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Our Urban Planet in Space and Time

This book is a biography of earthopolis, the only Urban Planet we know of. It is a 6,000-year tale of many cities and the immense power they allowed humans as a species to wield over other humans and over large stretches of our host planet Earth. Starting with the birth of cities in many separate places at many different times, the book shows how we built urban environments to harvest increasing amounts of energy from the Sun and Earth and to transform it into multiple forms of amplified human power. The mix of energy and power that we compounded in cities grew and contracted in space over millennia – playing a central role in many of the “greatest of times” and the “worst of times” in human history. Today, as the power centers of a truly planetary Urban Planet, cities place our own unequal communities in precarious command of Earth’s fertile lithosphere, its watery hydrosphere, its Sun-moderating atmosphere, and the entirety of its profuse halo of life. This biography of Earthopolis looks backward – and also forward – from our Urban Planet’s most important crossroads in space and time.

An Urban Planet is urban because only in cities can we harvest enough geo-solar energy to gather together as large, compact, proximate, diverse, specialized, anonymous, multiply fractious, and thus especially potent human political communities. In such urban built spaces and such urban communities, people can establish the political movements and institutions, gather the wealth, and devise the new ideas and
technologies that undergird our increasingly pervasive influence on Earth. To explore the sources of this amplified human power, we must visit the relatively compact spaces occupied by our cities and the many diverse smaller spaces that make them up. In part, that means taking a six-continent, six-millennium tour of the greatest cities in history and all the urban power centers they housed: magnificent palaces, temples, fortresses, parliament buildings, skyscrapers, and other monuments. We will find other forms of amplified human power in medium-sized and smaller cities and along ship-docks, in harbors, stadiums, fair grounds, rail stations, airports, power plants, and the like. Schools, universities, hospitals, clinics, libraries, and museums are all on the tour of power-augmenting spaces, as are ceremonial and performance venues, radio and TV transmitters, internet server barns, and “virtual” spaces. Much of our story takes place along thronging avenues and giant squares, but we will also tuck into smaller side streets, marketplaces, bazaars, and souqs, into enticing shops, eateries, and watering holes at the end of sinuous alleys. Finally, we need to tarry in the most intimate spaces of human power, the homes where we eat, bathe, make love, and go to sleep each night, readying ourselves for action once again the next morning. It is there that – one by one – we cultivate the dreams, and the Earth-altering capabilities, of each member of our generations to come.

Earth-altering indeed: an Urban Planet is also planetary. Building large and compact places such as cities requires us to build many more smaller and spread-out places too: villages, towns, farms, woodlots, mines, oil fields, and all of the communications and transport infrastructure that connects all of our habitats. Together, these dispersed built things allow us to gather natural energy and funnel it to cities for transformation into their especially potent forms of human power. As we built more cities, their sunshine-gathering “hinterlands” and their connective tissues grew and merged together to form what I call “urban worlds,” made up of larger regions’ worth of cities and smaller habitats. Over thousands of years, we used our cities to merge these regional urban worlds to create our Urban Planet. Because cities were born in many different regions separated by long distances, because each urban world contains many forms of human habitat, and because cities so often allow a small few of us to seize most of the power they generate at great cost to many more of us,
Earthopolis remains foundationally plural: multifariously diverse and profoundly unequal. Still, whether we wielded urban power as the repressive few or as the irrepressible many, all of us also built something singular – one deeply interconnected habitat of one single species on our single Urban Planet: Earthopolis.

States of plurality and singularity coexist on Earthopolis because an Urban Planet consists of four types of space made possible by city-amplified human power – spaces that connect concentrated human places with dispersed ones and that connect separate urban worlds with each other. I call these four large, eventually planetary spaces the realm of human action, the realm of human habitat, the realm of human impact, and the realm of human consequence. As people on all points of the compass – each in their own ways – used cities to build these realms, our actions, habitats, impacts, and consequences expanded across space, overlapped, contracted, and grew some more. As these realms grew to truly planetary dimensions at different times, they brought Earthopolis into being.²

The realm of human action consists of the intersecting geographical reach of our political movements, states, empires, commercial circuits, and more recently our nation states, capitalist corporations, and multilateral institutions – along with all of their administrative capacity, their wealth, their self-justificatory ideologies, and their violence. It also includes the space occupied by our systems for producing food, fuel, raw materials, and both artisanal and industrial goods; our practices of exploiting labor and land; our acts of reproduction and our waves of migration; our global religious and knowledge-creating communities; and our mass media and online spaces. Apart from our species’ earliest experiments with fire and stone, our first global migrations, and our first agricultural regions, none of these larger realms of human action, nor their especially vast scope today, could have existed without cities. All of them, in turn, have made the growth and multiplication of cities possible. For good reason, we typically date the end of “prehistory” and the birth of “world history” to the birth of our first cities. So many of the most important chapters of human history involved multifarious human actions only possible in cities: often audacious, often supremely reckless and horrifically violent, often deeply hopeful and regenerative. As we will see, the spaces occupied by human action expanded and contracted
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over the first five and a half millennia of global urban history. The realm of action became a truly interconnected, planet-encompassing phenomenon only after 1500, when human imperial, commercial, and cultural activities connected most of the world’s continents for the first time, thanks to the winds and currents of the connected World Ocean, signaling the birth of a truly planetary Urban Planet.

The second realm of Earthopolis, the realm of human habitat, grew in a similar way but on a different timeline. Before there were cities, our built habitat consisted of temporary camps dispersed across six continents and a few small regions of more permanent farming villages, some of which grew quite large. After some of these village-rich regions gave birth to the first cities, the influence of our urban-amplified actions began to radiate outward, affecting the rhythms of life in smaller and more dispersed places, and even determining the number of new camps, villages, and farms we built on Earth — as well as the number of new cities. Cities thus took a central role in generating the human habitat more generally, even though villages retained some autonomy, looked very different, harbored very different rhythms of life, defined themselves as non-urban, and often asserted power of their own over cities, sometimes in rural–urban conflicts that continue to this day. Nonetheless, the built habitats of increasing number of villages — along with the remaining smaller temporary camps and the bigger settlements we call by the ambiguous word “towns” — increasingly reflected their symbiotic and even existential connection to cities. Thus, even though the majority of humankind lived in villages for almost all of this story — only in the twenty-first century did we become a truly majority urban species — and even though many inhabitants of smaller places never visited a city or even knew of cities’ existence, inhabitants of smaller settlements intermittently folded themselves into a realm of human habitat that was urban-dominated and that grew to encompass Earth as a whole. When that happened, it was also because the infrastructures we built between human settlements of all sizes had grown too. One good birthdate for the truly planetary realm of human habitat is 1900, when we laid telegraph cables across the Pacific Ocean, connecting the many diverse human-built and human-altered components of our habitat into a single contiguous whole. 3
Today scholars sometimes call our human home on Earth the “anthrome.” I prefer to designate the realm of our habitat as one of four constitutive spaces of our Urban Planet, because doing so clarifies the essential and foundational role that cities played in its growth, as well as the essential role that the bigger human-built realm of habitat plays in the growth of cities. Only a few small settlements of so-called “uncontacted people” now remain outside of this realm – if barely. Other than those, today’s realm of human habitat includes all of our camps, villages, towns, cities, “megacities,” “urban regions,” and urban peripheries, including all of their explosively accelerating suburbs, and all of the self-built cities where a billion or more urban poor people live today. It also includes far more extensive spaces like farms, plowed fields, pastures, irrigation systems with their dams and canals, timberland clear-cuts, mines, and oil and gas fields, and all of the hard stuff that helps to connect the whole thing: pavements, rammed-earth tracks, rails, wires, cables, pipes, ship channels, sea-lanes, and jet-contrails. It includes the “soft” stuff too, notably the airwaves and the internet – other “spaces” separate from cities that are utterly dependent on cities and that make cities possible. Our billions of vehicles are also part of this realm. Each is a specialized human habitat of its own, designed precisely so that we can inhabit such a large Urban Planetary home. Long ago, ships allowed some of us to inhabit the seas and oceans for substantial periods; now we build our own islands, and some planners envision cities that will float out to sea, much like cruise ships, themselves often dubbed “floating cities.” Our habitat also reaches skyward and into outer space, not only in hyper-tall buildings, but in the flight of planes, missiles, rockets, satellites, space stations, and dozens of extra-planetary probes and rovers. Back on Earth, Earthopolis’s realm of human habitat now covers over half of our host planet’s land surface. The cement, stone, brick, wood, steel, glass, and asphalt of our Earthly home now weighs more than the rest of the biosphere – more than all the world’s living trees, plants, and animals – combined.4

The third province of Earthopolis, the realm of human impact, is the oldest of the truly planetary realms created by city-enhanced power, and it remains the most voluminous today. As we grew our cities, as we acted on larger scales, as we built an Earth-encrusting habitat, as we drew ever
more heavily on energy from the Earth and Sun, and above all as we spread larger amounts of waste into ever-larger spaces beyond our own habitat, the Urban Planet began to annex, alter, interpenetrate, and often destroy spaces beyond, including the habitats of countless other species. Today, the realm of our impact reaches all across and deep down into Earth’s solid tectonic plates. It reaches all of its surface water – liquid and frozen – and much of its groundwater. And, it reaches all of its gaseous atmosphere. In all of these spaces, our species affects the life of all other resident species. We know this combined realm of human impact best when we contemplate the size of our teetering urban landfills, the stench of our polluted waterways, the choking air pollution in far too many cities, and the spread of micro-plastics throughout the oceans, the continents, the air we breathe, and the bodies of many living creatures. Above all, we perceive it in the overheating of Earth’s remarkable Sun-regulating, life-giving atmosphere – the result above all of our heavy use of hydrocarbon fuels. In the realm of human impact, our Urban Planet has thus fulfilled the boastful mission of the “Tower of Babel,” the mighty ziggurat in the ancient city of Babylon. All of us now inhabit the “House of the Frontier of Heaven and Earth.”

That brings us to the fourth realm of Earthopolis, the realm of human consequence. As we annexed more of Heaven and Earth to our realms of action, habitat, and impact, we typically increased our numbers – recently at an accelerated rate that reflects a rapid jump in life expectancy. Yet we also paid stiffer costs, transforming large spaces that otherwise generate Earthly life, including human life, into zones of death. Over the millennia, this realm of consequence expanded and contracted in mighty wrathful surges, leaving behind scars with long-term effects on Earthopolis’s other three realms. At those times, the otherwise expanding reach of human power went into reverse, causing some urban worlds to contract for a half-millennium or more.

Some of this city-enhanced realm of death is entirely of our own making, for the power we wield in our urban political communities is a volatile substance, capable of transformation into tyranny, war, slavery, and many other life-shortening forms of exploitation and inequality. The realm of consequence could also expand because of human experiments with geo-solar energy that have gone awry. Cities came into being about
halfway into an 11,700-year period that scientists call the “Holocene Epoch” during which geophysical forces like the shape of Earth’s orbit around the Sun and the tilt and wobble of our planet’s axis produced relatively stable climatic conditions. Humans could harvest larger amounts of natural energy by farming and raising animals, allowing us to build the first cities. Nonetheless, geo-solar energy continued to surge and wane unpredictably, and our techniques for harvesting it could fail as often as they worked. As spaces that are both concentrated and dispersed, our city-expanded realms of human action, habitat, and impact are also ideally designed to encourage vast blooms of disease-creating microbiota. Their death-dealing life-energy could flare into pandemics, as we know from our baleful experience with Covid-19, the latest of many similar instances over the millennia. Meanwhile, by altering or destroying other species’ habitats like forests, rivers, wetlands, estuaries, tundra, glaciers, and above all the oceans, humans who inhabited urban worlds toyed dangerously with Sun’s relationship to Earth, sometimes forcing new large deathly surges of the realm of consequence. Today, our Urban Planet’s wastes have become the crucial factor. By burning so much hydrocarbon and by dumping accelerated quantities of chemicals and greenhouse gases across the lithosphere, hydrosphere, and atmosphere, we have destabilized the Holocenic relationship between Sun and Earth. Many scientists who monitor such matters argue that a new epoch, named after us, has dawned in Earth-time: the Anthropocene. If so, cities are the cockpits of this new Epoch – and Earthopolis is at once the Anthropocene’s avatar in time and its spatial manifestation today. In this Epoch, among other things, our heating of the atmosphere and the rise in ocean levels has caused “natural” and “human” disasters to blur while becoming more frequent and intense. Our Urban Planet’s throbbing realm of consequence thus threatens to engulf greater swaths of Earth’s remarkable halo of life than any geophysical force has in perhaps hundreds of thousands of years.6

Just as Earthopolis takes up enormous amounts of space, so its life story spans vast amounts of time. As a plural singularity, our Urban Planet’s life is polyrhythmic, operating on different time scales at once. The birthdates of each of Earthopolis’s oldest distinct urban worlds are scattered across the first 5,500 of the 6,000 years, the ancestral phase of its
biography. Each of its four defining realms grew and retreated across Earth at their own tempo, achieving planetary dimensions at different times. Changes in the ways we harvested geo-solar energy operated on relatively long arcs of time. Changes in our use of human power were mostly shorter and choppier, if no less momentous. A biography of our Urban Planet allows us to inventory the many topsy-turvy increments of human time when, in specific places, we gained, lost, regained, then gradually accumulated the city-enabled human power that may mark a new Epoch in the far longer, four-and-a-half-billion-year life story of Earthopolis’s host planet, Earth.

One useful way to define cities, in fact, is as spaces that allow us to bend time. A good measure of human power is the length of time over which we are capable of sustaining any action while minimizing the effects of competing actions: historians call such patterns of time “continuity.” Conversely, another measure of human power is the capacity to suddenly “disrupt” actions otherwise sustained by continuous exertions of human power, and in so doing increase the velocity of change. Cities – and above all the particular forms of political community that they contained – allowed us to do both: to string out time and to break it. But there is more. Because urban political communities contain so many potentially conflicting factions, the ongoing outcomes of their struggles have always been especially difficult to predict at any given time. Therefore, cities also allow us to create times in which almost anything could happen next, when the actual outcome was so unexpected as to be nearly inexplicable. Historians call such times moments of “contingency.”

In all of these ways, cities became essential to explain change. Their spatial design allowed various historical actors to put continuities, disruptions, and contingencies in motion, and as such they were a force of change in their own right. However, cities never explain any change fully on their own. While historians correctly credit them for bringing much of world history into being, cities did so only as essential and never sufficient causes of history. Full explanations for change also require us to examine how different segments of Urban Planetary political communities were able to amass the city-enhanced power they did to sustain, disrupt, or stir unpredictability within the flows of time when they did. Also, even more importantly: cities are tools we used – over time – to create larger-scale action, habitat
construction, impact, and consequence, but they are also the ongoing and repeatedly updated creation of those larger-scale changes. As important as cause is to effect in history, so is the simultaneous transformation of effect into new cause. Cities are very effective places to build such “circular,” “spiraling,” “synergetic,” or “self-perpetuating” patterns of time too, forms of continuity that historians sometimes call “processes.” In general, we imagine processes of change to lie beyond the power of even their most powerful proponents to stop. Yet to know our Urban Planet well we should avoid overuse of the word “process.” While cities can favor a momentum, they never put history on autopilot – “mechanizing” time or divorcing change from the effects of real human beings’ collective, purposeful, and typically conflicting exertions of power that cities are so good at amplifying. In a world history that takes place in cities, all historical processes, even the most compellingly self-propulsive, are always subject to the same countervailing contingencies and disruptions that face all continuities in time.

To account for the vast diversities of spaces and times that make up the life of Earthopolis, I have divided this biography into three parts and twenty-five chapters. The three parts concern the slower rhythms by which city-dwelling humans transformed our means of gathering geo-solar energy and funneling it into cities. Accordingly, they are entitled “Cities of the Rivers,” “Cities of the World Ocean,” and “Cities of Hydrocarbon.” The twenty-five chapters focus on the generally shorter changes in human action, habitat, impact, and consequence. Here, the focus is on the specific forms of power that cities, city-generated spaces, and urban political communities allowed us to create – movements, states, empires, wealth-gathering enterprises, and cultural institutions. In the chapters, the balance between continuity, disruption, contingency, and process is less easy to predict, and the story more often involves unexpected plot twists. Each of these chapters is organized around switches of cause and effect, demonstrating how cities played crucial roles in large-scale historical transformations that in turn transformed cities themselves, often with profound knock-on effects throughout the four larger realms that eventually coalesced as Earthopolis.

Part I, “Cities of the Rivers” covers what historians typically call the “Pre-Modern” period from about 4000 BCE to 1500 CE, when cities were first born, largely in river valleys – fueled by a combination of solar
evaporation, planetary gravity, photosynthesis, and warm, wet, fertile soils. To guide us through Part I, I chose the Mesopotamian goddess Inanna, who, her mythmakers tell us, commanded a riverboat up the Euphrates River to deliver the first elements of city-ness to a place called Uruk. We built thousands of cities during these first five and half millennia of global urban history, including the first million-plus imperial capitals, many provincial, colonial, and mercantile cities, and the first seaports. Our realms of action and habitat expanded too. Our realm of action brought together many of the originally separated urban birth-worlds, creating composite urban worlds in parts of the Americas on the one hand, and – in separate developments during several long periods – across much of the Afro-Eurasian supercontinent. Roads, canals, ports, and new vehicles were essential to these new connections. Long before that, possibly by the first millennium CE if not before, the city-driven realm of human impact may have reached global dimensions, thanks to emissions from ancient industry and agriculture. For the time being, though, the largest-scale city-enabled destructive consequences we faced – our own wars, the first multi-continental pandemics, and floods and famines aggravated by deforestation – remained bounded by our realms of our action and habitat. Our population on Earth typically recovered afterward, growing to over 400 million by 1500 CE.

Part II, “Cities of the World Ocean” covers the so-called “early-modern” period, from about 1500 to 1780. Here we turn to a familiar guide, Christopher Columbus, but in an unfamiliar moment of sheer panic when his flagship the Santa Maria cracked open on a Caribbean coral reef. The incident inspired a strange Vision of Two Cities that revived his warlike, acquisitive, enslaver’s spirit. During the years that followed, humans used the power of World Ocean currents and winds to build more million-plus imperial capitals and large administrative centers than ever before, the first global financial capitals, and hundreds of new cities – notably fortified colonial ports – on the ocean shores and up the rivers of six continents. The truly planetary realm of human action that came into being during this time was driven by imperial thefts of land, globalized forms of capitalism and slavery, “world” religions, secular knowledges of Earth as a whole, and a global consumer culture. Our realm of impact also extended deep into the World Ocean itself for the