

Posthumanism and Home

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Abstract

Planet Earth is understood to be home for humans. Why, then, are those that consider themselves exemplary humans trying to leave it? This entry to the handbook assesses literature that examines how particular spaces have historically been determined as home for humans, how the idea of home defines what we think of as human and how this has produced the idea of who or what is less-than-human. On a journey from outer space to the kitchen table, via techniques of cartographic modelling, urban planning and house design the chapter examines the possibility of posthuman space and the techniques of thought that can destabilise the relationship between species ontologies and the idea of home.

Keywords

Home, posthuman, space, mapping, territory, Earth, city, urban, race, social class, gender, architecture, Vitruvius, house, transhumanism, space migration, outer space.

Introduction

The idea of being human has always been associated with the concept of home, a concept that operates at several interconnected levels to secure both a place where the human is expected to be found, to mark a territory and to establish a distinction. We most readily associate home with the idea of dwelling; with a house or other protected space wherein we 'make home' for the purposes of perpetuating a family or clan but, beyond this and, of course, connected to it, we speak of home in terms of a city or region, a country, continent and, finally, a planet. In conceiving of the latter as home we, in the first third of the twenty-first century, find ourselves contemplating the loss of what we consider to be our natural habitat. Alongside a drive to conserve and reinvigorate the planetary environment to make it once more conducive to supporting what we have determined to be natural ways of life, other responses, driven by the achievements of the digital revolution, suggest that innovations directed towards a more adaptable form of life will not only secure a home for future selves but will be a realisation of what is considered to be the purpose of the human; to transcend the flesh and emerge as pure spirit or, at least, pure data.

Although this set of ideas is generally referred to as *transhumanism*, it is essentially based in a set of Western European ideals inherited from the Enlightenment which conceive of the human as a work-in-progress or a condition yet to be achieved (Fuller 2011; Mehlman 2012; Roden 2015, pp9-18). These ideas founded Western science and have lent legitimacy to both colonialism and capitalism. Home, for the liberal humanist individual, became something to be claimed, built upon and defended, in the service of the transcendent ideal. The occupation of territory and the imposition of a way of life, an ethics and a language was held to demonstrate the realisation of a natural order and establish the supremacy of patriarchal humanism. Thus a set of ontological distinctions emerged which established a hierarchy of being whereby colonised others could be relegated to the status of non (or not quite) human (Iman Jackson, 2020; Zalloua 2021). For Zakiyyah Iman Jackson, colonisation is the process through which the white Western patriarch produced himself as human with visible difference serving to establish the distinction. However, '[w]hat observers and commentators did not question was their own universality, their grid of intelligibility, and how it conditioned not just what they saw, or even how they observed, but how they *knew* what they saw'

(p7). In attacking this epistemological blindness, posthumanism as a critical method serves to challenge everything that has been previously thought to constitute human being and thus what can be said to belong to the human or where the human belongs.

Bearing in mind the notion of belonging as an ontological distinction, this entry will approach home from the points of view of planetary, territorial and urban vision refracted through a posthuman lens. There is little extant literature which explicitly addresses what home for posthumans might mean but a proliferating body of work exists, often predating the emergence of critical posthumanism, which either explicitly, or in retrospect, problematises assumptions about the location of human flourishing. Much of this literature comes from the ancient discipline of architecture which, in attempting to accommodate reified notions of embodiment, has largely contributed to the discourse which constructs what passes for human and what kinds of bodies are excluded. Thus the penultimate section of this entry will address literature which problematises the way that the materiality of home is realised through the house as a container of the human and the values with which the idea is associated. The conclusion will focus on the idea of Vitruvian Mantology as a concept for interrogating the habits of thought that perpetuate the human ideal.

Planet

Our contemporary concept of planet Earth as object and entity was arguably established in 1972 when Apollo 17 astronauts employed a Hasselblad camera to capture the 'Blue Marble' image with which we are now so familiar on their way to the Moon. It is the image that we see when we open Google Earth, giving the impression that we are viewing the planet from space before we swoop down from satellite view to street view, a move that suggests both mastery of space and omniscient surveillance capabilities. This, of course, is the point of view of the liberal humanist subject enabled through cartography to both command space and see everything from nowhere, employing the 'god's eye' view to establish a controlling epistemology; a metaphor both for the aims of modern science and what it has wrought in its unholy alliance with the forces of Western capitalism. Nevertheless, Blue Marble has been adopted more recently by environmentalists concerned to represent the beauty and fragility of the planet and to suggest the necessity for global co-operation in responding to climate change and its pernicious effects.

Blue Marble, in fact, is pre-dated by the cover of Stewart Brand's *Whole Earth Catalog*, an instruction manual for earthly survival, oriented towards the future, now lauded as inspiration for such tech luminaries as Apple founder Steve Jobs. As early as 1970, the *Catalog* was announcing 'The Earth crisis is *your* crisis' (Scott 2015, p95) while, at the same time, Brand was enthusiastically championing the development of the personal computer. Famously, he was inspired to embrace the potential of computers as tools for social change by encountering technicians at Stanford University's AI Lab playing *Spacewar!*, an early interactive computerised video game 'in which players controlled torpedo-armed spaceships, each attempting to shoot other spaceships while avoiding the gravity pull of a central star or sun that constantly threatened collision'. What is important here is that Brand saw no contradiction between the co-operative ethics of environmentalism and the globe-spanning ambitions of what Felicity D Scott calls the 'military-industrial-academic complex' (Scott 2015, p103). Thus environmentalism, from its roots in the US counterculture of the 1960s inherits a view of planet Earth as fragile and in need of care but, equally, a vast laboratory for experiments in employing new technologies to usher in the utopia that modernity had always promised.

Fundamental to this ethos was an acceptance of human exceptionalism and an unquestioning commitment to 'progress' understood as expressed through increasing technological mastery. This

kind of techno-utopianism thus incorporates a discourse of 'home' whereby planet earth and an already determined 'human nature' are inseparable concepts. The cover of the *Whole Earth Catalog* expresses this through privileging an image that allows the viewer to contemplate Earth from a comfortable distance, evoking the kind of misty-eyed nostalgia associated with a return to home; a trope familiar from countless Hollywood movies when the traveller crests a rise and the object of their journey comes into view. The *Whole Earth Catalog* then provided the primer for the reception of the Apollo 17 images which, through the trope of synoptic vision enabled by NASA space technology, continues to provide for a comfortable association between the Apollo missions, the development of digital capitalism and the resolution of the conflict between the energy demands of these endeavours and the planet's dwindling natural resources. With this in view Blue Marble stands less for conservation and an ethics of care than for the progressive assumptions of liberal humanism and their expression in technological mastery. It exemplifies, in fact, the astronaut's-eye view which, like the god's eye view is invested in patriarchal ownership and control (Shaw 2018).

Nor is this paternalism restricted to the planet that we currently inhabit. The concept of 'terraforming' was introduced into American science fiction in the 1940s with scientists and engineers taking the idea seriously not long after (Bryld & Lykke 2000, p92). Terraforming is, in fact, one of the propositions that drives contemporary transhumanism but with the added dimension of adapting the human to extra-terrestrial life through bio-engineering and 'enhancements'. Driven by the myth of manifest destiny both US and Soviet space programmes of the 1960s were explicitly oriented towards what the long running US science fiction franchise *Star Trek* referred to as 'the final frontier' with colonisation of other planets assumed to follow naturally from the eventual conquest of planet Earth. 'In this discourse', write Mette Bryld and Nina Lykke 'technological man is envisioned as the future master of the universe, already capable of restructuring and re-creating the solar system' (Bryld & Lykke 2000, p100). Justification for this was found, not in the idea of Earth as 'home' but in the concept of 'panspermia' (Bryld & Lykke 2000, p103), first proposed by Swedish chemist Svante Arrhenius at the turn of the 20th century and later elaborated by Francis Crick who, with James Watson, is well known as the original de-coder of DNA. According to this theory, 'mother' Earth was the receptive womb for an extra-terrestrial ejaculation which seeded life in the gravity well of the planet in the full expectation that that life, once matured, would return to a heavenly home where the effects of gravity would no longer restrain it. Thus, it is argued, the space race was pre-destined and the culmination of a 'natural' process through which the human race is brought to recognise that, to truly flourish, it must leave the comfortable but restricted space of its metaphorical womb and seek its absent father in the space beyond. In Crick's version, called 'Directed Panspermia', the seeding of the planet is not accidental or unexplained but a deliberate project of an as yet unknown extraterrestrial 'higher civilization inhabiting an alien galaxy very far away' (Bryld & Lykke 2000, p105). As Bryld and Lykke point out 'Crick's views are not very different from either Aristotle's theory of conception where the sperm alone created life in the womb, or from the Christian narrative of creation' (p106). Thus, in this scenario, 'Home and World have exchanged genders: the sacred Home belongs to the Cyber-Godfather, while the World of gravity is left to fallen and feminine Nature' (p107).

In the 21st century, organisations like NASA and Elon Musk's SpaceX are committed to the idea of settlement on Mars with Musk insisting that the survival of what we now think of as the human species depends on us becoming 'multiplanetary' (Drake n.d). Both confidently predict that a manned mission will have successfully landed on Mars by 2030. The clear implication here is that the despoiling of planet Earth and the now clearly evident fact that unchecked global heating will soon render the planet uninhabitable (Haraway 2016) is merely the signal for a more sustained effort to leave it behind rather than think differently about what continuing to live on Earth might entail.

Indeed, in various versions of transhumanism, the enhanced human that is imagined is one equipped for life on other planets (Cohen & Spector 2020).

Equally, the prelapsarian fantasy of a paradise planet can be read as a re-staging of the colonial project without guilt. Neil Badmington, surveying films that have re-staged the alien encounter scenario inaugurated by H G Wells' 1898 novel *The War of the Worlds* from the mid twentieth century to the early twenty-first, finds a repeated trope of what he calls 'reactionary humanism' (Badmington 2004, p53) through which the films stage an unsettling of boundaries between humans and the alien other only to re-affirm difference when the alien is revealed to be a threat. This re-affirmation not only functions to remind the human characters of their shared destiny but brings them together 'into a unified whole' to defend the planet. '[A]bsolute difference' writes Badmington, 'needs to be reaffirmed if there is to be a happy ending' (p55). In other words, we are perfectly entitled to defend our home planet but, in order to be successful, we need to understand who 'we' are and this can only be achieved when the alien other finally reveals themselves as nothing like 'us'. The importance of recognising what is truly alien is stressed because, as Badmington puts it 'to welcome the other is to welcome only death. When aliens take up the offer to make themselves 'at home', human beings ... are left without' (p52). Thus the construction of Mars and other planets in the cosmos, real or imagined as unspoiled analogs of Earth re-establishes the identification of what is truly human with the expansion of territory into a terraformed cosmos. Furthermore, the idea of a home which must be defended against something from elsewhere which would despoil it and render it uninhabitable for humans, displaces the blame for the destructive effects of industrial and later consumer capitalism on the environment which sustains life on the planet on something non-specifically alien which will reveal itself only when the true humans stand up and are counted.

As Bruno Latour has pointed out, Earth is simply not vast enough to accommodate the expansive dreams of European modernity, nor is it capable of providing the necessary resources. It is not perhaps that we are rushing headlong into a situation where it is no longer able to sustain human life but that it *never was* able to sustain it. The lifeforms inhabiting planet earth who have described themselves as human have identified themselves with the planet and in contradistinction to its other living inhabitants in an attempt to claim a 'human nature' which can function as an alibi for acts of destruction wrought in the name of a desperate attempt to *become* human; to finally realise the promise of many global religions as well as the advertising which reflects our inadequacies back to us in the service of consumerism that we might finally fulfil their promise (Latour 2018). In the same vein, Roland Barthes, writing in *Mythologies* which was originally published in 1956 addressed the persistent construction of Mars in popular literature as a home from home, '[p]robably', he says, 'if we were to land ... on the Mars we have constructed ... we should merely find Earth itself' (in Badmington 2004, p38).

It is worth reflecting here that the original model for the cyborg, the figure that Haraway offers as a more accurate model for contemporary hybrid ontologies and the ground for posthuman politics (Haraway 1991), was first proposed in 1960 as a solution to the problem of transporting bodies beyond Earth's atmosphere. Researchers Manfred E Clynes and Nathan S Kline were working on what they called 'self-regulating man-machine systems' (Clynes & Kline 1960/1995, p29) with a view to retrofitting astronaut bodies to cope with the hostile environment of outer space, rather than taking an Earth-type environment with them. NASA, however, largely eschewed this solution in favour of what Jean Baudrillard would later refer to as a 'two-room apartment with kitchen and bath launched into orbit' (1991, p311). Studying NASA design cultures in the twenty-first century, Valerie Olson found that the idea of 'home' was still a 'persistent ordering concept' (Olson 2018, p166) with

early twentieth-century architectural models providing the determining principles for spaceship design.

What this suggests is the fact that space exploration is seen more as an extension of the colonial project, as indicated by the popularity of cultural outputs like the ongoing *Star Trek* TV series than a serious scientific enterprise (Shaw 2018). Indeed, following the Columbia disaster in 2003, a NASA flight surgeon dismissed the suggestion that future flights should be unmanned on the grounds that the role of astronauts was to function as 'heroic icons' symbolising 'the best human traits' (Shaw 2004). They also function, of course, as witnesses to Blue Marble and the spectacularisation of the planet as colonial centre. Alan Shepard, the first American in space, found the experience underwhelming. When he looked down on planet Earth it just looked small and insignificant but he nevertheless commented on the beautiful view because the part that he had to play demanded it. He thus inaugurated what Tom Wolfe calls 'the era of pre-created experience' (Wolfe 2005/1979, p256) or what Baudrillard (1988) would later term the 'hyperreal', the third order of simulacra where the real is constructed so that it fits in with the map.

Territory

Map making and map reading are highly motivated practices in which performances of empire and acquisition are almost always implied. Walter Crane's famous 1886 map of the British empire which employs the deceit of Mercator projection to situate what was then Great Britain in the centre of the world and depicts the races of the conquered territories (coloured pink) as existing in a harmonious federation dominated by Britannia is perhaps the most enduring historical example of map making as a political exercise although, as David Blayney Brown has argued, it is not what it initially seems. Crane, he points out, was 'a declared socialist' (Blayney Brown 2015, p34) and the figures of colonised peoples that decorate the border can be symbolically associated with his more political art which lampooned the bourgeoisie and celebrated workers of all races. Nevertheless, both the map as a representation of British imperial power and Crane's illustrations of racial stereotypes have been constantly appropriated as symbols in nationalist discourse.

As Jeremy W Crampton suggests '*truth is produced by the very act of mapping ...* The map does not record static, pre-existent beings (the "confession of the landscape" as it were) but is itself the act of making truth' (Crampton 2009, p34, his emphasis). As Crampton demonstrates, the establishment of the truth of race owes much to the dominance of the choropleth map which, in the early 20th century, introduced a statistical method of mapping eg., racial characteristics onto bounded space which was widely adopted and is a persistent method of representing population knowledge despite the fact that 'it is incorrect to infer individual level data from areal units [and] [n]on-uniform distributions are particularly hard to interpret'. 'For these reasons', he says, 'the choropleth map is considered a weak form of spatial analysis' (p29). As Crampton points out, an alternative form of mapping population data, known as a 'cline' which is able to chart 'continuous variation' (p31) gives a more accurate picture of the distribution of characteristics across populations. Nevertheless, the continued popularity of the choropleth would seem to suggest that it is favoured for the way that it engages with and seems to confirm the discourse of race established by maps such as Crane's which associates stereotypes based on skin colour and cultural norms with specific bounded territories. In other words, mapping practices in the West have produced what might be called a biopolitics of home which not only establishes the 'truth' of race but locates race within pre-determined boundaries, allowing racist discourses to argue for its confinement within those territories.

The cline was first proposed as a system for mapping by Sir Julian Huxley, a leading evolutionary biologist in the early to mid 20th century who, according to Crampton, 'rejected the notion of race'.

What his system offered was a way of reading the relationship between population and territory which could account for the fact that 'humans vary, but continuously and cannot be discretely categorized (especially spatially)' (p29). In this, Huxley was at odds with dominant systems of classification which adhered, broadly speaking, to the principles of Linnaean taxonomy inherited from the eighteenth century. As Michel Foucault has made clear, from the time that scientists turned to the study of 'man' as an exceptional but nevertheless constituent part of the natural world, 'the continuity of nature [has been] a requirement ... of any effort to establish an order in nature and to discover general categories within it, whether they be real and prescribed by obvious distinctions or a matter of convenience and quite simply a pattern produced by our imagination' (Foucault 1994, p147). The 'general categories' were developed on the basis of perceived differences which could be accounted for in terms of arrests of evolutionary development. In other words, the discourse of the natural sciences has been conditioned by the idea of a hierarchy of forms which are connected but nevertheless discrete - continuous but separated by divergences explicable as differences emerging from, for instance, environmental constraints. Thus the mapping of these forms onto territory proceeds naturally from classifications guaranteed by the authority of scientific epistemology. What Gargi Bhattacharyya refers to as 'the collapsing together of lands and peoples' (Bhattacharyya 2018, p74) is achieved through the discourse of 'nature' which stands, in this case, both for the concept of 'virgin' (and thus penetrable) territory and the bodies that are found there, 'a key racist tactic in denying the humanity of some populations ... relegating [them] to less than human status due to their (alleged) inability to escape nature' (p62). The concept of nature then does a great deal of heavy lifting in contemporary culture being what we are required to preserve in the fight against environmental destruction wrought by capitalist excess while being also what humans must be seen to have escaped or, at the very least, to have controlled. This, as Bhattacharyya points out is one of the ways in which capitalism is inseparable from colonialism and the production (and reproduction) of modern humans is inseparable from the social systems that it mandates which absolutely require that race, and the territories associated with racial others, are constantly evoked as in need of husbandry.

In this sense, the mapping practices which produce the world as discrete territories perform humanism at the same time as they justify colonisation in the name of capital. The process through which some spaces are produced as 'geographical incarnations of racialised populations' (Bhattacharyya 2018, p73) equally designates these spaces as the 'home' to which they must be confined or returned. Then, as Edward Said (1978/2003) has so cogently argued, exoticized versions of these spaces are reproduced in the popular culture of the colonisers and sold as 'destinations' where intrepid travellers can rehearse a form of neo-colonialism under the guise of tourism. What Anja Dinhopf and Ulrike Gretzel call the 'tourist gaze' (Dinhopl & Gretzel 2016, p128) is, as they point out, an appropriation of territory which, at the same time and like historical colonialism, is also a performance which reinforces a pre-established sense of 'self' (p132). This, as they argue, is particularly true of post-digital tourism in which 'selfie spots' (p136) are provided by popular hotels so that tourists can post endlessly proliferating proofs of travelled status to the internet thus both reinforcing orientalist mythology while contributing to the terabytes of data from which algorithms extract new choropleths of difference. In fact the data visualizations made possible by algorithms are often structured as choropleths because they can be rapidly produced using GIS or interactive Google Maps but, as Laurence Brown points out, in terms of mapping populations they are useful for visualising density but much less accurate in conveying the ethnic composition of a given area (Brown, 2013). Thus their increased use under pressure of the requirements of rapid data extraction and modelling effectively serves to reinforce stereotypical understandings of the relationship

between race and territory and to perpetuate the taxonomic discourse through which races have been categorised since the classical age (Foucault 1994).

What Foucault designates the 'nomination of the visible' (Foucault 1994, p132) is the process which, from the seventeenth century onwards, has sorted and classified supposed 'natural kinds' according to perceived differences. In this process 'human' was distinguished from 'animal' and a scale introduced which, from the inception of evolutionary theory in the nineteenth century, mapped a developmental history onto the classification of species such that the white anglo-saxon male could emerge as the pinnacle of evolution. In the process, a normative understanding of human ontology was produced which depended on an escalating and increasingly fine grained series of exclusions which located racial others as aberrant, incomplete or deviant humans. As Foucault has demonstrated, late eighteenth century classifications related 'the visible to the invisible, to its deeper cause, as it were' (p229) so that something called 'character' (p228) emerged as the internal correlate of certain designated external markers of difference.

Thus the mapping of races to territories equally implies a taxonomy of dispositions associated with geography. Indeed, Zakkiah Iman Jackson discovers in the work of what she calls 'Western philosophy's architects' (Iman Jackson, 2020, p24) constant references to distinctions between humans and animals alongside a concern with evaluating African and Native American peoples' position in a racial hierarchy. As she says '[d]iscourses on nonhuman animals and animalized humans are forged through each other' (p23). Furthermore, 'from reading Hegel's (and arguably Kant's) geographical theories, one could conclude that his theory of nature and animals is animated by a desire to fix race as teleological hierarchy: to make race knowable and predictable' (p25). Furthermore, Hegel believed that 'climate is not simply fertile ground for the cultivation of nature but is also the root of a teleological human character' and that certain climatic conditions, notably in Africa, were not conducive to the achievement of 'spirit' identified as the ability to rise 'above nature, distinguishing oneself from one's natural surroundings' (p29). Thus geographical discourse produced, and continues to produce, an idea of race at the same time as it produces an idea of human and that this contributes to the fact that race is the category most easily read from choropleth mapping concerned with population statistics, no matter the question posed to the data. At the same time, human remains a category which is both assumed and constantly argued for and reproduced in mapping practices which assert the distinctions through which it is recognised.

In the Covid-19 pandemic, ongoing at the time of this volume's publication, the choropleth has reigned supreme in representations of global deaths, rates of vaccination and levels of infection (Nilabh 2020). A new discourse of bordering and segregation has developed alongside the anxieties generated by a virus that respects neither geographical nor species boundaries, the global spread of which has been advantaged by the vectors of post-industrial capitalism and their attendant deprivations. While the origin of the virus remains obscure, confirmed animal to human transmission in earlier identified strains of coronavirus suggest a high probability of cross-species infection (Millan-Oñate et al. 2020). The virus has compromised the distinctions between humans and other animals and thus, ironically, serves to undermine one of the founding discourses of humanism. Conversely, it has exaggerated already existing disparities between racial groups in terms of relative wealth and access to healthcare. Information released by the British government on 6th May 2020 calculated that '[b]lack males are 4.2 times more likely to die from a COVID-19-related death and Black females are 4.3 times more likely than White ethnicity males and females'. Similarly, 'males in the Bangladeshi and Pakistani ethnic group were 1.8 times more likely to have a COVID-19-related death than White males ... for females, the figure was 1.6 times more likely'. Not only are colonial legacies writ large in the disproportionate number of deaths but the spectre of what Iman Jackson

calls 'bestializing humanization' (Iman Jackson 2020, p27) hovers around any discussion of the provenance and vectoral spread of the virus. Bestializing humanization describes the process through which colonised and enslaved peoples have been admitted to human status but with qualifications drawn from the Hegelian proposition that climate and thus geographical origins determine the degree to which human ontology is achieved. The currently unproven theory that the virus originated in a 'wet market' in the Chinese city of Wuhan, a hub for transportation and home to many ethnicities is thus lent legitimacy by discourses that implicitly bestialize peoples whose primary source of food identifies them as not having distinguished themselves from their 'natural surroundings'.

The intelligibility of choropleths devised to map knowledge onto territory rely on the 'aesthetics of retrieval', which draw on the Kantian mathematical sublime to render abstractions from massive data sets accessible as representations which draw on the same concepts of beauty that construct 'Blue Marble' as 'home' for self-identified humans. This provides for an aesthetic satisfaction that works with the overdetermination of boundaries already provided by colonial and evolutionary discourse to secure a hierarchy of territory and populations. However, the concept of retrieval applied to mapping practices, particularly digital mapping, can also stand for practices which draw attention to the data that choropleths fail to represent; the excess data that is discarded in algorithmic operations but which remains as the repressed other of what the map conveys. This is the data which, brought to the surface, can disturb the coherency of the paradigm through which the human emerges as a distinct category. Alternative mapping practices, disruptions and hacks which destabilise the representation of territory as determined space recognise the potential of posthuman thought which, as Rosi Braidotti says, mobilises 'resources and visions that have been left untapped' (Braidotti 2013, p191) and is able to 'make a qualitative leap out of the familiar' (p194). The aesthetics of retrieval, in this sense, is a posthuman move, facilitated by practices of digital data retrieval, which disturbs the smooth surface of territorial mapping by revealing what it conceals in order to maintain the fiction of a geography divided according to a hierarchy of racial ontologies (Shaw 2020).

City

So, what posthuman thought reveals, in sum, is that the human is an ever shrinking category that is only ever precariously occupied and only identified through shifting perspectives which are always in danger of producing new and unexpected exclusions. The representative figure for the perpetuation of these ideas is Vitruvian Man, an ideal of male bodily perfection first proposed by the classical architect Vitruvius Pollio and immortalised by Leonardo da Vinci in the late 15th century. Vitruvius' mathematically correct body conforms to geometrical precision so that, for instance, 'if we measure from the sole of the foot to the top of the head, and apply the measure to the outstretched hands, the breadth will be found equal to the height, just like sites which are squared by rule'. Vitruvius' *Ten Books on Architecture* are addressed to the emperor Augustus and there is every indication that his ideal male body was written to flatter and curry favour with the emperor. That no living body can approximate the proportions of Vitruvian Man accords with his prescription for cities to be abstract representations of totalizing knowledge through which the world is produced as a set of rigid categories. Vitruvius's city is not designed to accommodate lived reality but to constrain it within a formal structure. The order this determines is 'one of arrangement, or putting things in their proper places, in a way that is strictly hierarchical or "proportional"' (Betsky 1995, p46). As Jeremy Till suggests, '[t]he term *ordering* all too easily conflates the visual with the political. ... [This] mistaken (and dangerous) conflation of visual order with social order continues to this day' (Till 2009, p28). Equally, Till suggests that cleanliness, denoting 'purity, the removal of waste, whiteness' (p29) is a

further dimension of Vitruvius's recommendations which finds echoes in, for instance, the work of Le Corbusier, probably the most famous architect of European modernity 'so often associated with pure forms, elimination of decoration, and white walls' who offered the opinion that 'whitewash is extremely moral' (p30).

It is hardly surprising that Le Corbusier was 'obsessed with the toilet, with disease, nudism, bodybuilding, the animal, and the other' (Colomina & Wigley 2016/18, p183) given that his project was to dimension 'the whole designed environment on the basis of an idealized "normal" male body' which was, much like Vitruvian Man, adjusted to fit a pre-existing system of measurement. His Modular Man 'was not based on the height of the supposedly average body. On the contrary, the height of the average body was determined by the elegance of the mathematics' (p157). Needless to say, the average body was conceived as masculine and European but, again, like Vitruvian Man, is a body that does not exist or, if it does, it is a body that has responded to what the built environment prescribes. 'Modern architecture' write Colomina and Wigley, 'was a machine for enhancing the body' (p167).

Late nineteenth and early twentieth century European architects were responding to the growth of industrialisation and the very real concerns brought about by overcrowded and unhealthy cities. Nevertheless, the conflation of morality with cleanliness has the effect of also conflating bodies with space, leading to the institution of disciplinary regimes through which bodies which do not conform or are seen to be 'out of place' can be policed for the benefit of the greater moral good. These regimes were implicit in European cities of the period but were actually written into law in the United States in the late nineteenth century and were not repealed until well into the twentieth. These so called 'Ugly Laws' prohibited, for instance, '[a]ny person who is diseased, maimed, mutilated, or in any way deformed, so as to be an unsightly or disgusting object, or an improper person' from appearing on the street (Schweik 2009, p1-2). Ugliness was associated, both implicitly and explicitly with animality and thus with a less than human ontology (p98). Needless to say, in correspondence with those territories condemned in the Hegelian discourse as inimical to full human flourishing, immigrants, freed slaves and their descendants as well as working class people who could be deemed 'ugly' simply because they were *not* working were all subject to arrest under these laws and were thus effectively banned from appearing on city streets. Furthermore, these laws effectively mapped the city according to which areas were associated with either the display or the supposed concealment of ugliness. As Susan Schweik puts it, "Ugly' laws are part of the story of segregation and profiling in the United States, part of the body of laws that specified who could be where, who would be isolated and excluded, who had to be watched, whose comfort mattered' (p184). At the same time, in the writings of early nineteenth-century sanitary reformers, concerned with cleansing the city in the name of health, dirt and shit applied as metaphors to certain zones of the city, metonymically came to stand for both the bodies that inhabited those zones and the zones themselves. In what Peter Stallybrass and Allon White call '[t]he hierarchy of the body transcoded through the hierarchy of the city', the head or mind/spirit is associated with the administrative organs or the state and the living arrangements of the bourgeoisie ('civic centres, the courts, church, mansions'), while the sewer and the slum are associated with the organs of defecation, urination and reproduction (Stallybrass & White 1986, p145).

Hence the modern city is understood as *like* a body while it is equally concerned to *produce* the exemplary body which can be fully integrated into the urban machine. The urban machine, like all machines, is thus inseparable from how we use, comport and understand what it means to be a body and how the form of our embodiment constructs our lifeworlds. Michel Foucault's well known theory of panopticism (Foucault 1977/1991) is itself a machine for constructing this understanding,

even as it demands that we consider the social and legal mechanisms which construct monstrosity, otherness, ugliness and other descriptors of the less-than-human. Indeed, it is possible to understand it, in all its elegance, as a theory for, and developed from, the built environment in that it is founded in urban design and the role of institutional space in disciplinary regimes. Foucault conceives of modern social structures as modelled according to Jeremy Bentham's famous design for an economical prison which needs only one guard (or perhaps none) because the cells are arranged in such a way as to ensure that inmates have the potential to be surveyed at any time and without their prior knowledge. They are thus compelled to conform to the regulations of the prison regime because to deviate, even when alone in their cells, could incur punishment. Furthermore, the ability to constantly survey individuals allows for records to be easily kept, norms to be identified and further disciplinary regimes instituted. As he concludes, '[d]iscipline is, above all, analysis of space ... the placing of bodies in an individualised space that permits classification and combinations' (Foucault 2007, p147).

Foucault made this observation in a lecture in which he was chiefly concerned with the hospital as a disciplinary institution but it is equally applicable to other urban institutions. The natural history museum, for example, has done much to standardise and institutionalise forms of knowledge which support species hierarchies while, at the same time, it effects a policing of deportment which has the added effect of mapping urban space according to 'who could [or should] be where'. As Tony Bennett has pointed out, 'The museum ... explicitly targeted the popular body as an object of reform, doing so through a variety of routines and technologies requiring a shift in the norms of bodily comportment' (Bennett 1995, 100) in order to facilitate their shepherding through a specified order of knowledge in an appropriately receptive frame of mind.

Similarly, in the mid eighteenth century, as Foucault makes clear, hospitals became less concerned with segregating the poor, the infectious and the dying and more focused on classifying and disciplining them. It is no accident, as he points out, that this coincided with the development of machine warfare. The body of a soldier becomes more valuable once he is trained to operate advanced weaponry so that the practice of medicine, and the attention to individual bodies, becomes analogous to the maintenance of a high-performance vehicle (Foucault 2007). Medical science, as a concatenation of discourses now directed towards what Foucault calls 'technologies of the self' (Foucault 1988) thus informed the architectural arrangements of not only the hospital but also all the sites within urban space that were concerned with the preservation, education and reproduction of modern bodies. Thus knowledge was accumulated about bodies and their capacities which contributed to their categorisation within a taxonomy of types. This was then mapped back onto urban space through the perpetuation of socio-political discourses which zoned the city according to a naturally derived hierarchy of divisions (Shaw 2018).

Famously, the Chicago School of Sociology during the 1920s and 30s produced several studies which presented the city as an ecosystem whose structure could be mapped and outcomes of change predicted. This organic understanding of the city entailed a description of its life processes as 'natural', an idea probably best represented by Ernest W. Burgess's 'concentric model' which, as it implies, imagined urban space as a set of concentric circles with the Central Business District (CBD) at its heart, circled by zones identified in terms of patterns of behaviour, income and population density. Most interesting here is the 'zone in transition', immediately adjacent to the CBD, characterised as somewhat lawless and contested but which will ultimately be brought under control by competing business interests (Parker 2004). This social Darwinist approach, while presenting urban space as subject to 'organic' processes of change, offered a description of the city as a 'pseudo-biological organism' (Soja 2000, p86) which, like all biological organisms, could be

subject to disease and decay and could therefore equally be controlled by the application of judicious pseudo-medical procedures.

As Ivis García has pointed out, contemporary theories of gentrification and urban change merely reproduce the arguments of the Chicago School within the context of 21st century economics. Urban actors are represented in 'either wildly generalized terms' or 'in the idealized and highly abstract terms of individuality' (García 2019, p10). Either way, they are regarded as acting within rational constraints governed by an often unstated but tacitly assumed set of natural laws in which 'the wage gap is taken to be just a natural as ... organic conceptions of city growth patterns. This is held to be true both for 'the nature of the city and the nature of human competition' (p3). In the early twenty-first century it was estimated that over 50 per cent of the global population now lived in cities and, although rural areas still existed, they were so dominated by the force of the urban economy and urban culture that they could no longer be thought of as distinct. In the posturban, the city has triumphed over the countryside to the extent that '[t]he new urbanity has no longer a rural antithesis to reflect itself in' (Westlund 2014, p449). The result has been the emergence of new spaces of aspiration which are still within the city but designed to avoid the street, now understood as a space of lawlessness; a space inhabited by new versions of nineteenth-century 'ugly' bodies. Sky high apartments with exclusive amenities and gated communities with extensive security provide enclaves from which residents commute through 'corridors' in SUVs to 'shield or to immunize against casual or dangerous encounters' (Atkinson & Flint 2004, p888). At the same time, monied residents in London are digging deep into the basements of older buildings to provide themselves with underground amenities (Graham 2016).

As the city comes to dominate the planet a vertical cartography has emerged, stratified according to what Mark Neocleous calls 'police discourse' which 'from the sixteenth century to the present has never stopped telling us of the permanent wars being fought against the enemy within, the disorderly, unruly, criminal, indecent, disobedient, disloyal, lawless and mindless'. These monstrous others change shape constantly and 'even perform ... the filthy trick of appearing to be human' (Neocleous 2014, p16).

In essence then, there are no humans in urban space or at least none that fit comfortably within the operational requirements of the urban machine. This is recognized in the concept of posthuman urbanism which describes the way that urban space is mapped according to a proliferating series of exclusions while also offering a mode of thought through which the city can be conceived as offering the potential for both inhabiting and becoming otherwise. Practices which deconstruct the text of urban space and knowing performances of monstrosity or what Karen Barad calls 'posthumanist performativity' (Barad 2003) can re-make the urban through the imposition of bodies that are deliberately and collectively out of place. Posthuman urbanism, as a political project, suggests new configurations of making home which take advantage of the tendency of urban structures to become redundant under pressure of fluctuating markets and the changing requirements of work and social life. Essential here is an orientation towards the urban which deconstructs the relationship between 'home' and 'house' and between sanctioned ideals of 'family' and appearing to be human (Shaw 2018).

House

It was during the eighteenth century that the house emerged as a disciplinary space concerned with policing behaviour according to restrictions determined by the coming together of religious discourse with the discourse of pre-Darwinian evolutionary biology. Fears that supposed 'abnormal' sexual practices would produce physical abnormalities in, particularly, the middle class reached their

height in the nineteenth century in the campaign against masturbation which mobilised anxieties about the sexuality of children to institute a series of controls primarily directed towards the disciplining of the bourgeois family and the body of the bourgeois child. The anxieties about sexuality which produced, in Foucault's words, 'the hysterical woman, the masturbating child, the Malthusian couple and the perverse adult' (Foucault 1976, p105) can be linked to the fear of degeneration expressed by the intellectuals and politicians of the European colonial powers well into the twentieth century. As Foucault makes clear, there thus developed close links between the organisation of sexuality and the organisation of the home as the space in which the perverse sexuality of the child is policed towards normalisation. The working-class home during this period also came under scrutiny as a space where, it was thought, the close proximity of children and parents would lead to incest. In working class housing estates, the grid pattern and the localising of families to houses and individuals to specific rooms had the effect that 'individuals were made visible, and the normalization of behaviour meant that a sort of spontaneous policing or control was carried out by the spatial layout of the town itself' (Foucault 2004, p251).

Thus the organisation of the buildings which we designate as 'home' to the human species is based in design specifications drawn from, on the one hand, conformity to Vitruvian principles of scale and, on the other, arrangements of living spaces to conform to a specific ideal of family which, in the nineteenth century, stood for the maintenance of sexual hygiene in the service of preserving both race and social class. Thus, '[t]he dominant, legitimate definition of the normal family ...', according to Pierre Bourdieu, 'is based on a constellation of words – house, home, household ... - which, while seeming to describe social reality, in fact construct it' (Bourdieu 1996, p.19). The house, as a 'container' of the family, functions as a discursive object which marks out the limits of the private domain while, at the same time, being symbolic of social class, poverty and wealth and functioning as heritable capital. Implicit in the notion of the contemporary 'starter home', for instance, is the idea of upward social mobility, coupled with notions of growth understood both in fiscal terms and in terms of family size. In other words, the ownership of a house confers symbolic capital which establishes the family that it contains as in a state of development towards procreation and the provision of future worker-citizens and thus is implicitly a container also for a prescribed heterosexual partnership. The form that this partnership takes, although in recent years more flexibly imagined is, nevertheless, still implicitly founded in an ideal which makes reference to marriage, a gendered division of labour and the post WW2 nuclear family. Houses then, the form that they take and the living that they presuppose are fundamental to structuring ideas of what counts as 'normal' domesticity (Shaw 2021).

As Roddey Reid has pointed out, in nineteenth-century Europe, the middle-classes embodiment of domesticity stood as the sign of their exemplary humanity, and the absence of "family" among the peasants, the urban workers, the enslaved, and the colonized designated their social and subjective existence as abject' (Reid 1995, p188). Subsequent moral panics about the 'death of the family' have been, as he demonstrates, predominately couched in terms which equate 'keeping human beings human' (p177) with retaining the nuclear family structure and its mandated performances of gender and sexuality which remain implicit in the design of, in particular, suburban homes. In an examination of executive 'show' homes in Britain in the mid-1990s, Tony Chapman found that '[f]irst and most obviously, there is an expectation that buyers will form or have already established themselves as a nuclear family' (Chapman 1999, p45). Thus, there is an emphasis on privacy, both in protection from the outside world and within the house itself with the parents' (still called the 'master') bedroom strategically separated from the children's and a careful arrangement of intervening rooms and corridors to ensure parental privacy 'promising potential buyers the kinds of sexual opportunities in the marital bedroom that was for several decades available only in hotels'

(p54). Elsewhere, the study, a room reintroduced as necessary to family life in the late twentieth century, is 'used in show homes as a definitive masculine space to raise men's expectations of renewed status in the family and the opportunity of splendid isolation' and is 'decorated in restrained masculine style ... to give the impression of scholarship and cultural distinction' (p53).

More recently and in the context of the Covid-19 pandemic, Jilly Boyce Kay has noted how '[u]nder conditions of lockdown, the private home has become hyper-visible' (Kay 2020, p 884) with celebrities and influencers reinforcing Government instructions to #stayhome and #staysafe by posting images of their own, necessarily well appointed, domestic spaces on social media. The exhortation here is not only to stay home but to experience it as both a place of safety and self-discovery. In short, 'the class privilege of home-love is being reframed as civic virtue' (p885) where home-love is, due to the aspirational homes on display, framed as attention to 'correct' strategies of consumption in the service of family life.

Thus the house continues to function as a disciplinary space which polices the experience of family life in the service of conformity to specified modes of human expression. Significant here is the fact that it is a space where performances of gender, parenting and social class are caught up with notions of taste and expressed through objects which define both the environment and the modes in which bodies are expected to inhabit it. In one show home that Chapman visited, for instance, the function of the master bedroom was made explicit through carefully placed props: fluted champagne glasses, a casually draped slinky female nightgown and 'a pink hand towel ... tied into an elaborate knot from which a single silk rose protruded' (Chapman 1999, p54). That we can easily interpret the semiotics of the scene owes much to the fact that, as architect Matthew Allen has pointed out 'Modern individuality, compelling objects, and cultural life all belong together; you cannot have one without the others' (Allen 2017/18, p124). This is emphasized in the development of the 'smart home', a space designed to accommodate and escalate the increasing lack of distinction between living space and work space and between real and virtual worlds which has been emphasized dramatically by the Covid-19 pandemic. But as Lynn Spigel (2005) has noted, smart homes in the dreams of architects and designers take for granted the perpetuation of the nuclear family and a gendered division of labour, populating a new idea of home with compelling objects that, while reconfiguring labour and leisure, implicitly maintain norms of gendered embodiment.

This notion of compelling objects draws attention to the structuring of our ontology in relation to the objects through which our bodily integrity is maintained. This is what Sara Ahmed (following Husserl) calls 'orientations' which 'are about how matter surfaces by being directed in one way or another' (Ahmed 2010, p235). In other words, bodies, by being oriented to things in the world shape and are shaped by compelling objects. Proximity is important here, and familiarity, which Ahmed locates as an effect of history, and family history in particular. Objects in the home then (and the home itself), are familiar enough to be unnoticed and the force that they exert becomes unremarkable, just as the force of bodies in keeping objects in their place is unremarked (Miccoli 2014). Or, as Ahmed puts it, '[i]f orientations affect what bodies do, then they also affect how spaces take shape around certain bodies' (Ahmed 2010, p250). Ahmed points to the tables that constantly appear in the writings of philosophers and the significance of the table as an object in women's lives. She offers the table as an object which needs to be made to 'reappear'; to be considered as an object of significance in feminist politics. The table then 'becomes a disorientation device, making things lose their place, which means the loss of coherence of a certain world' (p254).

This loss of coherence is what critical posthumanism effects in challenging the boundaries which have traditionally determined the contours of what passes for human. In challenging these boundaries, it necessarily confronts how objects in the world condition ontological distinctions and

how they have evolved historically through changing regimes of social life. As a political philosophy it is consequently invested in new forms of knowledge which recognize the ironic fact that, under the conditions of advanced capitalism, particular compelling objects in the form of technological prostheses have already invaded the body and the home and are de-stabilising the human ideal that the system had previously always relied on (Braidotti 2019). Houses have finally realized Le Corbusier's dream by becoming wholly interfaced 'machines for living'. What is at stake is the *kind* of living they pre-suppose and the consequent effect on how we conceive of the bodies that they form and are formed by.

Vitruvian Mantology

As Braidotti and Haraway, among others (Braidotti 2013, Colomina & Wigley 2016/18, Haraway 1997) have demonstrated, Vitruvian Man is not only a figure for the built environment but stands as the template for how bodies are conceived generally and is the unattainable apex of an escalating hierarchy of deviations, determined by physical proportions, gender, race and species but extending to modes of deportment and behaviour which, in turn, are held to imply deviant characteristics of sexuality and morality. The space understood to be occupied by Vitruvian Man is, in fact, empty of any real bodies but filled with meaning in that it holds the key to how the concept of the human has both emerged historically and been sustained through the history of ideas.

Vitruvian Mantology is a term which describes the sense in which built space both determines human ontology and differentiates it and is used to indicate the relationship between the ideal that Vitruvian Man represents and the way in which his position at the confluence of design and ideology predicts the perpetuation of ontological forms across time. Mantology is a late eighteenth century term which refers to the art or practice of divination and is thus a useful way of thinking about the way that objects encode ontological futurity. In the mode of posthuman thought, it enables a critical approach to how compelling objects such as houses and what they contain constrain notions of what bodies can be and how our understanding of ourselves as actors in the world is consequently affected (Shaw 2021).

Vitruvius's ideal city was designed to accommodate only the Roman ruling class and was based in a pseudoscientific generalization of how bodies function and what they need (Betsky 1995, pp47-8). Modern cities not only inherited the taxonomic arrangement of knowledge which underpins the Vitruvian ideal but responded to changing historical conditions by further appeals to the functionalism inherent in the Vitruvian paradigm. Since the nineteenth century, the discourse of the biological sciences has increasingly become a part of the apparatus that differentiates normal from abnormal human functioning and this is marked on the urban environment as a cartography of inclusion and exclusion bolstered by a mythology which produces nature as what threatens and is threatened by urban culture. The wilderness or countryside as oppositional categories have become repositories of myths about bodies and their correct functioning as part of a supposed natural order, but it is the same natural properties of bodies which are feared as threatening to civilization and in need of control (Duggan & Peeren 2020). At the same time, escape to the country is constructed as a reward for the correct performance of self under the terms of Vitruvian Mantology which, in contemporary consumer culture is often couched in terms of 'adventure' and 'fitness' with the suggestion that travel into a more 'natural' space is reserved for those who can approximate the Vitruvian ideal. Beyond this, a house in the country is represented as something to be achieved with the implication that escape from the city is the goal of middle-class aspiration. Thus the space beyond the city is produced as the natural 'home' of the human and the reward for cultivating the self in terms dictated by the capitalist economy (Shaw 2018, pp78-80). This is the mythology which conditions the value of high-rise homes in the new vertical stratification of the city, the continuing

financial appreciation of which is guaranteed by Vitruvian Mantology with its promise of a final refuge for those who perform a compliant humanity.

Who then is 'at home' in the posturban city becomes an open question, the answer to which, in terms of many of the most valuable elevated apartments, is 'nobody'. The increasing value of these spaces means that they have become mere repositories of speculative capital with absentee owners often based in other parts of the world, managing their investments from afar. At the same time, in the street below, tent cities proliferate and smaller and smaller spaces are being rented to those who are forced to live in the city but cannot afford the costs of doing so. In the twenty-first century then, the connection between 'house' and 'home' established in modernity and nurtured by the ideology of industrial capitalism is breaking down under the pressure of advanced consumer capitalism which demands armies of low paid service workers to maintain the assets of the wealthy while being unable to house them sufficiently close to their place of work (Graham 2016). The corollary of this is that, as elites declare themselves transhuman and make plans to flee to a new final refuge in outer space, new forms of social organisation are emerging from the deprivations of post-neoliberal capitalism which are set to challenge humanist assumptions about what it means to be 'at home' in the twenty-first century. It is possible to imagine that nomads and vagabonds, squatters and tent citizens exempted from full human status by their lack of a formal home might reform the landscapes of planet Earth through creative interventions which reject Vitruvian Mantology while re-claiming territory in the name of the posthuman.

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