to stay in uniform motion unless acted upon by a net external force; that F = ma (force equals mass times acceleration); that the distance of the Earth from the Sun is 150,000,000 km; that the Sun is a main sequence G2 star that contains 99.86 per cent of the system's known mass and thus dominates it gravitationally; or that the Sun is only one of copious billions of stars in the galaxy and that galaxies themselves are equally numerous in the observable universe.

The new Copernican and Newtonian theories of the cosmic dimensions, laws and relations were enmeshed with various cultural and ethical assumptions that together formed an anti-centric myth about 'us' in the universe. Since then, this new planetary cosmology – in the cultural sense – has grounded criticism of the prevailing ego-centric imaginaries and related divisions and conflicts. Perhaps the best known revolutionary proponent of the Copernican cosmology was Giordano Bruno, who argued in the 16th century for an infinite universe in which every star is surrounded by its own solar system. Among other dissident ideas, Bruno also believed in cosmic pluralism, in the possibility and actuality of sentient life on other worlds, thus suggesting that humanity is a relatively insignificant part of the universe and thus creation. In 1600, in the aftermath of the French wars of religion, he was burnt at the stake as a heretic by the Roman Inquisition.[22]

However, the attitude towards the new science was soon reversed. Already in late 17th century Holland, Christiaan Huygens (1629–1695) crowned his celebrated career as a modern astronomer, mathematician and physicist by writing *Cosmotheoros. The celestial worlds discover'd: or, conjectures concerning the inhabitants, plants and productions of the worlds in the planets*.[23] In this book, which was published posthumously just months after Huygens' death, first in Latin and then in translations to several European languages, Huygens imagined a universe brimming with life both within our solar system as well as elsewhere. Humanity is not unique and Earth is just a planet among many. Among a few other works, this book paved the way for Kant's mid-18th century astronomical speculations and for the Enlightenment pluralist cosmopolitanism.

[20] Denis Cosgrove, 'Globalism and Tolerance in Early Modern Geography', *Annals of the Association of American Geographers*, 93:4 (2003), pp. 852–70.

[21] 'Men who believed that their terrestrial home was only a planet circulating blindly about one of infinity of stars evaluated their place in the cosmic scheme quite differently than had their predecessors who saw the earth as the unique and focal centre of God's creation. The Copernican Revolution was therefore also part of transition in Western man's sense of value.' Kuhn, *The Copernican Revolution*, p. 2. The importance of the consequences of the Copernican revolution are stressed also by Norbert Elias who distinguishes between the narrow scientific interpretation of the Copernican world-image and its impact on people's image of themselves and their place in the universe, especially in terms of emotional detachment. Norbert Elias, *Involvement and Detachment* (Oxford: Basil Blackwell, 1987), pp. 68–9.

[22] Dreyer, *A History of Astronomy*, pp. 351, 410–11, 416–7.

[23] Christiaan Huygens, *Cosmotheoros. The Celestial Worlds Discover'd: or, Conjectures Concerning the Inhabitants, Plants and Productions of the Worlds in the Planets*, trans. unknown (London: Timothy Childe, 1698). Available at: {http://www.phys.uu.nl/~huygens/cosmotheoros_en.htm} accessed on 17 June 2008.

https://doi.org/10.1017/S0260210510001063 Published online by Cambridge University Press

A good example of the Enlightenment leaps of cosmic imagination is Voltaire's *Micromégas* (1752), a story of a 36,000-metre tall alien Micromégas who travels from a planet circling the star Sirius and almost by coincidence realises that there is life on our insignificant planet.[24] Through the perspective of Micromégas, Voltaire laughs at us silly humans who are killing each other in wars over religion. Voltaire's proto-science fiction satire thus takes moral distance from the Earthly disputes and wars. This kind of cosmic perspective enables and encourages distance from one's own identity and from the prevailing ideas and practices of one's own society. Of course, the cosmopolitanism of European Enlightenment was not based on merely a cosmic viewpoint, but also on the increasing familiarity with the existence and perspective of non-European others. Voltaire was influenced by the image of 'noble savages' by Baron de Lahontan's *Curious Dialogues Between the Author and a Savage of Good Sense Who Has Travelled* from 1703, on the one hand; and by invocation of China as an ancient and sophisticated civilisation, on the other.[25]

It is no coincidence that Kant the cosmopolitan started his intellectual pursuits as a cosmologist. In his *Universal Natural History and Theory of Heaven* (1755), Kant explains how one can explain the formation of the solar system from an initial state, in which matter is dispersed like a cloud, solely by means of the interaction of attractive and repulsive forces.[26] In essence, Kant's view is accepted by today's astronomy. Kant is also well-known for being one of the first to develop the concept of galaxy. Drawing on an earlier work by Thomas Wright, he speculated that a galaxy might be a rotating disk of a huge number of stars, held together by gravitational forces akin to the solar system but on a much larger scale.[27]

Cosmopolitanism is not only tied to the idea of order in nature but also to a very wide cosmic perspective on one's identity and place. Near Kant's tomb in Kaliningrad is the following inscription in German and Russian, taken from the 'Conclusion' of his *Critique of Practical Reason:* 'Two things fill the mind with ever new and increasing admiration and awe, the oftener and the more steadily we reflect on them: the starry heavens above me and the moral law within'.[28] In the *Critique*, Kant explains further that neither of these things is beyond his horizon.

[24] Voltaire, *Micromégas. Histoire Philosophique* (Paris: Firmin Didot, orig. probably 1752, but the precise date of publication uncertain). Available HTTP in French with the 1829 preface by Beuchot at the project Guthenberg {http://www.gutenberg.org/dirs/etext03/mcrmg10.txt} and an English edition revised by Blake Linton Wilfong {http://www.wondersmith.com/scifi/micro.htm] accessed on 22 September 2008. The tradition of science fiction novels that use a human from an alien culture or an alien stranded on Earth as a device for critiquing various aspects of society has continued since Voltaire, and Montesquieu, and Jonathan Swift. For social scientists, an especially interesting example is the humorous sci-fi book by the well-known socialist historian, social theorist and peace campaigner E. P. Thompson, *The Sykaos Papers* (London: Bloomsbury, 1988).

[25] Sankar Muthu, *Enlightenment Against Empire* (Princeton: Princeton University Press, 2003), pp. 24–7.

[26] Immanuel Kant, *Universal Natural History and Theory of Heaven*, trans. I. Johnston (Based on Georg Reimer's 1905 edition of the complete works of Immanuel Kant, orig. published 1755). Available at: {http://www.mala.bc.ca/~johnstoi/kant/kant2e.htm} accessed on 12 August 2008.

[27] For a detailed account of Wright's and Kant's contribution to our understanding of the Milky Way as a galaxy of stars, see North, *Cosmos. An Illustrated History*, pp. 444–9.

[28] Immanuel Kant, *Critique of Practical Reason*, trans. T. K. Abbott, in *Great Books of the Western World 42. Kant* (London: Encyclopædia Britannica, 1952; orig. published 1788), p. 360.

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On the contrary: 'I see them before me and connect them directly with the consciousness of my existence'.[29] He also talks about 'universal and necessary connections'[30] between the starry heavens and moral law, thus maintaining that consciousness, morality and reason – far from being arbitrary – have cosmic grounds. But, may cosmically grounded morality fail on the planet Earth? Kant was at pains to show that although there is no guarantee since we cannot have certain knowledge about the future, world history *can* move towards perpetual peace and human perfection. It is possible, he argued, that in the future reason and universal moral maxims will be realised through human freedom.[31]

For a number of Enlightenment thinkers and their followers, the cosmic viewpoint puts the drama of life and human history on the planet in a very wide perspective. In one sense this is an optical effect: the longer the distance, the smaller the within-the-humanity differences appear. Moreover, distance and the non-centric Copernican perspective encourage judicious and at times ironic ethico-political sentiment towards one's own particular identity, and this sentiment is a key part of critical cosmopolitanism. In Kant's case, critical cosmopolitanism also opened up a new temporal horizon by constituting an interest in exploring possible futures that can be different – and perhaps better – than the current realities.

The cosmic vision also suggests that humans are not only dependent on each other but also on the physical processes of the planet, solar system and the universe as a whole; and on the thin sphere of life on planet Earth. Thus the new cosmological perspective encouraged scientists, philosophers, political theorists and novelists to think of all humans as part of an interdependent and fragile whole, the development of which has also given rise to consciousness, reason and morality. Awareness of the human interdependency and shared fate suggests widening the sphere within which the basic moral principles apply. Further, the idea of possible cosmic pluralism can also contribute to extending the variety of living and sentient beings with which we can identify. Any adequate form of morality has to do with the capacity to generalise normative claims in an acceptable way and, most importantly, with the ability to see things from others' point of view.[32]

[29] Ibid., pp. 360–1.
[30] Ibid., pp. 361.
[31] Immanuel Kant, 'Idea for a Universal History with a Cosmopolitan Intent' (1784) and 'On the Proverb: That May Be True in Theory But Is of No Practical Use' (1793), in Immanuel Kant, *Perpetual Peace and Other Essay*, trans. T. Humphrey (Indianapolis, IN: Hackett Publishing, 1988), pp. 29–40, 61–92. For an illuminating discussion, see Onora O'Neill, 'Historical Trends and Human Futures', *Studies in History and Philosophy of Science Part A*, 39:4 (December 2008), pp. 529–34.
[32] Kant's categorical imperative is critical of all forms of ego-centrism and thus treats *ego* and *alter* in strictly similar terms. Arguably, however, it still represents inadequate ethico-political learning because it cannot imagine others as different from oneself and sees no need for a democratic dialogue with concrete others. See Lawrence Kohlberg, 'The Claim to Moral Adequacy of a Highest Stage of Moral Judgment', *Journal of Philosophy*, 70:18 (1973), pp. 630–46; and Jürgen Habermas, 'Justice and Solidarity: On the Discussions Concerning "Stage 6"', in M. Kelly (ed.), *Hermeneutics and Critical Theory in Ethics and Politics* (Cambridge, MA: The MIT Press, 1990), pp. 32–52. Habermas' criticism of Kant's and Rawls' monological reasoning is in important ways similar to Jacques Derrida's discussion of the universal in terms of exemplarity that always inscribes the universal in the proper body of singularity and particularity, in Jacques Derrida, *The Other Heading. Reflections on Today's Europe*, trans. P-A. Brault & M. Naas (Indianapolis, IN: Indiana University Press, 1992).

https://doi.org/10.1017/S0260210510001063 Published online by Cambridge University Press

**Transformative cosmopolitanism: the rise of the notion of a world state**

Probably the most radical idea of the French Revolution was that laws and institutions are man-made, not natural.[33] The Revolution demonstrated that new institutions can be created and old ones abolished. Solidarity acquired a new meaning: all together for social changes! But at that stage, very few people imagined global changes. Even Kant was basically envisaging a league of nations in Europe, realised through a constitutional treaty signed by the heads of states.[34]

While the prototypes, metaphors, framings and related conceptions of time and space stemming from the new Copernican science suggested critical cosmopolitanism, the social conditions were not favourable to their widespread distribution and adoption in their cosmopolitan form. One-way communication or transportation within Europe took weeks and across the planet months. Constant warfare – or at least threat of war – favoured the adoption of prototypes, metaphors and framings based on the category of the nation, especially during the French Revolutionary Wars (1792–1802) and Napoleonic Wars (1803–1815). Subsequently, in the nineteenth and twentieth centuries, various struggles against asymmetrical relations of power – not least those of the capitalist market economy –were framed in terms of rights and will of the people as a nation.[35]

Against all the odds, however, the idea of a global state formation emerged already during the Napoleonic wars. In 1811, an obscure German philosopher, Karl Krause proposed a world federation divided into five regional units of Europe, Asia, Africa, America and Australia. He renewed the proposal in his appeal for a united Europe in 1814. Krause was a romantic and mystical thinker that had some influence in the late-19th century and 20th century Hispanic world. Clearly, his ideal of Humanity and proposal for a Universal State extending over the whole planet stems from a cosmological framing of the human condition:

> For although our earth is only a small part of the world, yet it is a complete image of the universe, and its dignity and beauty are founded primarily on its organism of life, the number and measure of its parts, and their reciprocal relation, and not on its mere individual magnitude.[36]

Bahá'u'lláh, the Persian founder of the Bahá'í Faith, developed similar ideas in the mid-19th century. While claiming to be a messenger of God, Bahá'u'lláh advocated religious freedom and fundamental unity of all religions. Bahá'u'lláh was familiar with the ideas of European radical and utopian writings and cultivated ideas of science, democracy and peace in the multicultural religious setting of the Ottoman

[33] This was of course ambiguous. A good example is the 1792 trial of Louis XVI, where the Jacobins, still in fear of the king's mystical persona, wanted to move quickly to execution, whereas the *de facto* more revolutionary Girondins were in favour of using legalistic method and argued that Louis was a citizen subject to ordinary justice. Alan R. How, 'Habermas, History and Social Evolution: Moral Learning and the Trial of Louis XVI', *Sociology*, 35:1 (2001), pp. 177–94.

[34] Hedley Bull, for instance, is sometimes read as suggesting that Kant was making an argument for an arrangement that in effect comes close to a world state, but also Bull clarifies that in *Perpetual Peace* Kant in fact turned to 'the negative surrogate of a league of republican or constitutional states'. Hedley Bull, *The Anarchical Society, A Study of Order in World Politics* (London: MacMillan, 1977), p. 244.

[35] See, Heikki Patomäki and Manfred S. Steger, 'Social Imaginaries and Big History: Towards a New Planetary Consciousness?', *Futures*, 41 (2009).

[36] Karl Christian Friedrich Krause, *The Ideal of Humanity and Universal Federation*, trans. W. Hastie (LLC: BiblioBazaar, 2009), p. 105.

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Empire. What is especially noteworthy, however, is that he adopted cosmopolitanism and the idea of a world state.[37] For Bahá'u'lláh, humanity is a single race. Human improvement is dependent on the evolution of all humanity. It is time to start to unify humanity into a single society and state.[38]

The first one to develop a systematic account of a future world state was K'ang Yu-wei, a Chinese scholar and public intellectual who lived in the late 19th and early 20th century. Like Bahá'u'lláh, K'ang Yu-wei was a well-known moderniser, whose public mission originated in a mystical vision (that occurred to him during Buddhist meditation). However, K'ang's main book *Ta T'Ung Shu* is not a religious text, but combines autobiography, philosophy, science, social sciences and law. *Ta T'Ung Shu* – variously translated into 'The Book of Great Unity' or 'The One-World Book' – was first drafted in 1884–1885 and completed in 1902.[39]

K'ang developed a three-stage scheme for building a strictly egalitarian world federation ruled by a global parliament. In the first stage, 'The Age of Disorder at the Time the First Foundations of One World Are Laid', territorial states remain sovereign and law-making powers reside with them, yet 'the laws made by international conferences, being public law, are superior to the laws of the individual states'.[40] Functional cooperation has evolved in various issue areas, but some states may still decide to be out of any particular arrangements. There are global legal processes, however. 'All cases of international litigation are sent to the international conferences for litigation.'[41]

In stage two, in 'The Age of Increasing Peace-and-Equality, When One World Is Gradually Coming into Being', the states are gradually subsumed under the authority of global bodies. 'The laws made by the public parliament certify the laws made by the individual states'.[42] Parts of the world such as high seas – amounting to areas of the planet that Ambassador Arvid Pardo of Malta half a century later, in his 1967 speech at the UN, called 'the common heritage of mankind'[43] – would be at this point directly governed by global public bodies. Furthermore, 'there is the public government and the public parliament to deliberate on cases of undecided and divergent laws of the individual states, including cases in which the laws are defective or erroneous'.[44] K'ang's stage three, 'The Age of Complete Peace-and-Equality When One World has been Achieved' is a detailed description of a world state, run by a global parliament elected by means

[37] Juan R. I. Cole, *Modernity & the Millennium. The Genesis of the Baha'i Faith in the Nineteenth Century Middle East* (New York: Columbia University Press, 1998), especially chap. 4.
[38] A number of Bahá'u'lláh's sermon-like texts are available in English at: {http://www.bahaullah.com/} and {http://www.gutenberg.org/browse/authors/b#a6767} accessed on 2 July 2009.
[39] K'Ang Yu-Wei, *Ta T'Ung Shu. The One-World Philosophy of K'Ang Yu-Wei*, trans. and introduced by L. G. Thompson (London: Routledge, 2005); first published in Chinese partly in 1913 and fully in 1935; in English in 1958.
[40] Ibid., p. 107.
[41] Ibid., p. 122.
[42] Ibid., p. 107.
[43] Pardo's concept was embodied in the now ratified Law of the Sea Treaty. In the Preamble of the 1982 UN Convention for the Law of the Saw, it is stated: '*Desiring* by this Convention to develop the principles embodied in resolution 2749 (XXV) of 17 December 1970 in which the General Assembly of the UN solemnly declared *inter alia* that the area of the seabed and ocean floor and the subsoil thereof, beyond the limits of national jurisdiction, as well as its resources, are the common heritage of mankind, the exploration and exploitation of which shall be carried out for the benefit of mankind as a whole, irrespective of the geographical location of States.'
[44] K'ang Yu-wei, *Ta T'Ung Shu*, p. 109.

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of universal 'one person-one vote' elections. K'ang envisages a Jacobinite world from which all borders and differences have been absolutely eliminated. All men would be equal, all property held in common, and all citizens cared for by the twenty ministries of the omnipotent world bureaucracy.[45]

What is especially interesting from the point of view of my main thesis, however, is the way K'ang frames his three-stage model of movement towards a unified world state. K'ang starts from an ethical discussion on how he has been touched by slaughters in wars ranging from a battle in the era of the Warring States to the Franco-German war of 1870–1871. He then moves on to a Confucian discussion how everything – Air, Heaven, Earth and Human – is connected. '[T]hey are all but parts of the all-embracing *ch'i* of the ultimate beginnings of the universe.'[46] The ensuing brief discussion is not only compatible with some readings of quantum mechanics (articulated as a scientific theory only decades after *Ta T'Ung Shu* was written), but K'ang's related account of the need for an ever widening horizon of moral identification is explicitly based on modern cosmology and also refers twice to the hypothesis of cosmic pluralism. K'ang was struggling with how to be able to act on his cosmic identification:

> How about the living creatures on Mars, Saturn, Jupiter, Uranus, Neptune? I have absolutely no connection with them; they are too distant and obscure to expect it. I wish to love (*jen*) them, but they are so far off I have no way to do it. The size of the fixed stars, the numerousness of the galactic clusters, the nebulae and the globular clusters, the aspect of all of the heavens, my eyes themselves have seen, and my spirit has often roamed among (literally, with) them. Their states, men and women, codes of social behaviour (*li*), music, civilized pleasures, and their ways, must be vast and boundless. In the heavens as among men: although I have no way to see them; yet if they have creatures possessed of knowledge, then they will be no different in nature than we humans of this, our earth.[47]

In Victorian England, similar ideas were maturing, especially through the *persona* of H. G. Wells. From 1902 until his death in 1946, H. G. Wells preached the necessity of unifying the human species and building a world state.[48] In his 'scientific romances' of the 1890s such as *The Time Machine* (1895), *The Island of Doctor Moreau* (1896), *The Invisible Man* (1897), and *The War of the Worlds*

[45] Warren W. Wagar, *The City of Man*, p. 52, commented in 1963: 'K'ang's vision of world order may seem nightmarish in Western liberal eyes, but much of the Chinese way of life since 1950 under communist rule bears a startling, even a disquieting, resemblance.' Ironically, Wagar's own later scenario about a socialist democratic world state that would be established in the 2060s is not so dissimilar from K'ang's vision, yet appears as much less nightmarish – and in some ways even utopian – in his story, although it eventually collapses because of its inflexible bureaucracy and bigness. Warren. W. Wagar, *A Short History of the Future*, 3rd edition (Chicago, IL: University of Chicago Press, 1999).

[46] K'ang Yu-wei, *Ta T'Ung Shu*, p. 64.

[47] Ibid., pp. 66–7. K'ang refers to an experience of actually seeing the stars and (probably also) our planet from the outside. He may have interpreted this as a mystical experience, but in fact there are many pre-space age descriptions of how moons, planets and stars look from the space. The Copernican perspective and knowledge of the cosmic dimensions and relations enabled human imagination to envisage how things look from a cosmic viewpoint long before outer space photographs. See Ddenis Cosgrove, 'Contested Global Visions: One-World, Whole-Earth, and the Apollo Space Photographs', *Annals of the Association of American Geographers*, 84:2, (1994), especially pp. 272–3.

[48] In many of writings, Wells stressed that a world state does not have to resemble existing territorial states. Often Wells had in mind functionalist systems of global governance rather than a centralised state, although a key point was to transfer the legitimate monopoly of violence to a world body. For a good analytical discussion on Wells' political theory, see John S. Partington, *Building Cosmopolis. The Political Thought of H. G. Wells* (Aldershot: Ashgate, 2003).

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(1898), Wells stretched out and expanded upon the prevailing sense of time, space and evolutionary and technological possibilities.[49] In *The Time Machine*, Wells takes his readers hundreds of thousands and, then, millions years ahead in time – in a setting of the solar system as a whole. *The Island of Doctor Moreau* discusses the ethics of biotechnologies; and *The Invisible Man* suggests the possibility of a fifth dimension. *The War of the Worlds* envisages a planetary invasion by desperate Martians whose own planet is dying.[50] These works popularised modern scientific ideas in an exciting and easily understandable way, by giving cultural meanings to the non-centric cosmology and evolutionary account of the planet.

But Wells did not write only fiction. His 1902 bestseller *Anticipations of the Reaction of Mechanical and Scientific Progress upon Human life and Thought* was probably the first work in systematic and analytical futures studies. While discussing manifold social and technological trends and possibilities, ultimately *Anticipations* was written for the political end of 'developing New Republic – a Republic that must ultimately become a World State of capable rational men, developing amidst the fading contours and colours of our existing nations and institutions'.[51] This became the key theme of the bulk of Wells' writings throughout the catastrophes of the 20th century. In *The Outline of History*, which was written immediately after, and in response to, the First World War, Wells summarised his vision of the philosophical and religious spirit of a world state, almost verging on desperation:

> Our true state, this state that is already beginning, this state to which every man owes his utmost political effort, must be now this nascent Federal World State to which human necessities point. Our true God now is the God of all men. Nationalism as a God must follow the tribal gods to limbo. Our true nationality is mankind.[52]

After the Second World War, and after decades of trying his best to convince people about the necessity of a world state, Wells was giving up. He receded back to the Darwinist pessimism inherent in some of his early 'scientific romances'.[53] Talking about the divergence between his own aspirations and actual world

[49] All of these books are easily available in several different editions; moreover, they are in the public domain and can be freely accessed at: {http://www.gutenberg.org/browse/authors/w#a30} accessed on 17 June 2009.

[50] The story was an ambiguously ironic reversal of the fate of Tasmanians in the hands of the British colonialists. While the British were kind of Martians and Earthlings Tasmanians, in Wells' story viruses kill the 'British', not those being colonised. And yet there were elements of simplistic Manichean thinking in the story (the Martians as 'others'). For a discussion of the moral of the story, see Warren W. Wagar, *H. G. Wells. Traversing Time* (Middletown, CT: Wesleyan University Press, 2004), pp. 54–8.

[51] H. G. Wells, *Anticipations Of the Reaction of Mechanical and Scientific Progress upon Human life and Thought* (London: Chapman & Hall, 1902), available at: {http://www.gutenberg.org/etext/19229}.

[52] H. G. Wells, *(The New and Revised) Outline of History. Being a Plain History of Life and Mankind* (Garden City, NY: Garden City Publishing Company, 1931), p. 1157. The first edition was published in 1920; all together the book sold over two million copies. Characteristically, Wells explained in the revised edition that 'The *Outline of History* the writer would far prefer to his own would be the Outline of 2031; to read it and, perhaps with even more curiosity, to pour over its illustrations'; ibid., p. 6.

[53] In the early stories, evolution is seen as possibly implying the degeneration of the human species; the ultimate fate of the solar system is death as the sun becomes a red giant; and monsters, aliens and mad scientists run amok against the humanity. A gloomy section from the 11th chapter of the serial version of *The Time Machine* published in *New Review* (May 1895) was deleted from the book. This section, 'The Grey Man', is available at: {http://www.en.wikisource.org/wiki/The_Grey_Man}.

https://doi.org/10.1017/S0260210510001063 Published online by Cambridge University Press

history, he declared that 'the more he weighted the realities before him the less he was able to detect any convergence whatever'.[54] Perhaps humanity is indeed just an accident that will be wiped out by its own stupidity and short-sightedness?

## The reaction against the Copernican perspective: Nietzsche, etc.

The story of the cosmological sources of critical cosmopolitanism would be incomplete without at least a brief discussion on the 19th and 20th century reaction against critical cosmopolitanism and its interpretation of the meaning of the new Copernican horizon. Krause, Bahá'u'lláh, K'ang, and (most of the time) Wells, as well as Kant before them, ascribed positive and forward-looking cultural meanings and values to the NGP cosmology. They all agreed that humanity is a morally significant part of a very wide whole; that morality is not an accident but has somehow emerged from the cosmic evolution, as an essential part of it; and that our fate is shared and lies in the possibility of collective progress.

However, these meanings and values do not follow from empirical science. On the face of it, the value-neutral technical procedures of modern science would seem to entail thorough scepticism.[55] David Hume explained that we should trust only our sense-perceptions and be sceptical about anything else.[56] Friedrich Nietzsche was among the first to fully articulate the devastating impact of the positivist or empiricist sentiment (while being an empiricist himself, at least in the letter).[57] God is dead! We are alone on this insignificant planet. Nietzsche proclaimed, moreover, that no universal perspective is possible. Christianity, Kantianism, and utilitarianism are mere slave-moralities; we should be looking for something better. What is coming in the history of the next two centuries is the 'advent of nihilism'.[58]

However, Nietzsche took critical distance from the nihilism implicit in the new Copernican cosmology and the 19th century Darwinian framework of explaining the origins of humanity. A view of a planet orbiting sun in a huge void, in which

[54] H. G. Wells, *Mind at the End of Its Tether* (London: William Heinemann, 1945), p. 5.

[55] For an alternative account of the logic of science and scientific experimentation, see Roy Bhaskar, *A Realist Theory of Science* (London: Verso, 1975).

[56] According to a common interpretation, Hume mounted a sceptical attack on all forms of design arguments and teleological reasoning, in effect denying that the universe would have any meaning or purpose whatever; it just happens to be; see, for example, John D. Barrow and Frank J. Tipler, *The Anthropic Cosmological Principle* (Oxford: Oxford University Press, 1988), pp. 69–72. However, Hume was not consistent on his attitude towards objective morality or religion and also wrote things like 'the whole frame of nature bespeaks an intelligent author'; quoted in J. C. A. Gaskin, 'Hume on Religion', in D. F. Norton (ed.), *The Cambridge Companion to Hume* (Cambidge: Cambridge University Press, 1993), p. 320. Although the fear of censorship and consequences might have made Hume write contradictory statements, it seems clear that as a consistent sceptic Hume was unable and unwilling to deny the existence of God. It should be noted that for the same reason he was far less opposed to causal realism than what is often thought (for a provocative discussion of Hume as a causal realist, see John P. Wright, 'Hume's Causal Realism. Recovering a Traditional Interpretation', in R. Read and K. A. Richman (ed.), *The New Hume Debate. A Revised Edition* (London: Routledge, 2007), pp. 88–99.

[57] For a detailed analytical overview of Nietzsche's three phases and his diverse and ambivalent pursuits, see Maudemarie Clark, 'Nietzsche, Friedrich', in E. Craig (ed.), *The Shorter Routledge Encyclopedia of Philosophy* (London: Routledge, 2005), pp. 726–41.

[58] Friedrich Nietzsche, *The Will to Power*, trans. W. Kauffman and R. J. Hollingdale (New York: Vintage, 1968), p. 3.

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the sun itself is located and moving, makes us lose our sense of direction and place. This is spatial nihilism. 'Are we not straying as if through an infinite nothing?'[59] At times Nietzsche displayed nostalgia for the world of ancient Greece; at other times he was suggesting the possibility of new values of life and vitality and introducing concepts such as 'overhuman', and 'will to power'.

Either way, Nietzsche's reaction was basically about going back to the ego – and geo-centric perspective of Aristotle, albeit in a more desperate way and at a new level of critical reflexivity. Nietzsche's reflections centered on the vitality, values and will-to-power of the *aristoi* ('best persons'). The perspectives of those who can differentiate themselves from the 'herds' must define relevant knowledge. Moreover, by being critical of the 'spatial nihilism' of the NPG cosmology, Nietzsche evoked a desire for a concept of worldliness, or being-in-a-place, which would overcome that nihilism. In the 20th century, this idea has been explored by various phenomenologists, Heidegger, later Wittgenstein and their followers. These explorations have at times resulted in the construction of a terrestrial ontology of earthliness that involves a territorial conception of politics.[60]

The effects of the implicit nihilism of Copernicus and Darwin have not been confined to those who have read and reflected upon Nietzsche. Rather, Nietzsche has provided a genuine insight into the cultural undercurrents of modernity. The subjectivist value-theory of neo-classical economics, for instance, comes close to what Nietzsche meant by nihilism (the marginalist theory was articulated at the time of Nietzsche).[61] Another illuminating example of the sense of nihilism is Louis Althusser, a key ideologue of the French Communist Party in the 1960s and 1970s, whose life turned into a disaster when he killed his wife in Paris in 1980. Althusser's commitment to the true meaning of Marx's theory, his 'anti-humanism', and his loyalty to the Communist Party[62] despite its hierarchies, exclusions and violence can be plausibly read as a desperate existentialist ethico-political commitment in an otherwise nihilist world.[63] Althusser's life-struggle was about trying to sustain hope by cultivating a rather orthodox, scientistic Marxian reading of societal developments that will inevitably lead to socialism and communism – to be realised through the institutions of a territorial state.

[59] Friedrich Nietzsche, *Thus Spoke Zarathustra*, trans. R. J. Hollingdale (Harmondsworth: Penguin Classics, 1961), p. 14.

[60] Neil Turnbull, 'The Ontological Consequences of Copernicus. Global Being in the Planetary World', *Theory, Culture & Society*, 23:1 (2006), pp. 125–39.

[61] The originators of marginalism tended to have progressivist ethico-political ideas, but the implicit Humean scepticism of neo-classical economics started to take over in the 20th century. See Milja Kurki, Jamie Morgan and Heikki Patomäki, 'Towards a New Political Economy: A Critical Dialogue with Léon Walras and Alfred Marshall', a paper in progress.

[62] See 'To My English Readers' and 'Introduction: Today', in Louis Althusses, *For Marx*, trans. B. Brewster (London: Verso, 1969), pp. 9–15, 21–39.

[63] Five years after killing his wife, Althusser wrote his memoirs where he repeats, in a Freudian language, many of the points made by Nietzsche. 'Does one have to point out that, in addition to the three great narcissistic wounds inflicted on Humanity (that of Galileo, that of Darwin, and that of the unconscious), there is a fourth and ever graver one which no one wishes to have revealed (since from the time immemorial the family has been the very site of the *sacred* and therefore of *power* and of *religion*). It is an irrefutable fact that the Family is the most powerful ideological State apparatus.' Louis Althusser, *The Future Lasts Forever. A Memoir*, trans. R. Veasey (New York: The New Press, 1993). In many ways, these memoirs constitute a tragic story of modern Europe in 1914–1989.

https://doi.org/10.1017/S0260210510001063 Published online by Cambridge University Press

**Conclusion: towards a new cosmological imaginary?**

In the early twenty-first century, popular imagination is filled with metaphors that envisage the human world as a whole – from the 'global shopping mall' or 'global village' to the 'spaceship Earth'. The emergence of planetary dimension to everyday life of many makes it increasingly easy to identify with the cosmopolitan interpretation of the NPG cosmology. Outer space pictures of the Earth are now routinely used to stress the global nature of products, corporations and ideologies. Nietzsche, Heidegger and other sceptics notwithstanding, the blue planet 'straying as if through an infinite nothing' can be, and often is, conceived of as a home. Moreover, global warming has made it clear that the planet's cultural and ecological elements form a singular and vulnerable cosmological embrace.[64]

And yet, the permeation of the popular mind with commodified images of the planet does not resolve the underlying scientific, philosophical and ethico-political issues. What are the meanings and values that should be ascribed to the NGP cosmology? The precise nature and meaning of the NGP cosmology is something that scientists are also hotly debating. For instance, the Copernican principle that we are not observing the universe from a special position has been challenged. No scientist is arguing for a return to Aristotelian cosmology. Nothing except the moon and a few artificial satellites are revolving around the Earth. Our planet is but a tiny speck in the vastness of the cosmos.

However, there are senses in which our position is special and in which life and our consciousness can be quite central to the cosmos.[65] Already in the early 1960s, Robert Dicke noted that the age of the universe as seen by living observers is not random, but is constrained by biological factors that require it to be roughly a 'golden age'.[66] For life to evolve, the cosmos and many of its basic laws and mechanisms must have been stable for a long time. For billions of years the early universe was too simple for life as we know it to evolve, but much later the main sequence stars and stable planetary systems would have already come to an end.

The term 'anthropic principle' was first coined by the theoretical astrophysicist Brandon Carter, in his contribution to a 1973 Kraków symposium honouring Copernicus's 500th birthday. Carter articulated the Anthropic Principle as a reaction to over-reliance on the Copernican Principle, which states that we are not in a special position in the Universe. 'Although our situation is not necessarily *central*, it is inevitably privileged to some extent.'[67] Carter defined two forms of the

[64] Turnbull, 'The Ontological Consequences', pp. 135–7; see also, Manfred B. Steger, *The Rise of the Global Imaginary: Political Ideologies from the French Revolution to the Global War on Terror* (Oxford: Oxford University Press, 2008).

[65] This is too vast an issue to even try to list relevant references, but it consists of two parts: quantum mechanics and cosmic evolution. Quantum mechanics implies that either reality is somehow dependent on consciousness, or that the universe is intra-connected way beyond the confines of local causality. Cosmic evolution, in turn, re-raises the question of formal and teleological causality. For a tentative discussion on both issues, see Heikki Patomäki, 'After Critical Realism? The Relevance of Contemporary Science', *Journal of Critical Realism*, 9:1 (2010).

[66] Robert Dicke, 'Dirac's Cosmology and Mach's Principle', *Nature*, 192 (1961), pp. 440–1.

[67] Brandon Carter, 'Large Number Coincidences and the Anthropic Principle in Cosmology', in M. S. Longair (ed.), *Confrontation of Cosmological Theories with Observational Data* (International Astronomical Union, 1974), p. 291, available at: {http://www.adsabs.harvard.edu/abs/1974IAUS...63..291} accessed on 14 March 2008.

https://doi.org/10.1017/S0260210510001063 Published online by Cambridge University Press

anthropic principle, a weak one which referred only to anthropic selection of privileged space-time locations in the universe, and a more controversial strong form which referred to the fundamental parameters of physics. According to the strong principle, supported by many apparent large-number coincidences, the universe must be such as to admit the creation of observers within it at some stage.[68] On this basis, it is possible to build new metaphors and symbols to make sense of our special place in the universe.[69]

Similarly, the standard Darwinist interpretation of the evolution of life has been challenged. Charles Darwin himself gave some credence to the Lamarckian theory and qualified his theory by arguing that 'I am convinced that Natural Selection has been the main but not exclusive means of modification'.[70] When read from the perspective of the new theories of complexity, Darwin seems to have concurred that in addition to the blind mechanisms of short-term natural selection, also a generative diversity- and order-building mechanisms seem to have been at play, co-responsible for the order that is not accidental in terms of large time-scales and wide categories and layers of emergence of order upon order. Randomly mutating genome is unlikely to have been able to produce viable complex organisms within the known time-frames.[71] The search for causal forces and mechanisms of complexity and emergence in open systems is now on.[72]

In some ways, the early 21st century science seems to be moving towards the world views of Kant, Krause, Bahá'u'lláh, K'ang, and Wells. There is more coherence and connectedness to the universe than previously appreciated.[73] Morality has emerged from the process of cosmic evolution. In philosophy and social theory, ethics and normative theory are back. Post-Kantian critical theories are practised and taught widely. Moreover, since the 1980s, globalisation has been a key area of research and public discussion. There is a lot of talk about global

[68] Ibid., p. 294. The most thorough analysis of different versions of the anthropic principle is Barrow and Tipler, *The Anthropic Cosmological Principle*. See also the very different accounts of Eric J. Chaisson, *Cosmic Evolution. The Rise of Complexity in Nature* (Cambridge, MA: Harvard University Press, 2001); James N. Gardner, *Biocosm. The New Scientific Theory of the Universe: Intelligent Life is the Architect of the Universe* (Inner Ocean: Makawao, 2003); Paul Davies, *The Goldilock's Enigma. Why Is the Universe Just Right for Life?* (London: Allen Lane, 2006); and Jacob Klapwijk, *Purpose in the Living World. Creation and Emergent Evolution* (Cambridge: Cambridge University Press, 2008).

[69] This is the project of Joel Primack and Nancy Ellen Abrams, *The View from the Centre of the Universe. Discovering our Extraordinary Place in the Cosmos* (London: Fourth Estate, 2006); and, from a rather different but parallel perspective, Jennifer Gidley, 'Spiritual Epistemologies and Integral Cosmologies: Transforming Thinking and Culture'. In S. Awbrey, D. Dana, V. Miller, P. Robinson, M. M. Ryan & D. K. Scott (eds), *Integrative Learning and Action: A Call to Wholeness*. Vol. 3 (New York: Peter Lang Publishing, 2006), pp. 29–55.

[70] Charles Darwin, *The Origin of Species* (Oxford: Oxford University Press [World's Classics], 1998, originally published in 1859), p. 7.

[71] This is one of the numerous points made by Ervin Laszlo in favour of what he calls an 'integral' cosmology; Ervin Laszlo, *Science and the Reenchantment of the Cosmos. The Rise of the Integral Vision of Reality* (Rochester, VT: Inner Traditions, 2006), pp. 16–7.

[72] Stuart Kauffman, *At Home in the Universe. The Search for the Laws of Self-Organization and Complexity* (New York: Oxford University Press, 1995); Stuart Kauffman, *Investigations* (New York: Oxford University Press, 2000).

[73] For a full, critical discussion of this and related ideas, see Heikki Patomäki, 'After Critical Realism?', and my rejoinder to Nick Hostettler in the same issue of the *Journal of Critical Realism*. Furthermore, in *Global Futures. On the Temporality of the Human Condition*, a book in progress, I explore and develop the idea of Vicoan and Gramscian re-appropriation of myth for re-constructive purposes from a critical, scientific realist perspective.

https://doi.org/10.1017/S0260210510001063 Published online by Cambridge University Press

governance, sustainability, justice and democracy. While the future is of course open, these developments have created a space for the re-articulation of cosmo-political visions of change in dialogical, pluralistic and open-ended terms.

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